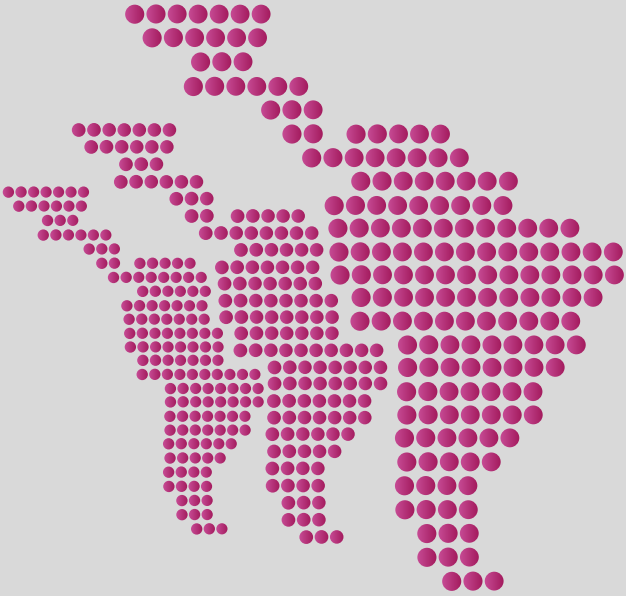
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Análisis y expectativa de las exportaciones mexicanas de energía eléctrica

Analysis and outlook for Mexico's electricity exports

Sergio Lagunas Puls*
Miguel Ángel Oropeza Tagle**
María del Carmen Bautista Sánchez***

Resumen

Estados Unidos de América ha sido históricamente el principal destino de las exportaciones mexicanas de energía eléctrica, lo que plantea la necesidad de analizar estas transacciones, particularmente por tratarse de un sector estratégico. Por lo anterior, el objetivo del presente trabajo es establecer el modelo de distribución, con base en el valor de las exportaciones anuales de los últimos 20 años, determinando los umbrales de cambios significativos y ubicar el desempeño exportador

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a partir del año 2018 y hasta 2023 que correspondieron al mandato presidencial del cual surgió la polémica reforma energética de México. Se realizan pruebas de ajuste para 4 tipos distintos de distribuciones continuas, eligiendo la más idónea para visualizar la distribución con base a densidad probabilística, frontera de cambios significativos y ubicar el desempeño de los últimos años. Los resultados muestran que, durante el período 2018-2023, las exportaciones hacia Estados Unidos de América permanecen dentro del intervalo histórico de referencia, aunque con una trayectoria descendente, mientras que las dirigidas a Guatemala superaron el umbral estimado en la cola derecha de la curva. Estas diferencias coinciden temporalmente con el gobierno mexicano iniciado en 2018.

Palabras Clave: energía eléctrica – exportación – reforma energética.

Abstract

The United States of America has historically been the main destination for Mexican electricity exports, which underscores the need to analyze these transactions, particularly because electricity is a strategic sector. Therefore, this study aims to establish a distribution model based on the value of annual exports over the last 20 years, determine thresholds for significant changes, and assess export performance from 2018 to 2023, a period corresponding to the presidential administration from which Mexico's controversial energy reform emerged. Goodness-of-fit tests were conducted for four different continuous distributions, and the most suitable one was selected to visualize the distribution based on probability density, establish the threshold for significant changes, and assess performance in recent years. The results show that, during 2018–2023, exports to the United States

remained within the historical reference interval, although they followed a downward trajectory, whereas exports to Guatemala exceeded the estimated threshold in the right tail of the curve. These differences coincide temporally with the Mexican administration that began in 2018.

Keywords: electric power – export – energy act.

Introducción

Desde el inicio del siglo XXI, el sector energético en México ha sido objeto de una serie de transformaciones estructurales que reflejan una tensión constante entre la apertura a la inversión privada y la preservación del control estatal. Dichas modificaciones, de carácter normativo y operativo, responden tanto a contextos internos como a dinámicas globales que han presionado al país a redefinir su modelo energético. Durante los años del siglo XX, el modelo energético nacional se caracterizaba por un esquema predominantemente de control estatal. Petróleos Mexicanos (PEMEX) y la Comisión Federal de Electricidad (CFE) operaban como los principales actores en las cadenas de valor del petróleo, gas natural y electricidad.

En 2013, se promulgó una reforma constitucional que marcó un punto de inflexión en la política energética nacional. Dicha reforma permitió la participación del capital privado, tanto nacional como extranjero, en actividades estratégicas como la exploración y extracción de hidrocarburos, así como en la generación eléctrica. Como resultado, se incentivaron importantes inversiones en tecnologías limpias y se introdujeron nuevos mecanismos de mercado con el propósito de diversificar la matriz energética, mejorar la eficiencia operativa y responder a estándares de sostenibilidad ambiental.

Con el cambio de administración federal en 2018, se observó un viraje hacia una política energética de corte nacionalista. Las acciones emprendidas por el Ejecutivo Federal buscaron nuevamente centralizar la toma de decisiones, priorizando el fortalecimiento de las empresas productivas del Estado. Ejemplo de ello es la construcción de la Refinería Dos Bocas en Tabasco, cuyo objetivo consistía en incrementar la capacidad de refinación nacional y reducir la dependencia de productos importados. Este enfoque, sin embargo, generó tensiones en el ámbito internacional y entre inversionistas, al entrar en aparente contradicción con los compromisos multilaterales en materia ambiental.

A partir de 2024, se impulsaron nuevas reformas constitucionales y legales que redefinen el marco institucional del sector energético. Entre sus disposiciones más relevantes se encuentra la reclasificación de la CFE como empresa pública no sujeta a lógica de mercado, así como el mandato de garantizar una participación mayoritaria del Estado en la generación eléctrica. Estas modificaciones también contemplan la promoción de tecnologías limpias y la actualización del sistema regulatorio con el fin de garantizar el abasto nacional y reducir pérdidas no técnicas.

Considerando lo anterior, el objetivo general de este artículo es establecer el modelo de distribución que mejor se ajuste a los valores de las exportaciones mexicanas de energía eléctrica hacia Estados Unidos de América y Guatemala durante el periodo 2004-2017, con la finalidad de establecer umbrales de referencia y evaluar si los valores observados entre 2018 y 2023 se apartan significativamente del comportamiento histórico.

El aporte del estudio es principalmente metodológico, debido a que aplica pruebas de bondad de ajuste a cuatro distri-

buciones continuas y utiliza la prueba Anderson-Darling para identificar el modelo que mejor representa el comportamiento histórico de las exportaciones. Después de esta introducción, el artículo presenta los antecedentes históricos y económicos de la reforma energética, examina la posición de México como exportador de energía eléctrica y describe el marco normativo aplicable. Posteriormente, se expone la metodología, se analizan y discuten los resultados y, finalmente, se presentan las conclusiones y sus implicaciones para la política energética y comercial.

Antecedentes históricos y transformación del sector energético

Los antecedentes de la intervención estatal en el sector energético mexicano se remontan a la expropiación petrolera decretada en 1938 durante el gobierno de Lázaro Cárdenas y la posterior creación de Petróleos Mexicanos como empresa estatal. posteriormente en el periodo de 1988 a 1994 Carlos Salinas de Gortari dio inicio a la paulatina liberación del sector energético por medio de la integración de la participación privada en la producción independiente de energía eléctrica, lo que, años más tarde, entre los años 2006 y 2012) Felipe Calderón Hinojosa reforzaría por medio de las reformas legales para modernizar a PEMEX y fortalecer la Comisión Reguladora de Energía al considerar la participación privada en refinación y transporte (Gobierno de México, 2013; Oropeza, et al. 2018; Wood, 2018).

Posteriormente, para inicios del año 2014 y hasta el año 2018 el presidente Enrique Peña Nieto sería quien impulsara la ruptura del monopolio de PEMEX y CFE por medio de una reforma constitucional profunda que daría acceso a la inversión privada y extranjera en petróleo, gas y electricidad,

a partir de un nuevo modelo de contratos y licitaciones públicas, lo que se reflejaría en una reforma energética estructural de gran impacto para la economía mexicana, que más tarde, entre 2018 y 2024 se buscaría reformar durante el gobierno de Andrés Manuel López Obrador al promover la revisión y reversión parcial de la reforma de 2013 con intención de "rescatar" y fortalecer las empresas estatales (PEMEX y CFE) por supuesto, con intención de hacer destacar el papel del estado y limitar la participación privada en el sector energético (Torres y Niewöhner 2023; Mendoza, 2025).

Al considerar lo anterior resulta evidente mencionar que la política energética en México ha oscilado entre dos polaridades, por un lado la postura en pro de la liberalización por apertura hacia el capital privado, y por otro lado la reestatización o regresión del poder al estado, derivando en un impacto considerable tanto al interior del mercado energético, como en la participación del país en los mercados energéticos internacionales, es decir en la exportación de energía eléctrica y combustibles (Velasquez, 2024, Grande et al; 2024) causando disyuntivas normativas que sin lugar a duda ha dividido opiniones sobre el impacto en la competitividad, la seguridad energética, y la sustentabilidad ambiental del país (Cruz et al., 2022).

Perspectiva económica de la reforma energética

La perspectiva económica que se enfoca en el sector energético, ha considerado a este rubro como un monopolio natural a lo largo de la historia, debido a los elevados costos de infraestructura que de manera casi inmediata fungen como una barrera limitante hacia la entrada de múltiples competidores, sin embargo, en países que son más competitivos en materia de energía se ha optado por abrir segmentos específicos a la

competencia (ya que reconocen la importancia de los avances tecnológicos, y la implementación de mecanismos regulatorios eficientes), sin dejar de lado el control estatal en aspectos estratégicos como la transmisión y distribución de energía (Oropeza et al. 2016; Norouzi y Fani 2021; Hafner y Luciani 2022).

Si bien la reforma energética en México posee peculiaridades normativas y estructurales específicas, es importante recordar que no se encuentra exenta de la transición energética global, la cual, establece como una de las prioridades la transformación del modelo de producción, distribución y consumo de energía eléctrica, por lo tanto, con intención de disminuir significativamente las emisiones de gases de efecto invernadero, a través de la promulgación de la Ley de Transición Energética en el año 2015, México adquirió el compromiso de alcanzar un 35 % de generación de energía limpia para el año 2024, ya que para 2023 más del 30% de la capacidad instalada tenía la capacidad de proveer energía limpia, principalmente eólica, solar e hidroeléctrica (National Renewable Energy Laboratory, 2022; Grieger, 2023; Probst, 2024).

México como exportador de energía eléctrica

Como se ha mencionado, la reforma energética en México no solo promovió la modernización y actualización del sector a nivel interno, sino que también logró abrir oportunidades orientadas hacia el mercado exterior, gracias a la implementación de procedimientos específicos que permiten regular y autorizar tanto la exportación como la importación de energía eléctrica, estrategia que permite establecer un intercambio energético mucho más eficiente y transparente, particularmente con Estados Unidos de América, Guatemala y Belice (Li et al., 2021; López-Prol et al., 2023).

Sin embargo, México continúa enfrentándose a diversos retos estructurales, en el camino hacia consolidarse como un exportador fundamental en el mercado de la energía eléctrica, ya que, a pesar del gran potencial solar y eólico, sigue dependiendo en gran medida de los combustibles fósiles en cuanto a la matriz de generación, comprometiendo así la sostenibilidad ambiental del sistema y aumentando los riesgos en seguridad energética, ubicando a este proceso en una postura desfavorable a la hora de competir contra la producción de energía en países primermundistas, debido a que este aspecto representa una barrera para lograr acuerdos comerciales sostenibles (Macaspac et al., 2021; Benites y Serrani 2023; Toledo et al., 2023; Hagemann et al., 2024).

Otro de los desafíos relevantes que se enfrenta México como exportador de energía eléctrica, se centra en las condiciones técnicas de su infraestructura de transmisión, debido a que gran parte de su estructura se encuentra en un estado de obsolescencia y deterioro, lo que ocasiona pérdidas significativas durante el proceso de transporte de energía eléctrica, pérdidas que, además de repercutir en la eficiencia del sistema eléctrico, también encarecen significativamente los costos operativos, y por lo tanto, reducen la competitividad de las exportaciones energéticas del país (Payan et al., 2024).

Además, un factor determinante para la exportación de energía eléctrica hacia otros países es la estacionalidad del mercado, ya que la disponibilidad de energía eléctrica se ve comprometida en los periodos de alta demanda interna, por ejemplo, durante los meses de verano, o en picos de consumo industrial, lo que ocasiona que la generación excedente se vuelva escasa, reduciendo evidentemente la capacidad de respuesta ante acuerdos de suministro internacional (Soto y Bordallo, 2024).

Otro de los elementos adversos está vinculado a la limitada inversión en investigación, innovación y desarrollo tecnológico en el sector energético. Mientras que países líderes han destinado recursos significativos a la digitalización de sus redes, al uso de inteligencia artificial para optimizar la distribución y a la incorporación de tecnologías de almacenamiento de energía a gran escala, en México estas prácticas avanzan de forma incipiente.

La ausencia de una estrategia nacional robusta en este campo no solo retrasa la eficiencia operativa y la seguridad del suministro, sino que también reduce la capacidad del país para ofrecer soluciones energéticas modernas y adaptables a las exigencias de los mercados internacionales.

Marco normativo para la exportación de energía eléctrica en México

Ya que la exportación se considera una actividad sujeta a regulación, es necesario tomar en cuenta la Ley de la Industria Eléctrica, ya que detalla las directrices que rigen los lineamientos para las actividades de generación, transmisión, distribución y comercialización del servicio eléctrico, así mismo, se requiere contar con la autorización de la Comisión Reguladora de Energía (CRE) y del Centro Nacional de Control de Energía (CENACE), con intención de gestionar de manera efectiva los intercambios internacionales de energía eléctrica (Percino et al., 2021; Miranda et al., 2022; McNeece et al., 2022).

Dicho lo anterior, para que el proceso de exportación de energía eléctrica sea adecuado, deben establecerse mecanismos contractuales adecuados, tanto técnicos y comerciales que logren regular dichas transacciones, es decir, se deben elaborar contratos bilaterales o acuerdos de tipo spot, que

para el caso de Estados Unidos de América, se efectúan bajo la intermediación de operadores independientes, es decir el *Electric Reliability Council of Texas* (ERCOT) y el *California Independent System Operator* (CAISO), ya que estos organismos garantizan la estabilidad y confiabilidad de los sistemas eléctricos y facilitan la interacción internacional (Pu et al., 2021; Yuan et al., 2021; López-Prol et al., 2023).

En el caso particular de las exportaciones de energía eléctrica hacia Guatemala, resulta fundamental destacar el papel del Sistema de Interconexión Eléctrica de los Países de América Central (SIEPAC), cuya infraestructura está diseñada con intención de facilitar el intercambio energético a través de la subestación de Tapachula, ubicada en el estado de Chiapas, para este caso las exportaciones se encuentran regidas por acuerdos bilaterales entre México y Guatemala, y deben adaptarse a los lineamientos establecidos por el Mercado Eléctrico Regional (MER), y el Ente Operador Regional (EOR), con la finalidad de garantizar el adecuado cumplimiento normativo, técnico y comercial de la región (Gómez-Ramírez et al., 2023; Valenzuela y Tesfaye, 2024).

Metodología

Para desarrollar el análisis se utilizaron los valores anuales de las exportaciones mexicanas de energía eléctrica hacia Estados Unidos de América y Guatemala. El período 2004-2017 se consideró como base histórica para estimar las distribuciones de probabilidad y sus respectivos parámetros. Posteriormente, los valores observados entre 2018 y 2023 se ubicaron dentro de las distribuciones seleccionadas, con la finalidad de determinar si permanecían dentro de los umbrales habituales o representaban variaciones estadísticamente significativas.

Tabla 1.
Exportaciones mexicanas de energía eléctrica: 2004 a 2023
(miles de dólares)

Año	Mundo	Estados Unidos de América	Guatemala
2004	79,309	64,886	35
2005	552,778	532,164	122
2006	255,137	237,693	162
2007	257,397	231,411	188
2008	289,595	247,920	225
2009	169,819	149,655	1,572
2010	193,210	140,418	33,614
2011	221,550	141,680	55,476
2012	225,394	143,608	39,220
2013	209,642	152,415	13,454
2014	221,611	186,170	35,441[1]
2015	175,937	134,492	19,809
2016	163,944	122,223	25,010
2017	200,650	99,936	78,670
2018	226,687	120,288	74,502
2019	228,342	130,422	97,921
2020	165,554	96,907	68,647
2021	211,782	138,996	72,786
2022	251,868	132,888	118,980
2023	333,499	202,490	131,010

Fuente: Elaboración propia con datos del International Trade Centre (2025)

La Tabla 1 presenta los valores de las exportaciones, hacia Belice y Canadá de habían realizado algunas exportaciones, sin embargo, desde el año 2019 no se realizaron operaciones por tal motivo, no se incluyeron.

Con base en lo anterior, se identificará la distribución de probabilidad que mejor describe el comportamiento de las exportaciones hacia Estados Unidos de América (EE.UU.) y Guatemala, considerando las siguientes distribuciones (Cruz y Lagunas, 2021; Lagunas, et al., 2016):

1 En el año 2014 no se reportaron exportaciones hacia Guatemala, sin embargo, como en el resto de la serie si se realizaron operaciones hacia ese país, para no distorsionar la serie, se optó por estimar la media a partir de los valores de la exportación de los 4 años anteriores.

Distribución Normal: $X \sim \mathrm{N}(\mu, \sigma^2)$

$$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}} exp\left(-\frac{(x-\mu)^2}{2\sigma^2}\right)$$

μ *es la media de la distribución*

σ^2*es la varianza*

Distribución Logística: $X \sim \mathrm{Logistic}(\mu, s)$

$$f(x) = \frac{exp\left(-\frac{x-\mu}{s}\right)}{s\left(1 + exp\left(-\frac{x-\mu}{s}\right)\right)^2}$$

μ *es el parámetro de ubicación* $(media)$

s *es el parámetro de escala*

Distribución Weibull: $X \sim \mathrm{Weibull}(k, \lambda)$

$$f(x) = \frac{k}{\lambda}\left(\frac{x}{\lambda}\right)^{k-1} exp\left[-\left(\frac{x}{\lambda}\right)^k\right], x \geq 0$$

k *es el parámetro de forma*

λ *es el parámetro de escala*

Distribución Gamma: $X \sim Gamma(\alpha, \beta)$ *con* $\beta = \frac{1}{\theta}$

$$f(x; \alpha, \beta) = \frac{\beta^\alpha}{\Gamma(\alpha)} x^{\alpha-1} e^{-\beta x}, para\ x > 0$$

$k = \alpha > 0$ *es el parámetro de forma*

$\theta = {}^1\!/_\beta > 0$ *es el parámetro de escala*

Para seleccionar el mejor ajuste se utilizó la prueba Anderson-Darling, representada mediante el estadístico A2. Esta prueba mide la discrepancia entre la función de distribución empírica y la distribución teórica, otorgando mayor ponderación a las colas. Esta característica resulta pertinente para comparar distribuciones que pueden presentar comportamientos diferenciados en sus valores extremos, como Weibull y Gamma. Para la selección se consideraron conjuntamente el valor estadístico A^2 y el valor p, de manera que un menor valor de A^2, acompañado de evidencia estadística favorable, representa un mejor ajuste relativo.

Para una muestra de n observaciones $X_1, X_2, \ldots, X_n$ ordenadas de menor a mayor, el estadístico se define de la siguiente manera:

$$A^2 = -n - \frac{1}{n}\sum_{i=1}^{n}(2i-1)\left[ln\left(F(X_i)\right) + ln\left(1 - F\left(X_{(n+1-i)}\right)\right)\right]$$

n *es el número de años que se observa de exportaciones*

X_i *representa el* $i-$ *ésimo valor de la muestra cuando esta se ordena ascendente*

$F(x)$ *es la función teórica que se evalúa para las* 5 *opcione elegidas*

$F(X_i)$ *es la función cumulada evaluada en el* $i-$ *ésimo valor ordenado*

$1 - F\left(X_{(n+1-i)}\right)$ *es el complemento de la probabilidad acumulada*

$(2i-1)$ *y el factor* $\frac{1}{n}$*: ponderan la diferencias en función al tamaño de la serie*

Una vez seleccionada la distribución con el mejor ajuste relativo, se calculó su esperanza como valor esperado de las exportaciones. Asimismo, se obtuvieron los percentiles 2.5 y 97.5. Ambos percentiles delimitan el intervalo central de probabilidad del 95% de la distribución ajustada y se utilizan como umbrales históricos de referencia. Por lo tanto, no repre-

sentan intervalos predictivos formales. Para Estados Unidos de América, los límites estimados fueron 52,240 y 399,032 miles de dólares; para Guatemala, fueron -30,392 y 68,283 miles de dólares. Se elaboraron las visualizaciones y se ubicaron los valores exportados entre 2018 y 2023.

El ajuste de las distribuciones se realizó con 14 observaciones anuales por país, correspondientes al periodo 2004-2017, mientras que los seis valores comprendidos entre 2018 y 2023 se utilizaron para contrastar el desempeño posterior. El reducido tamaño de la muestra puede afectar la estabilidad de los parámetros estimados y limita la generalización de los resultados. Aunque la prueba Anderson-Darling resulta pertinente para evaluar el comportamiento de las colas, esta propiedad no elimina las restricciones asociadas con la cantidad de observaciones. Por ello, los hallazgos deben interpretarse como evidencia estadística descriptiva de un cambio en el patrón exportador y no como demostración de una relación causal entre la política energética y el comportamiento de las exportaciones.

Resultados

A continuación, se presentan los resultados para las pruebas de ajuste:

Tabla 2.
Valores obtenidos en las pruebas de ajuste a las distribuciones seleccionadas

Distribución	Estados Unidos de América		Guatemala	
	A^2	Valor p	A^2	Valor p
Normal	1.37	p < 0.005	0.76	0.04
Logística	0.81	0.02	0.72	0.03
Weibull	0.96	0.01	1.03	p < 0.01
Gamma	0.70	0.08	0.84	0.04

Fuente: Elaboración propia mediante Minitab 17

De acuerdo con la Tabla 2, el mejor ajuste para las exportaciones hacia los Estados Unidos de América fue para la

distribución Gamma ya que el estadístico A^2 = 0.70 cuyos parámetros son los siguientes:

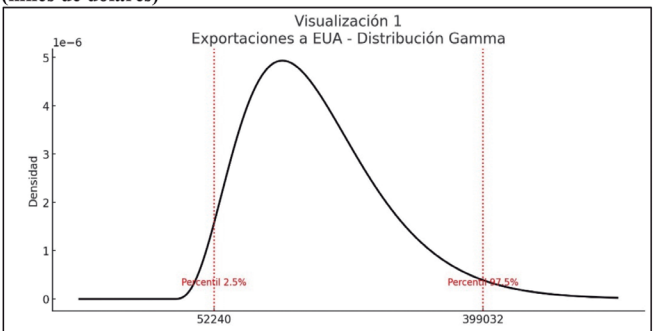
$$k = 4.184\ (forma), \theta = 44{,}130\ (escala)$$

En lo que corresponde a Guatemala, todas las distribuciones evaluadas presentaron valores p inferiores a 0.05. No obstante, la distribución logística registró el menor valor para el estadístico A^2 =0.72, por ello se seleccionó como el mejor ajuste relativo entre las cuatro alternativas consideradas. Sus parámetros son los siguientes:

$$\mu = 18{,}945\ (ubicación), s = 13{,}467\ (escala)$$

Considerando lo anterior, la visualización que representa a cada serie de exportación son las siguiente:

Imagen 1.
Distribución de datos de las exportaciones mexicanas de energía eléctrica hacia Estados Unidos de América y Guatemala: 2004 a 2017
(miles de dólares)



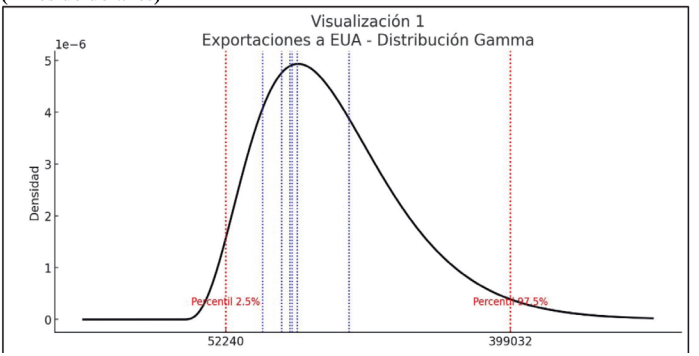


Fuente: Elaboración propia

A través de las curvas integradas en la Imagen 1, se procede a ubicar los valores de las exportaciones registradas entre los años 2018 y 2023.

A través de las curvas integradas en la Imagen 1, se procede a ubicar los valores de las exportaciones registradas entre los años 2018 y 2023.

Imagen 2.
Desempeño de las exportaciones mexicanas de energía eléctrica a partir del año 2018 y hasta 2023
(miles de dólares)





Fuente: Elaboración propia

De acuerdo con la Imagen 2, los valores de las exportaciones hacia Estados Unidos de América observados entre 2018 y 2023 permanecieron dentro del intervalo central de referencia del 95% aunque la mayoría se ubicó en la zona inferior de la distribución estimada. En lo que respecta a Guatemala, los seis valores observados superaron el percentil 97.5 de la distribución logística. Este comportamiento representa una diferencia respecto del periodo histórico 2004-2017 y coincide temporalmente con el gobierno mexicano iniciado en 2018; no obstante, el procedimiento utilizado no permite atribuir dicho cambio a la orientación de la política energética.

Discusión de los resultados

El examen de las exportaciones mexicanas de energía eléctrica entre 2004 y 2023 muestra dos patrones claramente diferenciados, por una parte, dependencia estructural hacia Estados Unidos de América (EUA), acompañada de una tendencia descendente, y un dinamismo creciente en las ventas a Guatemala.

Las pruebas realizadas indican que la distribución Gamma presenta un ajuste estadísticamente aceptable para Estados Unidos de América, con $A^2 = 0.70$ y p=0.08. Para Guatemala, la distribución logística obtuvo el menor valor de A^2, sin embargo, su valor p=0.03 indica que debe interpretarse únicamente como el mejor ajuste relativo entre las distribuciones evaluadas y no como un ajuste estadísticamente satisfactorio al 5%.

En el caso de EUA, aunque los valores se mantienen dentro de los límites de significancia establecidos, se observa un desplazamiento hacia la parte izquierda de la distribución. Esto significa que, a pesar de su relevancia histórica, las exportaciones han ido reduciéndose en los últimos años, particularmente en 2020. Entre las interpretaciones contextuales plausibles se encuentran los cambios en la orientación de la política energética del mercado estadounidense y los efectos temporales asociados con la pandemia. Sin embargo, estos factores no fueron incorporados como variables del modelo, por lo que no pueden presentarse como causas demostradas del comportamiento observado.

Por el contrario, Guatemala presenta un escenario opuesto. Las exportaciones superan sistemáticamente los límites superiores de significancia, reflejando un crecimiento sostenido que rompe con la tendencia histórica. Este hallazgo sugiere que el mercado guatemalteco ha dejado de ser marginal para convertirse en un destino estratégico de creciente importancia. Este comportamiento es congruente con las posibilidades de intercambio proporcionadas por la interconexión regional mediante el sistema SIEPAC, aunque el análisis no permite medir su efecto específico sobre el crecimiento observado.

La dualidad entre ambos mercados refleja tanto las oportunidades como los retos de la política energética mexicana. La disminución hacia Estados Unidos pone en evidencia la

necesidad de diversificar socios y modernizar la infraestructura, mientras que el incremento en Guatemala muestra que existen nichos regionales donde México puede consolidar su papel como exportador. Sin embargo, el potencial se ve limitado por problemas estructurales como la dependencia de combustibles fósiles, la obsolescencia de la red de transmisión y la falta de inversión en innovación tecnológica.

En términos metodológicos, los resultados confirman la pertinencia de utilizar la prueba de Anderson-Darling para evaluar el ajuste de las distribuciones, dado que ofrece un sustento estadístico robusto y sensible a las colas de la distribución. Este enfoque permitió diferenciar con claridad el patrón de comportamiento de ambos destinos, aportando evidencia objetiva a la interpretación de los cambios observados.

En síntesis, los resultados reflejan un cambio en el patrón exportador de México a partir de 2018, mientras que las exportaciones hacia EUA permanecen dentro de rangos habituales, pero con tendencia decreciente, las dirigidas a Guatemala se consolidan como una vía de crecimiento continuo.

Conforme a lo anterior, se abre un espacio para la reflexión sobre el futuro de la política energética mexicana y la necesidad de articular estrategias que, más allá de la dependencia histórica, fortalezcan la competitividad regional y la sostenibilidad del sector.

Conclusiones

El análisis de las exportaciones mexicanas de energía eléctrica entre 2004 y 2023 revela un patrón dual que combina persistencias históricas con cambios estructurales recientes. Por un lado, Estados Unidos de América (EUA) se mantiene

como el principal destino de las exportaciones mexicanas de energía eléctrica, aunque su participación presenta variaciones importantes y una disminución durante los años recientes; por otro, se observa un dinamismo creciente y sostenido en Guatemala, que reconfigura el mapa de oportunidades regionales. Apoyado en pruebas de bondad de ajuste y en la sensibilidad de la prueba de Anderson–Darling, el estudio permitió identificar la distribución Gamma como la que mejor describe el comportamiento de las ventas a EUA, mientras que la distribución Logística resultó más adecuada para los envíos a Guatemala. Este andamiaje metodológico aportó umbrales percentilares de referencia que hacen posible discriminar entre fluctuaciones habituales y verdaderos cambios de régimen.

En el caso de EUA, los valores observados para 2018–2023 se mantuvieron dentro de los límites de significancia y, aunque con episodios de recuperación, muestran un sesgo descendente respecto del patrón histórico, coherente con tres situaciones, la primera es la reorientación de la política energética mexicana a partir de 2018, que enfatizó la seguridad de suministro doméstico, la segunda, los avances de la transición energética y la mayor autosuficiencia del mercado norteamericano, y la tercera en los choques temporales asociados a la pandemia que acentuaron la volatilidad en 2020. La combinación de estos factores no supone una ruptura estadística del comportamiento hacia EUA, pero sí acota el potencial de expansión por la vía inercial y refuerza la necesidad de una estrategia de diferenciación de productos, contratos y ventanas estacionales.

Guatemala ofrece, en contraste, un comportamiento inequívocamente expansivo debido a que los montos de 2018 a 2023 superaron de manera sostenida el umbral superior de significancia, lo que evidencia un cambio de escala y de rol para este socio. La interconexión regional a través de SIEPAC

y la operación bajo reglas del Mercado Eléctrico Regional han facilitado la profundización de flujos, al tiempo que la complementariedad de curvas de carga ha abierto espacio para colocar excedentes con mayor estabilidad. Este desempeño sugiere que Centroamérica puede fungir como amortiguador y motor de crecimiento para la oferta exportable mexicana, siempre que se asegure capacidad firme, calidad de tensión y confiabilidad transfronteriza.

Desde una perspectiva de política pública y de negocio, los hallazgos apuntan a tres líneas de acción. Primero, modernizar la red de transmisión y reducir pérdidas no técnicas para elevar la competitividad de precio en frontera; sin mejoras en infraestructura, el espacio estadístico de crecimiento difícilmente se traducirá en contratos de largo plazo. Segundo, profundizar la diversificación hacia Centroamérica mediante esquemas bilaterales y de mercado (spot y contratos), incorporando cláusulas de gestión de riesgos por variabilidad hidrometeorológica y congestión. Tercero, acelerar la incorporación de renovables y almacenamiento, lo que permite suavizar la estacionalidad doméstica y ampliar la ventana exportable en los meses de mayor demanda regional, reduciendo además la exposición a combustibles fósiles.

En términos metodológicos, la prueba Anderson-Darling permitió comparar el ajuste de las distribuciones seleccionadas y establecer umbrales para contrastar las observaciones recientes. No obstante, los resultados deben interpretarse considerando el reducido número de observaciones utilizadas en la estimación. En este sentido, el procedimiento constituye una herramienta descriptiva y replicable para el seguimiento anual del desempeño exportador, cuyos resultados podrán fortalecerse conforme se incorporen nuevas observaciones a la serie.

En suma, las exportaciones de energía eléctrica de México se encuentran en un punto de inflexión, en donde el mercado estadounidense sigue siendo el ancla, pero con márgenes de crecimiento acotados, mientras que Guatemala consolida un trayecto ascendente que conviene convertir en eje de una estrategia de diversificación regional. Capitalizar este viraje exige infraestructura, reglas claras e innovación tecnológica, de lo contrario, las oportunidades identificadas por la estadística permanecerán como potencial no realizado.

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Export companies overcoming a pandemic crisis: a gender-based analysis of the support received

Empresas exportadoras ante el reto de superar una crisis pandémica: análisis con perspectiva de género de la ayuda recibida

María Barreiro-Gen*

Abstract

Public policies are a key factor in times of crises, such as COVID-19, as a way to avoid perpetuating pre-existing inequalities that affect women in international trade. Most of the studies of the adopted measures during COVID-19 and their consequences on females' roles in international trade have been focused on women as a labour force and as business owners. However, little attention has been paid to females as top manager, especially on exporting firms, as well as the effects of the time dimension in such phenomena. A quantitative study based on the World Bank Enterprise Survey was conducted using 14,976 responses from businesses in 26 countries. This study focused on the impacts of COVID-19 on exporting firms over time, on issues such as operations, sales, policy response, and firms' expectations. The results show that top manager female exporting firms had to face more difficulties over time than male ones, while the policy response was not different in most of aspects for both. The analyses provide insights into how COVID-19 outbreak affected exporting firms and, in particular, the differences between top manager female and

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top manager male firms. This paper contributes to scholar discourses on policy response to businesses needs in time of crisis, with a gender perspective.

Keywords: Public policy – female leadership – exporters – top manager females – International trade.

Resumen

Las políticas públicas son un factor clave en tiempos de crisis, como la del COVID-19, para evitar que se perpetúen las desigualdades preexistentes que afectan a las mujeres en el comercio internacional. La mayoría de los estudios realizados sobre las medidas adoptadas durante la pandemia del COVID-19 y sus consecuencias en el papel de las mujeres en el comercio internacional se han centrado en ellas como mano de obra y como propietarias de empresas. Sin embargo, se ha prestado poca atención a las mujeres como altas directivas, especialmente en las empresas exportadoras, así como a la dimensión temporal de este fenómeno. En este artículo se ha realizado un estudio cuantitativo basado en la Encuesta de Empresas del Banco Mundial, utilizando 14 976 respuestas de empresas de 26 países. Este estudio se centró en los efectos de la COVID-19 en las empresas exportadoras a lo largo del tiempo, en cuestiones como las operaciones, las ventas, la respuesta política y las expectativas de las empresas. Los resultados muestran que las empresas exportadoras con mujeres en puestos directivos tuvieron que hacer frente a más dificultades a lo largo del tiempo que las que tenían hombres en esos puestos, mientras que la respuesta política no fue diferente en la mayoría de los aspectos para ambas. Los análisis realizados proporcionan información sobre cómo la COVID-19 afectó a las empresas exportadoras y, en particular, las diferencias entre las empresas con mujeres

y con hombres en puestos de alta dirección. Este artículo contribuye al debate académico sobre la respuesta política a las necesidades de las empresas en tiempos de crisis, desde una perspectiva de género.

Palabras clave: Políticas públicas – liderazgo femenino – exportadores – mujeres directivas – comercio internacional.

1.- Introduction

International trade has considerable impacts on the economy and societies. Empirical evidence has showed that trade openness tends to be beneficial for economic growth, serving as a catalyst of productivity (Singh, 2010), expanding the target market for companies, facilitating a better allocation of resources and a greater utilisation of the productive capacity (Afonso, 2001). However, international trade also have negative impacts, as it perpetuates pre-existing inequalities, such as those based on gender issues (UNCTAD, 2020).

Public policies are instrumental in avoiding and reducing those pre-existing differences in trade (Karamesine & Rubery, 2014; World Bank & World Trade Organization, 2020), where women are still underrepresented as part of the labour force (Laperle-Forget & Gürbüz Cuneo, 2024) and in top management (Kalliny & Zaki, 2024). The average percentage of firms with a woman top manager is still 18.9%, going down to 6.2% in the Middle East & North Africa (World Bank, 2025). Women-led businesses represent only 15% of exporting firms worldwide (IFC, 2024), facing more barriers as entrepreneurs (UNCTAD, 2020), such as access to finance (IFC, 2024), tax rates, political instability, and corruption (Kalliny & Zaki, 2024).

Crises, such as COVID-19, exacerbate the existing vulnerabilities of females in their roles in international trade (Tejani & Fukuda-Parr, 2021), hence policy response becomes a key factor to avoid it. Studies of the adopted measures during COVID-19 and their consequences on females' roles in international trade have focused, mainly, on women as part of the labour force (Lenshie et al., 2021) and their work-life balance challenges (Goldstein et al., 2022; Rodríguez Sánchez et al., 2021); with less attention paid to women as businesses owners (Birhanu et al., 2022; Graeber et al., 2021; Terstriep et al., 2024); or top managers, to a lesser extent. Particularly, little attention has been paid to exporting firms from a gender perspective.

In parallel, the time dimension has been neglected in most of the previous studies of the adopted measures during COVID-19 and their consequences on females' roles in international trade. They were analysed with a steady-state vision, lacking the incorporation of the time dimension, that impact policy effectiveness (Torres et al., 2023; Zheng et al., 2023).

The aim of this paper is to provide more insights on gender disparities in the affectedness and recovery of exporting firms from the COVID-19 crisis, considering policy responses, through a longitudinal approach.

The rest of the paper is organised in the following sections: Section 2 presents a literature review on policy response; Section 3 describes the methods used in this study and its limitations; Section 4 presents the results and the discussion; and Section 5 provides the conclusions.

2. Policy response to firm needs in times of crisis: the importance of a gender-sensitive approach

Policymaking entails "the articulation of social issues as political problems, policy formulation, adoption, implementation, monitoring and evaluation" (Lombardo et al., 2017). In many cases, a policy has to be shaped in response to changes in context, e.g. in the case of a crisis (Goddard et al., 2009; Ward et al., 2016).

In a crisis, an effective policy response requires a dialogue between policy makers and those who implement the policies (Ward et al., 2016). If such crisis is global, and national (or regional) authorities make decisions in an asymmetric and uncoordinated way, it can exacerbate challenges from it (Forman & Mossialos, 2021).

Policy response are usually aimed at mitigating the crisis' effects and facilitate a clear path to recovery, with different degrees of success in practice (Nelson et al., 2011), failing in some cases, when key factors are not considered (Bina & La Camera, 2011).

Different variables has to be taken into consideration to provide an adequate policy response to a crisis, such as gender and intersectional factors (David et al., 2024; UNCTAD, 2020), to avoid escalating pre-existing problems (Birhanu et al., 2022; Tejani & Fukuda-Parr, 2021).

Women-led businesses face multiple barriers (e.g. gaps in human capital, access to finance, access to technology and markets, and contextual factors) in a normal context that can impact their business performance (Ubfal, 2024), which are exacerbated during a crisis. An example of this were the

austerity policies implemented in response to the financial crisis of 2008 in EU and the US, which intensified gender inequalities, resulting in harmful impacts on female workers, such as the loss of important employment and social welfare protections (Karamesine & Rubery, 2014). If, in addition, women are under-represented in the decision-making process to face a crisis, feminist point of view for crisis recovery will be hindered (Bacigalupe et al., 2022; De Paz Nieves et al., 2021).

Women-led businesses are usually more affected by crises than male-led ones, but not always receive more help to recovery. In these cases, females make use of other alternatives, such as personal reserves and social networks (Terstriep et al., 2024).

Most of the studies of the adopted measures during COVID-19 and their consequences on females' roles in international trade have focused on:

> 1) Women as a labour force (Lenshie et al., 2021), including their wellbeing and health (Sajjad & Eweje, 2021) and their work-life balance challenges, because crises usually brings previous patterns of household inequality (Goldstein et al., 2022; Rodríguez Sánchez et al., 2021). Women were more likely than men to stop working (De Paz Nieves et al., 2021), and the financial challenges in firms increased the likelihood of women being negatively affected (Khan, 2023). COVID-19 exacerbated illegal and abusive working conditions for female workers in global supply chains (Brown, 2021). A group specially affected was the informal female workers dedicated to trade between countries, who suffered a reduction of their personal income, lacking of social protection programs to support

them (Lenshie et al., 2021).

2) Women as businesses owners, where women-owned firms were more affected by the COVID-19 (Birhanu et al., 2022) and had more difficulties to recover (Terstriep et al., 2024). Such challenges were more intense in developing countries, such as India (Kumar & Singh, 2021), and Bangladesh (Uddin & Barua, 2024), where women entrepreneurs faced the lack of government support and education on entrepreneurship, limited access to credit, family responsibilities, and the handicap that were in industries more affected by the pandemic (Graeber et al., 2021). Women with children were more likely to close their firm due to school closure policies than men with children (Goldstein et al., 2022).

3) As top managers, (to a lesser extent) where female top manager firms also experienced disproportionately more negative impacts than men top manager ones (Khan, 2023). They were less likely to have received public support in crisis such as COVID-19, even when they have been hit harder in some spheres (Profeta, 2020; Torres et al., 2023). There has been little attention to exporting firms with a female as top manager. Although there is a consensus within the literature that COVID-19 has extremely affected businesses around the World, impact direction and extent, depending on business characteristics, remain unprecise (David et al., 2024).

There is no consensus on whether the COVID-19 impact was greater or lesser for non-exporting firms or exporting

ones. Exporting firms had to face particular challenges, due to the nature of COVID-19 and the measures that governments adopted to contain its spread, such as border closures (Srbinoski et al., 2022), but, at the same time, it seems that exporting helped firms to survive (Wagner, 2024). Considering previous research, the following hypothesis is proposed to test:

Hypothesis 1: Exporting firms were more affected by the COVID-19 outbreak than non-exporting firms, in terms of their operations, sales, and finances.

In addition, more insights about gender differences in the affectedness and recovery of exporting firms from the COVID-19 crisis (at the beginning of the outbreak and even as time went by) will be provided through testing the following hypotheses:

Hypothesis 2a: Among exporting firms, top manager female firms were more affected by the COVID-19 outbreak than top manager male firms, in terms of their operations, sales, and finances.

Hypothesis 2b: As time passed, among exporting firms, top manager female firms were more affected by the COVID-19 outbreak than top manager male firms, in terms of their operations, sales, and finances.

Gender differences will also be tested in the policy response received through:

Hypothesis 3a: At the beginning of the COVID-19 pandemic, policy response was higher to help top manager female firms than top manager male firms.

3. Methods

A multiple COVID-19 Enterprise dataset from the World Bank Enterprise Survey was used[1], with a special focus on COVID-19 and its impacts on the private sector. An initial survey was carried out in 2020 (it is called "Round 1") and follow-ups between 2021 and 2022, (Round 2 and Round 3). These surveys included items related to policy response, operations, sales, trade, workforce, finance, and firms' expectations about their future. Table 1 shows the selected indicators' descriptions and a short name that was assigned by the author to identify them in the subsequent tables.

Several countries were selected if their firms met the following criteria about time and gender:

> 1- Their firms participated in the three rounds of multiple COVID-19 Enterprise Surveys (Round 1, Round 2, and Round 3), to be able to analyse variables over time.
>
> 2- The firms were from countries with any top manager female firm[2].

From the entire database, 26 out of 45 countries met those criteria from Sub-Saharan Africa (SSA), Europe and Central Asia (ECA) and Middle East and North Africa (MNA), remaining 14,976 responses from the 60,625 previous ones. The countries were: Armenia, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia, Greece, Hungary, Italy, Jordan, Latvia, Lebanon, Lithuania, Malta, Moldova, Morocco,

1 https://www.enterprisesurveys.org/en/covid-19

2 The top manager can be the same person that owns the firm or not. The World Bank Enterprise Survey does not include this information.

North Macedonia, Poland, Portugal, Romania, Slovak Republic, Slovenia, Somalia, Zambia, and Zimbabwe. 19 out of 45 countries did not meet these criteria (Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Chad, El Salvador, Guatemala, Guinea, Honduras, Kazakhstan, Mongolia, Montenegro, Mozambique, Nicaragua, Niger, Panama, Russian Federation, Serbia, and Togo).

Table 1. Indicators description and short name list

Short name	Indicator
Permanently closed	"Percent of firms confirmed permanently closed"
Temporarily closed	"Percent of firms confirmed temporarily closed at the time of interview"
Average closure	"If closed temporarily, average total duration of closure (weeks)"
Capacity utilization	"Capacity utilization (%)"
Decrease demand	"Percent of firms that experienced a decrease in the demand for their products or services compared to one year ago"
Insolvency/bankruptcy	"Percent of firms that filed for insolvency or bankruptcy, since the previous round"
Discontinuing product	"Percent of firms that discontinued a product or service in response to the COVID-19 outbreak"
Decrease sales	"Percent of firms experiencing decrease in monthly sales compared to one year ago"
Average drop sales	"If the firm experienced a decrease, average percent drop in sales compared to one year ago"
Average change sales	"Average change in monthly sales compared to one year ago"
Commercial bank loans	"Percent of firms using loans from commercial banks as the main source to tackle cash flow shortages, round-1/since the previous round (round 2 and 3)"
Equity finance	"Percent of firms using equity finance as the main source to tackle cash flow shortages, since the previous round"
Delay payments	"Percent of firms delaying payments to suppliers or workers as the main source to tackle cash flow shortages, round-1"
Cash transfers received	"Among the firms that received or expects to receive in the next 3 months any national or local government assistance, percent of firms that received cash transfers"
Expected assistance	"Percent of firms that expect to receive in the next 3 months any national or local government assistance provided in response to the COVID-19 outbreak, since the previous round"
Fiscal relief received	"Among the firms that received or expects to receive in the next 3 months any national or local government assistance, percent of firms that received fiscal relief, since the previous round"

Expected wage subsidies	"Percent of firms that received or expect to receive wage subsidies from national or local government in response to the COVID-19 outbreak"
New credit	"Percent of firms that received or expect to receive access to new credit from national or local government in response to the COVID-19 outbreak"
Cash transfers needed	"Percent of firms whose most needed government measure is cash transfers"
Wage subsidies needed	"Percent of firms whose most needed government measure is wage subsidies"
Fall in arrears expected	"Percent of firms that anticipate falling in arrears on outstanding liabilities in the next 6 months"
Firms reduce salaries/benefits Workers less salary/benefits	"Percent of firms that reduced workers' salaries or benefits due to the COVID-19 outbreak/since previous round" "Proportion of workers that had salaries or benefits reduced due to the COVID-19 outbreak"

Source: Own elaboration based on World bank classification (World Bank, 2021)

Following the World Bank's criterion, a firm is considered as "Exporter" in this study if "at least 10% of its annual sales is derived from direct exports", and it has "Foreign Ownership" if "at least 10% of ownership is held by foreigners" (World Bank, 2021).

A Levene test was conducted and its results were used in a subsequent analysis. A T-test was carried out to test for differences in means between exporters and non-exporters for comparing their situation in Round 1, 2 and 3.

3.1 Limitations of the methods

According to the Enterprise Survey Unit (World Bank, 2021), some of the dichotomous variables, such as "Gender of Top Manager" and "Exporting Status" were not levels of sampling stratification. These variables were constructed ex post, so that may affect the precision of the resulting sample sizes when they are used in comparisons.

After applying selection criteria, the analyses were focused on three regions of the World: Sub-Saharan Africa (SSA), Europe and Central Asia (ECA) and Middle East and North Africa (MNA). This may not allow a complete generalisation of the results and conclusions. Non-response bias may be caused by firms refusing to answer or complete the survey.

4. Results and discussion

4.1 Descriptive statistics of the total sample

According to annual sales, around 25% of firms could be considered as exporters (3,639 firms), which over 83% had a top manager male (12,269 firms) and almost 17% a top manager female (2,460 firms) (see Table 2). From all the respondents, 51% were firms from the manufacturing sector, and 49% from services. However, manufacturing firms were more prevalent among exporting firms, both in firms with female and male top managers.

Table 2. Distribution per top manager (male/female), exporter/non-exporter condition, and sector of all the economies included in this study

Top manager	Sector	Non-exporter		Exporter		Total	
Male	Manufacturing	3,952	43%	2,390	76%	6,342	52%
	Services	5,185	57%	742	24%	5927	48%
	Total	9,137		3,132		12,269	
Female	Manufacturing	796	41%	366	72%	1,162	47%
	Services	1,157	59%	141	28%	1,298	53%
	Total	1,953		507		2,460	
Total	Manufacturing	4,748	43%	2,756	76%	7,504	51%
	Services	6,342	57%	883	24%	7,225	49%
	Total	11,090		3,639		14,729	

From all the responses, 76% from Europe and Central Asia (ECA), 16% from Middle East and North Africa (MNA), and 10% were from Sub-Saharan Africa (SSA).

43% were small companies (<20 employees), 33% were medium (20-99 employees), and 20% were large companies (100 and over). Top manager females were more represented in small companies (20% of the total small companies), follow by medium companies (16%), and large companies (12%). Most of the firms (89%) had domestic ownership.

4.2 Analyses including all the firms

First, an analysis was carried out using all the firms, including exporters and non-exporters, to compare the operations, sales, finance, policy response, and expectations variables in Round 1 of these two groups of firms.

A T-test was carried out to test for differences in means between exporters and non-exporters for comparing their situation in Round 1, at the beginning of COVID-19 outbreak, to detect if they had a clear different profile and test Hypothesis 1.

The results showed differences in most of the operations, sales, finance, policy response, and expectations' items (see Table 3, most of them with $p<0.01$). The results also showed that a lower percent of exporters than non-exporters confirmed that they were permanently closed at the beginning of the COVID-19 outbreak (2.40% versus 3.98%), exporters had a higher capacity utilization (65.69% versus 61.43%) and had a lower decrease in their sales than non-exporting firms (69.31% versus 63.28%). There were also differences in their finance strategy to overcome the crisis: exporters used loans from commercial banks as the main source to tackle cash flow shortages

to a greater extent, whereas non-exporters delayed payments to suppliers or workers to overcome this problem. Exporting firms received, or expected to receive, more national or local government assistance provided in response to the COVID-19 outbreak in form of wage subsidies, while non-exporters were expecting cash transfers to a greater extent. Expectations in Round 1 for exporters were better than for non-exporters (in terms of being able to avoid falling in arrears in the future).

Table 3. All firms T-test (Round 1). Differences in means between non-exporting firms and exporting firms, showing indicators where the statistical difference was $p < 0.05$

Variable	Non exporter /Exporter	Mean	Standard Deviation	t	P value
Permanently closed	Non exporter	3.98	19.542	5.047	0.000
	Exporter	2.40	15.322		
Capacity utilization	Non exporter	61.43	28.288	-5.455	0.000
	Exporter	65.69	26.539		
Decrease sales	Non exporter	69.31	46.125	5.614	0.000
	Exporter	63.28	48.214		
Average change sales	Non exporter	-29.46	33.60	-7.052	0.000
	Exporter	-24.09	33.25		
Commercial bank loans	Non exporter	16.90	37.482	-1.742	0.041
	Exporter	18.87	39.142		
Delay payments	Non exporter	11.72	32.173	3.709	0.000
	Exporter	8.58	28.023		
Cash transfers received	Non exporter	36.74	48.217	3.012	0.001
	Exporter	31.81	46.596		
Expected wage subsidies	Non exporter	26.69	44.235	-5.865	0.000
	Exporter	32.80	46.956		
Fall in arrears expected	Non exporter	32.65	46.895	4.386	0.000
	Exporter	28.03	44.925		

According to the results, Hypothesis 1 is rejected *(At the beginning of the COVID-19 outbreak, exporting firms were more affected by the COVID-19 outbreak than non-exporting firms, in terms of their operations, sales, and finances)*. The impact of the COVID-19 outbreak, at least at the beginning, was lower for exporting firms than for non-exporting firms in their operations, sales and finances, which concurs with Wagner (2024), but disagrees with Srbinoski et al (2022). The results show enough differences between exporters and non-exporters to consider exporters a group with different characteristics. In the next step, the analysis was focused just on them to elucidate if, among exporters, top manager female firms were more affected by the COVID-19 outbreak than top manager male firms, if it was the case, the policy response was higher to help top manager female firms, at the beginning of the outbreak and also, over time.

4.3 Descriptive statistics of the exporting firms

As Table 2 shows, from all the exporting firms, 86% had a top manager male (3,132 firms), and 14% a top manager female (507 cases). From all the exporting respondents, 76% were firms from the manufacturing sector, and 24% from services, and that proportion is similar in female and male top manager firms. The presence of top manager females in each subsector remains in general between 11% and 15% of the total.

Of all the cases, 78.6% from Europe and Central Asia (ECA), 14.5% from Middle East and North Africa (MNA), and 6.9% were from Sub-Saharan Africa (SSA).

Of the total, 23% were small companies, 37% were medium, and 39% were large companies, which is a higher

percentage of companies with 100 employees and over than in the whole dataset. Nevertheless, top manager females kept more represented in small companies (19% of the total small companies), followed by medium companies (14%), and large companies (11%).

4.4 Analyses of exporting firms

4.4.1 Round 1

A T-test of the exporting firms was carried out to test for differences in means between top manager female firms and top manager male firms, to compare their situation in Round 1, at the beginning of COVID-19 outbreak (see Table 4). There were a few significant differences ($p<0.05$), with a worse scenario for top manager female firms in their operations and sales. Top manager female businesses had to face more challenges: they have to temporarily close in a higher percentage (6.51%) than top manager male businesses (2.59%) and they also had to face a higher drop in their sales (45.36%) than top manager male firms (41.52%).

There were significant statistical differences in the policy response in this first round, where top manager male firms were using more commercial banks (19.29%) than top manager female firms (over 12%), and also received or expect to receive access to new credit in a higher extent (8.12%) than top manager female firms (5.77%).

The expectations of the two groups did not differ at the beginning in anticipating falling in arrears on outstanding liabilities in the following six months.

Table 4. Exporting firms T-test (Round 1). Differences in means between top manager female firms and top manager male firms, showing indicators where the statistical difference was p < 0.05

Variable	Male/Female manager	Mean	Standard Deviation	t	P value
Temporarily closed	Male	2.59	15.875	-3.463	0.000
	Female	6.51	24.693		
Average closure	Male	7.07	5.532	-1.653	0.049
	Female	7.93	4.907		
Average drop sales	Male	41.52	25.309	-1.988	0.023
	Female	45.36	27.909		
Commercial bank loans	Male	19.29	39.472	2.159	0.016
	Female	13.59	34.354		
New credit	Male	8.12	27.319	1.732	0.042
	Female	5.77	23.348		
Cash transfers needed	Male	20.48	40.602	-2.239	0.014
	Female	57.14	53.452		
Fall in arrears expected	Male	27.20	44.509	0.783	0.217
	Female	25.15	43.452		

According to the results, Hypothesis 2a is failed to reject *(Among exporting firms, top manager female firms were more affected by the COVID-19 outbreak than top manager male firms, in terms of their operations, sales, and finances)*. Focussing on exporting firms, top female manager firms had to face more challenges, in Round 1, than male top manager companies, concurring with Khan (2023) and Torres et al., (2023).

Focussing on the policy response, Hypothesis 3a is rejected *(At the beginning of the COVID-19 pandemic, policy response was higher to help top manager female firms than top manager male firms)*. Even when top manager female firms were likely to

face more challenges at the beginning of the pandemic, adopted measures were not higher to help them, complementing the arguments of Birhanu et al. (2022). This could be related with an overlooking of their specific interests, that were not considered by male decision makers; indeed, a measure that, apparently, is gender neutral, can increase gender differences.

4.4.2 Round 2

A second T-test was carried out to test for differences in means between top manager female firms and top manager male firms, to compare their situation in Round 2.

The results show that top female manager firms had to face more challenges than the male ones (see Table 5). There were significant differences in means ($p<0.05$), with a higher decrease in the demand for the top managers female firms' products or services (54.14% versus 48.06%), that was also reflected in a higher decrease of sales (40.98% versus 34.48%), and more top manager female firms file for insolvency or bankruptcy (3.01% versus 0.77%). There were a few significant differences in policy response, mainly in the way that firms received assistance, where the percentage of top manager female businesses that received fiscal relief was higher (38.25%) than men's (25.60%). Top manager female firms had to reduce worker's salaries or benefits in a higher percentage (16.9%) than top male's (9.8%) due to the COVID-19 outbreak.

The expectations of the two groups differed in this round, with more than 25% of top manager female firms anticipating falling in arrears on outstanding liabilities in the next six months versus 18.43% of top manager male firms.

Female	54.14	49.897

Table 5. Exporting firms T-test (Round 2). Differences in means between top manager female firms and top manager male firms, showing indicators where the statistical difference was p < 0.05

Variable	Male/Female top manager	Mean	Standard Deviation	t	P value
Average closure	Male	6.36	6.411	-2.064	0.040
	Female	8.64	8.350		
Decrease demand	Male	48.06	49.974	-2.149	0.032
	Female	54.14	49.897		
Insolvency/bankruptcy	Male	0.77	8.754	-2.214	0.028
	Female	3.01	17.115		
Average drop sales	Male	34.48	22.266	-3.244	0.001
	Female	40.98	25.903		
Average change sales	Male	-14.37	28.163	2.453	0.015
	Female	-18.84	32.167		
Expected assistance	Male	3.18	17.539	-2.090	0.037
	Female	6.17	24.098		
Fiscal relief received	Male	25.60	43.682	-2.437	0.016
	Female	38.24	48.836		
Fall in arrears expected	Male	18.43	38.781	-2.735	0.007
	Female	25.38	43.583		
Firms reduce salaries/benefits	Male	9.78	29.712	-3.331	0.001
	Female	16.86	37.495		
Workers less salary/benefits	Male	5.84	21.105	-2.168	0.031
	Female	9.38	26.767		
Commercial bank loans	Male	19.90	39.949	1.984	0.048
	Female	13.61	34.402		

4.4.3 Round 3

A third T-test was carried out again to test for differences in means between top manager female firms and top manager male firms, to compare their situation in Round 3.

As Table 6 shows, there were significant differences in the percent of firms ($p<0.05$) that confirmed that they were temporarily closed at the time of the interview, with a higher number for top manager female firms (1,97% versus 0,61%). However, top manager female firms were using a higher capacity utilization (72.95 versus 69.64%). There were differences in the way of tackle cash flow shortages, where top manager male firms continued using more commercial banks (24.32%) than females' (13.33%).

Table 6. Exporting firms T-test (Round 3). Differences in means between top manager female firms and top manager male firms, showing indicators where the statistical difference was $p < 0.05$

Variable	Male/Female top manager	Mean	Standard Deviation	t	P value
Temporarily closed	Male	0.61	7.766	-2.156	0.032
	Female	1.97	13.919		
Capacity utilization	Male	69.64	23.062	-2.088	0.037
	Female	72.95	20.828		
Discontinuing product	Male	19.15	39.358	-2.281	0.023
	Female	24.92	43.323		
Firms reduce salaries/benefits	Male	12.69	33.29	-2.461	0.014
	Female	18.35	38.77		
Commercial bank loans	Male	24.32	42.949	2.651	0.009
	Female	13.33	34.184		
Equity finance	Male	44.55	49.758	-2.299	0.022
	Female	57.78	49.668		

Considering the results in Round 2 and 3, Hypothesis 2b is failed to reject *(As time passed, among exporting firms, top manager female firms were more affected by the COVID-19 outbreak than top manager male firms, in terms of their operations, sales, and finances)*. In the same way than in hypothesis

2a, difficulties for female top manager firms continued being higher than for male top manager firms in the following Rounds. These results complement previous studies (see Khan, 2023; Torres et al., 2023), by focusing its attention on exporting companies and providing a temporal perspective.

In Round 3, significant differences in policy response were almost non-existent. Expectations also showed no significant differences (with respect to bankruptcy). According to these results, Hypothesis 3b is rejected *(As time passed, policy response was higher to help top manager female firms than top manager male firms)*. Despite facing more difficulties for top-female firms (in Round 2), the policy response was not greater in the medium-term (in Round 3), complementing Torres et al., (2023). However, the firms managed to overcome their challenges.

Figure 1 shows a comparison between indicators' mean for key indicators in top female manager exporting firms and male ones. Although top manager female firms had worse operation, sales an expectative' indicators in Round 1 and 2 than male ones (e.g. percent of firms temporarily closed; average drop sales; falling in arrears expected), the latter received the same or even more assistance or/and support in Round 3 than the former.

This paper provides more insights on gender disparities in the affectedness and recovery of exporting firms from the COVID-19 crisis, by considering policy response, with a longitudinal approach.

Figure 1. Rounds' comparison, using indicators' mean

Variable	Male/Female manager	3 ROUNDS COMPARISON		
Temporarily closed	Male	2,59	2,08	0,5
	Female	6,51	2,96	1,97
Avearge closure	Male	7,07	6,36	8,49
	Female	7,93	8,64	12,88
Average drop sales	Male	41,52	34,48	31,82
	Female	45,36	40,98	31,42
Capacity utilization	Male	65,81	70,92	69,64
	Female	64,99	68,74	72,95
Commercial bank loans	Male	19,29	19,90	24,32
	Female	13,59	13,61	13,33
Cash transfers needed	Male	20,48	27,61	*
	Female	57,14	24,27	*
Cash transfers received	Male	31,12	27,61	31,67
	Female	36,42	24,27	26,80
Expected assistance	Male	4,93	3,18	2,31
	Female	4,95	6,17	2,36
Fiscal relief received	Male	21,27	25,60	34,87
	Female	20,86	38,24	29,90
Fall in arrears expected	Male	27,20	18,43	15,05
	Female	25,15	25,38	14,38

*No information available. Red is used in indicators where higher values indicate a worse scenario; green was used for capacity utilization, and blue to compare policy response indicators.

5. Conclusions

Policy response is a key factor in times of crisis, such as COVID-19, as a way to avoid the amplification of the existing vulnerabilities of females in their roles in international trade. Most of the studies of the adopted measures during COVID-19 and their consequences on females' roles in international trade have focused on women as a labour force and as a business owner. However, little attention has been paid to females as top manager, especially on exporting firms, as well as the effects of the time dimension.

14,976 responses from 26 economies were analysed from a multiple COVID-19 Enterprise dataset from the World Bank

Enterprise Survey, with a special focus on COVID-19 and its impacts on the exporting private sector.

The analyses provide insights into how COVID-19 outbreak affected exporting firms and, in particular, the differences between top manager female and top manager male firms, at the beginning of the outbreak and through time. The results show that top manager female firms had to face, in general terms, more difficulties through the three Rounds of the survey than top manager male firms (specially through the first and the second), but, the policy response was not different in most of aspects. In response to an external stimulus, as a World crisis that caused several damages, it is necessary to take a longitudinal perspective to be able to develop and implement public policies.

This paper contributes to advancing the scholarly discourses on policy response to businesses needs in time of crisis from a gender approach. A gender-perspective is instrumental for effective policy formulation in helping businesses in crisis. In particular, the trade environment should be more gender sensitive and supporting the women involved, such as monitoring mechanisms that are disaggregated by gender and policy criteria to guide access to credit with a gender perspective.

Further research should focus on elucidating how policy response differed by country or area (such Latin America), from a gender approach, and how was the implementation of this policy response.

6. Conflict of interest

The corresponding author states that there is no conflict of interest.

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"Thematic Issue: Trade and Gender Equality"

Gender and Trade: From Commitments to Consequences

The relationship between trade and gender equality has moved considerably closer to the centre of contemporary trade policy. Gender chapters are increasingly found in trade agreements; governments are adopting gender-responsive trade strategies; international organisations are producing gender-disaggregated trade data; and a growing body of scholarship is examining the differentiated effects of trade on women.

Yet an important question remains: what does it actually mean to make trade policy more gender equal?

This Special Issue of the Latin American Journal of Trade Policy brings together selected papers from the WCP Academic Research Conference on Trade and Gender Equality of the WTO Chairs Programme, held at the University of Chile in December 2025. The collection reflects the growing sophistication of research at the intersection of trade and gender, but it also points to a broader challenge for the field: moving beyond the recognition that trade has gendered effects towards developing more precise ways of identifying, addressing and evaluating those effects.

For a long time, much of the conversation was framed around a relatively simple proposition: trade matters for women. We now know that it does. The more difficult task is to understand how it matters, for whom, under what conditions, and what trade policy can realistically do about it. This requires moving away from treating "women" as a single category. Women participate in economies as workers,

entrepreneurs, producers, consumers, traders, investors and providers of unpaid care. They participate in formal and informal markets, in traditional and digital sectors, in domestic and international value chains. Their experiences with trade can therefore be profoundly different. The effects of a trade policy may vary according to income, geography, sector, employment status, access to finance and technology, family responsibilities, institutional constraints and the availability of public services.

A gender analysis of trade policy must consequently begin with realities and barriers that women face in light of their conditions and constraints. It must ask what barriers prevent particular groups of women from benefiting from trade opportunities. It must examine whether those barriers arise from the trade regime itself, from domestic institutions and regulation, or from the interaction between the two. And, it must recognise that removing a formal trade barrier does not necessarily remove the economic, social or institutional barriers that determine whether a woman can actually make use of the resulting opportunity and results.

This is particularly important because the contemporary trade agenda is expanding beyond traditional questions of tariffs and market access. Digital trade, e-commerce, investment, intellectual property, public health, supply chains, sustainability and economic security are increasingly central to trade policy. Each of these areas can have gendered consequences, even when gender is not expressly mentioned in the relevant agreement or policy, and even when we have not started talking actively about how we can mainstream gender concerns in these important disciplines that relate directly to trade and market access concerns.

The proliferation of gender chapters and gender-related commitments is an important development, but the existence of a commitment is only the beginning of the inquiry. We must also ask what problem the provision is intended to address, whether it corresponds to an identified barrier, who is responsible for implementation, what resources and institutions support it, whether progress can be monitored, and what happens when implementation falls short. In other words, the field needs to become increasingly attentive to the distinction between visibility, commitment and consequence.

A trade agreement or a policy can recognise gender equality without necessarily changing the conditions that produce gender inequality. Conversely, provisions that do not carry a gender label may have substantial implications for women's economic opportunities and well-being. The task for researchers and policymakers is therefore not simply to count gender provisions, but to understand their relationship with the broader architecture of trade policy and with the lived realities of women.

This calls for a more integrated conception of gender-responsive trade policy. Such an approach would connect trade commitments with the domestic policies and institutions that determine whether those commitments can have practical effect. It would consider finance alongside market access; digital connectivity alongside digital trade rules; care infrastructure alongside labour-force participation; public health alongside intellectual property; and implementation capacity alongside legal commitments.

The same is true for evidence. The next stage of research in this field should move increasingly towards empirical and context-specific inquiry. We need better data, but we also need

better questions. Disaggregating data by sex is necessary but rarely sufficient. Where possible, analysis should capture the intersection of gender with informality, income, geography, age, disability, ethnicity and other factors that shape access to economic opportunities. It should also examine outcomes over time rather than treating the adoption of a policy or agreement as evidence of its success.

The contributions brought together in this Special Issue are part of this broader movement and need. They reflect a field that is becoming more empirically grounded, more attentive to different forms of participation in the economy, and more willing to examine the tensions and trade-offs that accompany trade liberalisation and economic integration. Perhaps most importantly, they demonstrate that gender and trade should not be treated as two separate policy fields that occasionally intersect. Gender is relevant to how trade policy is designed, whose interests it serves, how markets are structured, and how the benefits and costs of economic integration are distributed.

This contribution becomes even more important at a time when the global trade system is undergoing profound change. As governments pursue economic security, resilient supply chains, digital transformation, industrial policies and new forms of trade cooperation, there is a risk that gender considerations become secondary to other policy priorities. The opposite approach is also possible: these transformations can provide an opportunity to rethink how trade policy defines inclusion from the outset.

The field of trade and gender has already established that the intersection matters. The next task is more demanding: to determine what effective gender-responsive trade policy looks

like in different contexts, how it can be implemented, and how we can know whether it is working. This Special Issue is offered as a contribution to that continuing conversation.

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Between Inclusion and Regulation: Women's Participation in Social Commerce*

Entre la inclusión y la regulación: la participación de las mujeres en el comercio social

Simonetta Zarrilli**

Abstract

This article examines how women micro and small entrepreneurs in developing countries use social commerce to engage in both domestic and cross-border trade. By leveraging social media platforms for business purposes, these women are not only establishing or expanding their enterprises, but also creating new avenues for economic inclusion, agency, and empowerment.

Despite its rapid expansion within digital trade, social commerce has yet to receive adequate attention in academic and policy debates. Addressing this gap, the article identifies key enablers of participation—such as affordable internet access, device availability, and digital literacy, using gender- and

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geography-disaggregated data to highlight both inclusion opportunities and exclusion risks.

The article then explores the distinct appeal of social media platforms for women-led micro and small enterprises. Compared with formal e-commerce platforms, social commerce presents low entry barriers, reduced costs, and the advantage of trust-based social networks. At the same time, challenges such as informality, limited scalability and exposure to fraud may constrain business sustainability and weaken women's agency. The analysis further examines the evolving regulatory environment in selected developing countries—Indonesia, Vietnam, Colombia, and Argentina. Indonesia and Vietnam are examined because they regulate social commerce as a distinct category of e-commerce, whereas Colombia and Argentina extend existing rules and obligations, without establishing a specific regulatory regime. The study argues that regulatory approaches for social commerce must strike a careful balance between enhancing trust, consumer protection, and tax compliance, while preserving the accessibility that enables women's participation. It concludes by considering policy measures that governments could adopt and the potential role of international organizations and multistakeholder frameworks in facilitating multilateral dialogue on social commerce.

Keywords: Social commerce – Digital inclusion – Women entrepreneurs – Developing countries – E-commerce regulation.

Resumen

Este artículo examina cómo las micro y pequeñas empresarias en los países en desarrollo utilizan el comercio social para participar tanto en el comercio nacional como transfronterizo. Al aprovechar las plataformas de redes sociales con

fines comerciales, estas mujeres no solo están estableciendo o ampliando sus emprendimientos, sino también creando nuevas vías para la inclusión económica, la autonomía y el empoderamiento.

A pesar de su rápida expansión dentro del comercio digital, el comercio social aún no recibe la atención adecuada en los debates académicos y de políticas públicas. Para abordar esta laguna, el artículo identifica los principales factores de la participación, como el acceso asequible a Internet, la disponibilidad de dispositivos y la alfabetización digital, usando datos desagregados por género y ubicación geográfica para destacar tanto las oportunidades de inclusión como los riesgos de exclusión.

El artículo analiza a continuación el atractivo específico de las plataformas de redes sociales para las micro y pequeñas empresas lideradas por mujeres. En comparación con las plataformas formales de comercio electrónico, el comercio social ofrece bajas barreras de entrada, costos reducidos y la ventaja de redes sociales basadas en la confianza. Al mismo tiempo, desafíos como la informalidad, la escalabilidad limitada y la exposición al fraude pueden restringir la sostenibilidad empresarial y debilitar la autonomía de las mujeres.

El análisis examina además la evolución del entorno regulatorio en cuatro países en desarrollo seleccionados: Indonesia, Vietnam, Colombia y Argentina. Indonesia y Vietnam se analizan porque regulan el comercio social como una categoría específica del comercio electrónico, mientras que Colombia y Argentina extienden a este las normas y obligaciones existentes, sin establecer un régimen regulatorio especifico. El estudio sostiene que los enfoques regulatorios aplicable al comercio social deben lograr un equilibrio adecuado

entre el fortalecimiento de la confianza, la protección del consumidor y el cumplimiento fiscal, y la preservación de la accesibilidad que facilita la participación de las mujeres. El estudio concluye examinando las medidas de política que los gobiernos podrían adoptar, así como el posible papel de las organizaciones internacionales y los marcos multisectoriales como espacios para facilitar el diálogo multilateral sobre el comercio social.

Palabras Clave: Comercio social – Inclusión digital – Mujeres emprendedoras – Países en desarrollo – Regulación del comercio electrónico.

1.- Introduction

This article examines the opportunities that social commerce—the use of social media platforms to engage in online trade—offers to women small-scale entrepreneurs in developing countries, as well as the barriers they face in fully realizing its benefits. By comparing regulatory approaches to social commerce across two geographical regions and four developing countries, the article addresses a central question: which legal and regulatory frameworks are best suited to govern social commerce while preserving, and potentially expanding, women entrepreneurs' participation in digital markets? Finding the most appropriate answer to the question requires recognizing that social media platforms increasingly incorporate commercial functions, while commercial activities are becoming more deeply embedded in online social interactions. As a result, the regulatory boundaries between digital social interactions, e-commerce, and social commerce are becoming increasingly difficult to maintain.

Although social commerce is currently estimated to account for less than 20 percent of online trade and most transactions remain domestic, the rapidly expanding use of social media platforms for commercial purposes makes identifying an appropriate regulatory framework an increasingly important policy objective. The regulatory choices made today may shape who will be able to benefit from the continued expansion of platform-based commerce in the future. For developing countries seeking to expand digital trade while promoting inclusive economic participation, the development of appropriate legal frameworks for social commerce should be a key policy goal. Such frameworks must not only promote the growth of social commerce but also ensure a balance of different and at times competing policy goals, protecting market participants and

consumers, while maintaining the low barriers to entry that make social commerce particularly valuable to women's small businesses.

The article begins by presenting data on Internet access and social media use. It then examines the different forms of commercial engagement on social media platforms and the regulatory obligations associated with them. The following section explores why social commerce may be particularly attractive to women entrepreneurs and provides evidence that its economic benefits can extend beyond income generation to produce broader social benefits. At the same time, it identifies the challenges and constraints that may limit women entrepreneurs' ability to participate effectively in social commerce.

The article then turns to its central contribution: an analysis of the legal and regulatory frameworks governing social commerce in four developing countries. By comparing these approaches, it examines their implications and considers the advantages and disadvantages of extending to social commerce the regulatory frameworks developed for e-commerce. The analysis highlights the ways in which regulatory choices can either facilitate or constrain women's participation in digital markets. The article concludes by drawing together the comparative findings and proposing policy recommendations for regulatory regimes that protect consumers and other market participants without unnecessarily restricting the accessibility and inclusive potential of social commerce.

According to ITU data, in 2025, 74 percent of the world population, 6 billion people, was using the Internet, confirming a positive trend in global connectivity. Despite this progress, significant geographical and gender disparities persist (ITU, 2025).

Approximately 2.2 billion people remain offline, mainly in parts of Africa and in South Asia. Internet penetration in Africa and in the least developed countries (LDCs) stands at only 36 percent and 34 percent respectively, compared with 92 percent in Europe and 88 percent in the Americas (ITU, 2025).

Although more men and women are connected to the Internet, the global gender gap remains wide, and no significant progress has been recorded towards gender parity since 2019. Globally, 77 percent of men use the Internet, compared to 71 percent of women, resulting in about 280 million more men online than women (ITU, 2025).

The gender gap in Internet use becomes more significant if data is disaggregated by region. While Europe and the Americas have achieved near gender parity in Internet access (93 percent for men and 92 percent for women in Europe, 89 percent for men and 87 percent for women in the Americas), this is not the case in other regions. The gap remains significant in Africa, where 40 percent of men and 31 percent of women are connected, although the gender divide has narrowed over the last six years. In the Asia-Pacific region, conversely, the gender gap has slightly widened over the same period, with 81 percent of men using the Internet as opposed to 74 percent of women in 2025 (ITU, 2025).

Limited infrastructure, insufficient investment in network upgrades, high device and Internet access costs, unreliable electricity, and a lack of digital skills all contribute to low Internet penetration in developing countries and limited productive use, particularly for women. The technological gap is increasingly translating into an economic and inclusion gap (Taylor, 2025).

The technological divide has directly influenced the way digital markets evolve. Many users are leaning towards social media platforms that can be accessed through basic devices, such as smartphones, and used with intermittent connectivity, and limited digital skills. These platforms therefore provide a more accessible entry point into online trade, particularly for women who are disproportionately affected by connectivity gaps, digital skill barriers, and limited access to capital.

Social commerce and forms of social commerce engagement

Social media platforms were originally designed to facilitate communication and the sharing of content among users. Digital easiness to use them and limited additional costs for those already connected to the Internet have contributed to their rapid and widespread adoption[1].

As of June 2026, 5.79 billion people, representing nearly 70 percent of the global population, are active social media users. On average, they spend two hours and 40 minutes per day on these platforms, often engaging with six or seven of them and shifting between entertainment, communication and shopping (Sing, 2026; Scutaru, 2025). Alongside their rising popularity and global penetration, and in response to market dynamics, social media platforms have broadened their scope, from a tool for entertainment and communication to one that supports a wide range of activities, including marketing and commercial transactions (Scutaru, 2025). Social media platforms have progressively integrated functionalities typically associated with formal e-commerce platforms, thereby blurring the boundaries between social networking and online trade. These develop-

1 As 2026, Facebook, WhatsApp, Instagram, YouTube, TikTok, and WeChat are the most widely used social media platforms (Singh, 2026).

ments bring opportunities but also challenges to entrepreneurs and customers, as it will be discussed further in this article.

Social commerce is a rapidly growing segment of digital trade. Global social commerce gross merchandise value (GMV)[2] was estimated at USD 1.16 trillion in 2024 and is projected to reach USD 17.83 trillion by 2033. An estimated 59 percent of consumers worldwide have used social media to make at least one purchase. The B2C segment currently dominates the market, while the C2C segment is expected to experience particularly strong growth due to the proliferation of peer-to-peer transactions involving new and second-hand goods (Grand View Research, 2025). The share of social commerce within total e-commerce sales has also been expanding and was estimated to account for 18.5 percent of global online sales in 2025 (Wildwood, 2026)[3]. No comprehensive public data currently disaggregate domestic versus cross-border social commerce at the global level; most commercial research focuses on total social commerce sales and country/regional shares.

The OECD defines e-commerce and social commerce in relatively narrow terms; it acknowledges that e-commerce plays a central role in driving growth, innovation, and trade, and social media platforms play an increasing role in digital trade. Transactions fall within the scope of e-commerce when orders are placed using structured ordering methods specifically designed for this purpose. By contrast, orders made by telephone calls, facsimiles, e-mails are excluded, as they do not use the required structured ordering mechanism. Transactions conducted on

2 GMV is the total value of goods sold through a platform over a given period, measured before deductions such as returns, discounts, taxes, shipping, or commissions, and does not represent revenue or profit.

3 While multiple market research studies point to remarkable growth in social commerce, sources vary in their estimates of the current and projected value of transactions conducted on social media platforms

social media and messaging platforms are considered e-commerce only when orders are placed using methods specifically designed for this purpose, for example in-app catalogues or integrated shopping features like WhatsApp Carts or TikTok Shop. Applications that redirect users to external webpages to place their orders, do not fall within the scope of e-commerce, as they do not support in-app purchasing (OECD, 2025).

Social media platforms can support commercial activities in several ways, depending on the degree of integration between social interaction and transactional functions.

First, social media platforms may function primarily as communication and promotional tools, enabling the advertising of products and providing a space for users to share experiences, rate buyers and sellers, and post reviews aimed at influencing potential customers. In this configuration, transactions are not conducted within the social media environment; instead, users are redirected to external websites, typically those of retailers or brands, to make the purchases.

A second configuration involves using social media not only for marketing, advertising and sharing of experiences, but also for establishing direct contacts between sellers and buyers, exchanging information and negotiating the terms of a prospect transaction. Although these interactions occur online, the platform does not provide a structured mechanism for the conclusion of the contract. The legally binding agreement is formed directly between the parties outside the platform, typically through private messaging, telephone communication, or informal confirmation. Payment and delivery are arranged independently of the platform, for example through direct bank transfers, mobile money, or cash-on-delivery. In this model, the platform functions primarily as a digital meeting space rather

than as a transactional intermediary. It does not technically integrate the offer-and-acceptance mechanism that gives rise to the contract. As further discussed in this article, this form of social commerce is particularly common among micro and small entrepreneurs, who often operate informally.

A third model arises when the platform not only enables marketing and communication but also provides a structured mechanism for contract formation. The offer and acceptance occur within the platform's technical system, for example, through an embedded "order" or "purchase" function that generates confirmation of the transaction. The contract is therefore concluded within the platform's digital environment. However, payment processing is not integrated into the platform and is instead completed through external systems or third-party payment providers. While the financial settlement takes place outside the platform, the legally binding agreement itself is formed within the platform's infrastructure.

Finally, a fourth model involves platforms that enable both the conclusion of the purchase and the payment within the platform itself. In this configuration, the entire shopping journey, from product discovery to payment, takes place within the same platform.

As further examined in this article, the applicable legal framework varies according to the functions performed by the platform, with regulatory obligations intensifying in proportion to the degree of transactional integration and involvement in the commercial process.

Women entrepreneurs and the appeal of social media platforms

E-commerce offers a range of benefits for enterprises. It allows a business to be established with relatively modest initial capital requirements, reduces operational costs, and removes the geographical constraints associated with physical stores, thereby facilitating the expansion of the customer base. It can also be operated from home allowing entrepreneurs greater flexibility in balancing business activities with household responsibilities. These advantages are particularly significant for micro and small enterprises in developing countries, and especially for women-owned businesses (UNCTAD, 2023).

There are millions of e-commerce businesses worldwide, from the large and global ones to micro businesses often run by individuals. While there is no reliable, single global headcount of women who actively sell online, platform data indicates that women entrepreneurs have long been engaged in e-commerce[4]. When the COVID-19 pandemic disrupted traditional businesses and employment opportunities, many women moved their existing business online to stay afloat, while others started an online business to offset job loss (UNCTAD, 2022; Caribou Digital, 2022). The shift of women into online trade has continued in the post-pandemic period.

However, the fees and commissions charged by the formal e-business platforms, the technical complexities to navigate

4 For example, on the Jumia platform, 35 percent of businesses in Côte d'Ivoire and 51 percent of businesses in Kenya and Nigeria are owned by women. When comparing the presence of formal business ownership between the Jumia platform and national statistics, women-owned businesses are better represented on the Jumia platform in both Kenya and Nigeria. Source: IFC, 2021. In the case of Mercado Libre in Latin America, the platform reports approximately 12 million sellers. Considering that in 2022 around half of the small-seller loans were granted to women, it can be assumed that women represent a large share among the sellers. Source: Mercado Libre, 2022

them, and the administrative requirements associated with their use remain significant barriers for many women aspiring to become digital entrepreneurs. Consequently, social media platforms - which are user-friendly, entail reduced financial cost, and generally do not require formal prerequisites such as a bank account, credit card, official identification or business registration - have emerged as an appealing and more accessible alternative to conduct small businesses online (UNCTAD, 2023).

Most women are familiar with social media through their personal use of these platforms to communicate with family and friends, share live experiences, and build social networks. Expanding the use of these platforms from personal interactions to commercial activities has proved to be a relatively easy step.

According to a GSMA survey conducted in 2023 with 1,500 micro-, small- and medium-sized enterprises (MSMEs) in six African countries[5], 60 percent of microenterprises rely exclusively on social media platforms for digital trade, while 16 percent use a combination of social media platforms and e-commerce business platforms. The reliance on social media platforms decreases as firm size increases: 49 percent of small companies and 33 percent of medium companies rely solely on social commerce for their online businesses. While men and women sell on social media platforms at a similar rate, a higher proportion of women than men rely exclusively on social commerce: 63 percent for women as opposed to 50 percent for men (GSMA, 2023).

In the Philippines, 2020 survey data from 1,166 sellers using the regional platform Lazada, combined with platform data,

5 Egypt, Etiopia, Ghana, Kenya, Nigeria, South Africa.

show that 65 percent of women-owned enterprises use social media platforms alongside Lazada for online sales, compared with 54 percent of men-owned businesses (IFC, 2021). Data collected in the early 2020s through small group discussions with 57 digital entrepreneurs from Bangladesh, Myanmar and Pakistan show higher female participation in social commerce than in formal e-commerce, both as consumers and sellers (Roest and Bin-Humam, 2021). According to a 2024 survey carried out by the Cherie Blair Foundation involving 2,870 women entrepreneurs from low and/or middle-income countries, women report high rates of social media use for both personal and business purposes. WhatsApp and Facebook are the most widely used platforms for business, with 88 percent and 74 percent of respondents using them. By contrast, just 31 percent of respondents report using formal e-commerce platforms for their business (Cherie Blair Foundation for Women, 2025).

In Indonesia, women account for approximately half of MSME owners. Although comparable data on women's use of social commerce as sellers remain limited, available evidence indicates that social media is an important channel for online purchasing among Indonesian consumers (UNCTAD, 2026).

Many micro and small entrepreneurs start their business informally using their personal social media accounts to reach a close circle of family and friends; some transition to business accounts to expand their audience. Many opt for a hybrid strategy, combining personal and business profiles to balance authenticity with a more professional image (Cherie Blair Foundation for Women, 2025), Some eventually move to e-commerce business platforms when their digital and financial capacities strengthen (IFC, 2021). However, this step may no longer be necessary, since social media platforms have increa-

singly incorporated commercial features and services (Caribou Digital and Donner, 2024).

Women entrepreneurs' use of social media platforms for business may also reflect their strong community ties and a preference for relationship-based approaches to business (Cesaroni, Demartini and Paoloni, 2017).They can leverage the sense of trust stemming either from being personally known within the social media network or being a trusted member of the online community to establish a business and eventually expand it (GMEA (2023). They may be particularly well-positioned to engage with customers and understand their needs. This can help them identify and serve niche markets, segments often overlooked by large companies due to lack of flexibility or interest.

Social media platforms also enable women entrepreneurs to establish informal networks and forums where they exchange information and market insights, share experiences and resources, and act as role models for others (Alhakimi and Albashiri, 2023). In this context, social commerce can be understood as a form of collaborative entrepreneurship. Such collaboration can help women entrepreneurs address the specific challenges and barriers they face while creating opportunities to expand their businesses. At the same time, participation in collaborative networks can enhance the credibility and visibility of women-owned businesses, potentially increasing customers' willingness to engage with them through social commerce (Al Omoush, 2024).

Social commerce has proved to be an effective tool for market diversification. Women-led firms in Central America often begin by selling online and exporting to neighbouring countries through social media channels, before expanding

to the United States and later to Europe and Asia, as they gain experience and confidence (IDB, WB and WTO, 2026).

Social commerce can also enable communities that tend to be geographically or economically isolated to access new markets. The IDB-sponsored Matriarca project in Argentina, for example, uses digital technologies—including online platforms, artificial intelligence, and online sales tools—to connect Indigenous women artisans with new markets. The initiative has improved product quality and traceability, strengthened participation in national and global value chains, and empowered Indigenous women by modernizing the production and commercialization of artisan goods (IDB, WB and WTO, 2026).

Social commerce often generates spillover effects by creating employment opportunities. Entrepreneurs may hire assistants to support operations, such as product delivery. Job openings can also emerge beyond the business' immediate location, for example, by connecting urban consumers with rural producers or by facilitating the local sale of imported goods, at times creating female-dominated supply chains (Roest and Bin-Humam, 2021).

As consumers, women can provide advice on product quality and prices, alert community members to potential issues related to payments or delivery and monitor market opportunities. In doing so, they help mitigate problems of asymmetric information and limited accountability that often characterize informal markets. Such exchanges can complement formal regulatory frameworks and may become particularly important where regulatory frameworks are weak or absent (Lee, 2025).

Social commerce initiatives may enable women entrepreneurs to express their creativity, fostering a sense of accomplishment

and fulfillment that may enhance the perceived value of establishing and managing their own businesses. The economic gains deriving from online business activities can also strengthen women's voice, bargaining power, and social standing within their families and communities, thereby contributing to greater self-esteem and social and economic empowerment (Cesaroni, Demartini and Paoloni, 2017).

Data from a survey conducted in May 2024 among 99 women micro- and small-scale entrepreneurs in Ghana and Senegal show that managing a business online can enhance women's self-confidence, provide greater control over their lives and choices, and increase their financial freedom (Zarrilli, 2026).

There is, however, another side of the coin to consider. Running a business through social media platforms requires entrepreneurs to develop new capabilities, including digital literacy, effective communication, content creation, and data analytics, while exposing them to new challenges.

The low barriers to entry can lead to an overcrowded digital market on social media, resulting in intense competition and downward pressure on prices. The trend is compounded by the fact that many micro and small entrepreneurs selling on social media platforms tend to offer similar types of products, such as clothing, cosmetics and beauty products (Cherie Blair Foundation for Women, 2025; Roest and Bin-Humam, 2021).

Social commerce may also inadvertently encourage informality, since operating on social media does not require business registration. Informality has several negative implications, including limited access to credit, investment and training, and it can trap enterprises at subsistence-level. Moreover, evidence suggests that visibility and business growth often requires

digital entrepreneurs be available around the clock to respond to enquiry and process orders, regularly post announcements and maintain an active presence across several social media platforms. These demands may be particularly challenging for women entrepreneurs to manage alongside their household and care responsibilities (Zarrilli, 2026; Laskar et al., 2026).

Finally, because social media platforms were originally designed for communication, they may be insufficiently equipped to address key aspects of commercial transactions, including transparency, data protection, consumer protection, and the monitoring of illegal content, and compliance with applicable standards and regulations.

Social commerce and the regulatory frameworks in selected developing countries

Despite being a rapidly growing segment of digital trade, social commerce remains relatively under-researched and, in many jurisdictions, largely unregulated as a distinct form of economic activity. The section below presents examples from four countries in two regions: Indonesia, Vietnam, Colombia, and Argentina. The selection of these countries illustrates two distinct approaches to regulating social commerce. Comparing these approaches makes it possible to assess their broader and gendered implications. Under the first approach, social commerce is treated as a form of e-commerce and is therefore subject to the applicable e-commerce framework or is governed by rules specifically developed for this activity. Under the second approach, social commerce is regulated primarily through consumer protection rules and general civil or commercial law.

While social commerce is on an upward trajectory in all four countries, its role within the digital economy appears to

vary. In Indonesia and Viet Nam, social commerce has become particularly prominent as a channel through which MSMEs and individual entrepreneurs, including women entrepreneurs, enter and participate in digital markets. By contrast, in Argentina and Colombia, online commerce is also well established, but social media-based selling appears to be more closely integrated into a broader e-commerce ecosystem rather than developing as a distinct market category. These differences in the role and organization of social commerce may help explain the divergent regulatory approaches observed across the countries examined.

Differences in the regional integration of digital trade may also contribute to variations in regulatory approaches. In countries where e-commerce, including social commerce, has a strong cross-border component and forms part of regional digital integration initiatives, such as the ASEAN Digital Economy Framework Agreement (DEFA), governments may have greater incentives to clarify the legal status of social commerce and develop rules governing areas such as payments, taxation, customs, and enforcement in ways that facilitate cross-border digital transactions. Other factors may also shape regulatory choices, including the maturity of domestic social commerce markets and the capacity of relevant institutions.

Indonesia

Indonesia's social commerce GMV was estimated at approximately USD 8.2 billion in 2023 and is forecasted to increase almost threefold by 2028 (Watty, 2025). According to some industry sources, in 2021 transactions on social media platforms represented around half of all e-commerce transactions and the share of social commerce expanded significantly

in the following years[6]. Indonesia's strong digital literacy, youthful demographic, high mobile usage, and traditional cultural behaviours - such as community-based trust, informal selling and peer influence, have all contributed to fuel extensive social media adoption, including for business (Keegan, 2025).

Indonesia has developed a comprehensive strategy and regulatory framework for the digital economy, which is closely aligned with its broader national development objectives. Within this framework, digital trade is recognized as a key driver of Indonesia's economic transformation and its ambition to become one of the world's five largest economies (UNCTAD, 2026).

A significant component of this regulatory framework is Ministry of Trade Regulation No. 31 of 2023, which establishes differentiated regulatory provisions for e-commerce platforms and social media platforms. E-commerce sellers are subject to a comprehensive set of obligations designed to ensure consumer protection, transparency, and regulatory compliance. More specifically, they must obtain an e-commerce business licence from the Ministry of Trade, provide clear and accurate product information, and comply with consumer protection rights such as cancellation, returns, refunds, and accessible complaint mechanisms. They are also required to protect consumer data, and ensure products meet applicable safety and quality standards. Sellers must avoid misleading advertising or unfair competition, maintain proper financial and tax records, and, for cross-border transactions, appoint a local representative.

These obligations apply only in case of e-commerce transactions. The Indonesian framework relies on a transaction-based

6 Definitions and measurement methods vary across reports; therefore, the data should be considered estimates rather than official industry statistics.

criterion to delineate the scope of application of e-commerce regulations. The key connecting factor is whether the transaction is completed on the platform, i.e., whether the contract conclusion is technically integrated into the platform environment. This criterion serves to distinguish regulated e-commerce activities from mere advertising or activities meant to attract potential customers. In the latter case, sellers' obligations mainly focus on truthful representation, transparency, and compliance with standards, even if no transaction occurs.

Social media platforms can be used solely for marketing and advertising or for hosting transactions. In the latter case, however, they must obtain a Ministry of Trade license and operate as e-commerce platforms, provided that they establish a separate interface dedicated to business activities. This is the path followed by major social media platforms operating in Indonesia to continue their business operations in compliance with the new rules.

The new regulatory framework pursues multiple policy objectives. It seeks to prevent large social media platforms from exploiting personal data for commercial gains in ways that could foster monopolistic practices or breach data protection regulations, to promote the development of a formal and accountable e-commerce ecosystem, and to protect traditional offline MSMEs from unfair competition by online sellers, thereby helping to ensure a level playing field for local traders (Thamrong-ajariyakun, 2023; Firstpost, 2023; Siregar, Ikhsan and Siregar, 2025).

Empirical evidence lends support to these objectives. Traders in Tanah Abang—the largest textile market in Southeast Asia located in Jakarta—have reported revenue declines of more than 50 percent in recent years, attributed partly to the

rapid expansion of digital trade, including unregulated social commerce (Putri Pandamsari, 2023).

Social media platforms, such as TikTok, Instagram and Facebook, are used by both small and large enterprises to advertise their products.

Micro and small businesses, especially those operated by individuals as temporary or complementary income activities, often rely on social media platforms to market home-made or locally produced products. Potential buyers have access to customers' reviews and feedback to build trust and have quality assurance. They may get in touch with sellers to discuss product characteristics, prices, and delivery terms; the legally binding agreement, however, is formed outside the platform, typically through private messaging or telephone communication. Payments are conducted off-platform, including through direct bank transfer, mobile money or on a cash-on-delivery basis. In this case, the full e-commerce regulatory framework does not apply, while truthful advertising and compliance with consumer protection standards remain mandatory.

In the case of medium and large firms, products are also advertised on social media platforms to leverage their visibility and audience, but customers are redirected to e-commerce platforms to carry out the transaction. In this case, the e-commerce regulatory framework applies.

Vietnam

The country's social commerce GMV is projected to rise from USD 3.99 billion in 2024 to approximately USD 10.21 billion by 2030. This rapid expansion is driven by increasing Internet and smartphone penetration, high levels of social

media engagement, a shift in consumer behaviour towards online shopping, the integration of e-commerce features into social media platforms, and partnerships with influencers that enable a more interactive shopping experience. By combining entertainment, social contacts and shopping, social commerce has proven to be an effective strategy, prompting entrepreneurs to prioritize it within their digital sale strategies (Research and Market, 2025).

To respond to this new market reality, the National Assembly approved in December 2025 a new E-commerce Law (Law No. 122/2025/QH15) that entered into force on 1 July 2026. The new law represents a comprehensive reform and recodification of Vietnam's e-commerce regulatory landscape, consolidating, replacing, and significantly expanding prior laws and decrees into a modern statutory framework (Mondaq, 2026).

The new law categorizes platforms in four types, "Social Network Platforms Engaging in E-commerce Activities" being one of them[7]. Specific rules apply to this category, thereby formally integrating such platforms into the regulatory framework.

The law defines social media platforms engaged in e-commerce as those that provide at least one of the following functions: online communication for sales; ordering functions; livestream sales; other tools used to conclude contracts electronically. For example, a social media platform that provides features facilitating transactions between buyers and sellers – such as, ordering interfaces or buttons, or livestream commerce with purchasing features, systems where product offers and

7 The other three categories are: Direct business e-commerce platforms; Intermediary e-commerce platforms; Integrated e-commerce platforms.

contract conclusion are directly linked on the platform - falls within the scope of the new law, since these features allow the transaction to be concluded on the platform.

Conversely, and in a manner similar to the Indonesian approach, when social media platforms are used solely for advertising products and connecting sellers with potential customers, but users are redirected elsewhere, for example to a seller's website or offline, to conclude the transaction, such activities are not covered by the new E-commerce Law, since the contract is concluded outside the platform. In other words, the key factor that triggers the application of the E-commerce Law is where the legally binding transaction takes place. When the transaction is concluded outside the platform, other legislation still applies, including the Advertising Law and other laws on data protection and cybersecurity, since the new E-commerce Law does not replace them, instead, it operates within, and builds upon, them.

Social media platforms with e-commerce functions are required to clearly distinguish commercial content from social content to prevent consumer confusion. Sellers are required to identify themselves and provide relevant business information to platform operators, as well as to disclose accurate and complete information about the goods and services they offer on the digital market. The platforms are required to retain transaction-related data at least for three years to ensure legal traceability. Foreign social media platforms offering e-commerce services to Vietnamese consumers and exceeding certain transaction thresholds tied to revenues or transaction volume, must establish commercial presence in Vietnam or appoint a local representative. In addition, social media platforms with e-commerce functions must comply with obligations applicable to business platforms, including requirements related to tax

compliance, consumer protection and content moderation to prevent unlawful trade, misleading commercial content and to ensure product safety, taking into account their specific operational structure (Vietnam.vn, 2026).

Overall, the new Vietnamese regulatory framework seeks to protect businesses and consumers while maintaining an appropriate balance between market development and state intervention. Notably, the obligations imposed on the platforms and their users are calibrated according to the functions performed by the platform: the more prominent the transaction features, the stricter the applicable rules, according to a risk-proportionate model of platform regulation. In other words, regulatory intensity increases with the degree to which a platform functionally intervenes in the transaction chain and thereby shapes market outcomes and consumer risk exposure.

Colombia

Colombia's social commerce GMV was projected to reach US$1.22 billion in 2025. This upward trajectory is expected to continue, with the sector forecast to expand to approximately US$1.71 billion by 2030. Growth is driven by increasing internet and smartphone penetration, the widespread use of social media platforms, and consumers' growing familiarity with digital payment systems (Business Wire, 2025).

The National Policy on E-commerce *(CONPES 4012 de 2020)* identifies social commerce as one of the emerging business models within Colombia's digital economy and recognizes both social media and business platforms as key actors in the evolving e-commerce ecosystem. The Policy highlights their potential to enhance competitiveness, facilitate access to goods

and services, and to enable businesses of all sizes to enter new markets.

In response to this policy direction and with the aim of operationalizing a coherent regulatory framework adapted to modern digital markets, Colombia amended the Consumer Statute *(Estatuto del Consumidor, Ley 1480 de 2011)* through the enactment of the new E-commerce Law *(Reforma al Comercio Electrónico, Ley 2439 de 2024)*. The reform strengthens suppliers' obligations to provide clear and reliable information, enabling consumers to make informed decisions. It also clarifies rules on complaints, withdrawal rights, returns, delivery, and refunds in digital transactions.

In addition, it introduces the concept of the "contact portal" and further specifies the allocation of responsibilities between platforms and sellers. While tax compliance and data protection obligations derive primarily from separate regulatory regimes, the amended framework reinforces the expectation that digital commerce actors operate within the broader legal order.

The obligations contained in the Consumer Statute apply to any electronic platform owned by individuals or legal entities that serves as a point of contact enabling a consumer and a seller enter into a direct consumer relationship (so-called "contact portals") (Cárdenas & Cárdenas, 2025).

Colombian consumer law adopts a technologically neutral approach. Because electronic platforms are broadly defined and no specific regime exists for social commerce as such, transactions initiated through social media platforms fall within the category of "distance sales" *(ventas a distancia)* and therefore within the general consumer protection framework, even where the execution of the transaction, its payment or delivery take

place offline. The decisive factors triggering the application of the Consumer Statute are the digital channels through which the contract is formed (including advertising, contact, negotiation) and the existence of a supplier acting in a professional capacity. The law thus distinguishes between professional[8] and non-professional suppliers[9]. In the latter case, the Consumer Statute does not apply and the relationship between the parties is instead governed by ordinary civil or commercial laws.

Argentina

Argentina's social commerce GMV was projected to reach USD 3.11 billion by 2025. By 2030, the sector is expected to expand to approximately USD 6.99 billion. Key trends shaping the rapid growth of social commerce include changing consumer habits, the rise of influencer marketing, increasing adoption by MSMEs, and the growing popularity of interactive formats such as live shopping (Business Wire, 2025b).

Argentina does not have a single, unified e-commerce law; instead, e-commerce is governed by a combination of existing legal frameworks. Social commerce is increasingly recognized as an important economic activity due to its rapid growth, but it is not treated as a separate legal category, nor has the country adopted a dedicated regulatory strategy for it. Consequently, e-commerce and social commerce are subject to existing civil and commercial laws, including regulations on consumer protection, cybersecurity, advertising and competition, data protection, and taxation.

8 For example, somebody who sells items repeatedly, reaches out to the general public rather than to a close circle of family and friends, who generates a continuous income stream.

9 For example, a private individual who does not engage in repeated transactions, who does not have a brand, or does not use sponsored ads.

Argentina's Consumer Law *(Ley 24.240 de Defensa del Consumidor de 1993)* serves as the central consumer protection statute and is the key instrument for online B2C transactions. It applies to all commercial transactions between suppliers and consumers. The law requires individuals or legal entities engaged in professional activities to provide consumers with sufficient and truthful information on products or services. Platforms must display seller information, moderate content, enforce compliance, and provide dispute resolution mechanisms The Consumer Law also regulates distance-sale revocation, complaints and consumer remedies. The Advertising Self-Regulation Council has issued guidance on best practices for commercial communications on social media, emphasizing that online communications must be legal, truthful, honest, trustworthy, and loyal (Pardo, Raffinetti, Cané and Ferioli, 2023).

As in Colombia, the decisive factor for the applicability of consumer protection rules is the existence of a professional supplier–consumer relationship[10], while a contract concluded via social media platforms is legally equivalent to one signed on paper. The medium through which the professional supplier-consumer relationship is established is therefore irrelevant. Conversely, in the absence of a professional relationship, the obligations under the Consumer Protection Law would generally not apply. The underlying rationale is to ensure that consumer protection applies to those who are professionally engaged in commercial activities, regardless of the channels used, including social media.

10 The criteria to assess whether a provider is a professional provider are similar but not the same in the case of Argentina and Colombia. Argentina focuses on the organizational nature of the activity, regularity and economic purpose, therefore occasional sales are generally exempted. Colombia focuses on offer to the general public and commercial/profit intent, hence even sporadic sales to a general public can make the seller a professional provider.

The examples presented above illustrate different regulatory approaches. In the case of Indonesia and Vietnam, social commerce is treated as a specific sub-set of e-commerce. E-commerce regulations apply only when social media platforms provide functionalities that facilitate transactions directly on the platform. Mere contact between sellers and buyers that results in off-platform transactions does not fall within the scope of e-commerce regulatory framework. By contrast, Colombia and Argentina do not have a dedicated regulatory strategy for social commerce. Instead, the applicable legal framework depends primarily on the nature of the relationship between sellers and buyers, particularly on whether the supplier is acting in a professional capacity.

Recent developments across countries indicate that policymakers increasingly recognize the pivotal role of e-commerce, including social commerce, in the economy and seek to foster its growth. At the same time, they are mindful of the risks associated with digital activities and are therefore strengthening regulatory oversight. Policy efforts focus in particular on consumer and data protection, vendor identification, and platform liability. Heightened attention also stems from concerns that some online business activities may evade taxation, thereby creating unfair competition with tax-compliant firms, and from the presence on digital markets of products, especially imported ones, whose quality and safety may not be subject to adequate controls, underscoring the need for stronger supervision.

The benefits and risks of extending e-commerce regulatory frameworks to social commerce

As discussed above, there are different degrees of integration between social interactions and transactional functions. A form of social commerce particularly common among wo-

men micro- and small-scale entrepreneurs, who often operate informally, involves using social media platforms for marketing and advertising, establishing direct contacts between sellers and buyers, and negotiating the terms of a prospect agreement, while the transaction itself, including payment and delivery, takes place outside the digital space. If countries follow the OECD definition, under which social media applications that redirect users to external websites to complete their orders are excluded from the scope of e-commerce, this type of social commerce would fall outside e-commerce regulations, unless it is explicitly brough within its scope.

The Indonesian and Vietnamese approach has the advantage of establishing a clear criterion for degerming whether a transaction falls within the scope of the e-commerce regulatory framework, namely whether the transaction is completed on the platform. However, this approach may impose a relatively heavy regulatory burden on entrepreneurs whose businesses are small or time bound.

In the case of Colombia and Argentina, the key factor triggering the application of specific rules is whether the seller acts in a professional or habitual capacity, rather than as an occasional private seller. Determining it is not always straightforward, particularly in the context of social commerce, where sellers may operate informally, especially micro-entrepreneurs, activities may start occasionally and then evolve into continuous commercial operations, and seller's legal status may not be verified by the platforms. The seller-centred approach risks introducing a rather high degree of legal uncertainty. On the other hand, it offers flexibility for occasional or low-intensity sellers who may be exploring the digital market or operating only during periods when the household requires additional income.

To sum up, determining which legal framework applies when social media platforms are used for business purposes is not always straightforward. They may be involved in transactions to varying degrees, sellers may rely on social commerce as an income-generating activity to very different extents, and countries may adopt different regulatory models. Legal uncertainty is particularly pronounced in jurisdictions that have not modernized their regulatory frameworks to reflect the expanding role of digital transactions and the evolving technologies that enable them.

Moving from questions concerning the applicability of the e-commerce regulatory framework to social media to issues of enforcement, additional challenges arise. Small entrepreneurs selling online often lack awareness of legal duties or believe rules only apply to big companies. The informal nature of social commerce makes it hard for authorities to monitor consumer protection, investigate complaints, or ensure imported goods meet health and safety regulations. Social media platforms rarely have tools to enforce compliance, leaving users responsible for it.

Extending the full regulatory framework designed for e-commerce business platforms to social media platforms may deprive them of the characteristics that make them particularly attractive to women micro and small entrepreneurs. Requirements related to consumer protection, electronic transactions, data protection, taxation, intellectual property, accountability, traceability, liability and product safety would likely apply.

The regulatory burdens designed for larger and professional entrepreneurs may not be proportionate for small-scale operators and reduce their profitability. Compliance costs can be high, especially for women who traditionally have limited

access to finance, and may demand financial, administrative and technical resources that women micro- and small-scale entrepreneurs may lack. Insufficient understanding of legal requirements may lead to non-compliance. Moreover, a more formal legal framework may impinge on the relationship-based approaches to business, a characteristic of social commerce, and on the ability to use social media platforms as forums for discussion, exchange of information, and experience sharing. Indeed, not necessarily an exchange on a social media platform leads to a transaction. Hence, imposing a strict regulatory environment to social commerce may limit women's access to a channel they have successfully leveraged for income generation and empowerment, discourage women who would like to venture into online business, and more broadly slow down the transition of MSMEs into the digital economy.

Equally challenging for women micro and small entrepreneurs would be the transition to formal e-business platforms They would need to bear the cost of using these platforms and comply with platform-specific rules on seller and tax identification, registration, content, products, pricing, data use, dispute resolution, and delivery. In other words, they must comply with both legal requirements and platform-imposed market rules. Navigating the e-commerce platforms may also be difficult, especially for women with low levels of digital literacy.

Nevertheless, evidence from some developing countries, such as Indonesia, show that some women small-scale entrepreneurs have successfully formalized and scaled up their operations. Migrating to e-commerce platforms have enabled them to access a wider range of training, logistic and financial services, including delivery, online payments, and customs clearance.

Concerns about the potential negative effects of increased regulation of social commerce on women digital entrepreneurs, particularly their financial independence and empowerment, must be weighed against other important policy objectives, including ensuring a level playing field between online and offline businesses, shielding sellers and customers from frauds, safeguarding personal data, and preventing tax evasion. In this context, several legitimate policy goals may come into tension.

Conclusions and suggestions on how to move ahead

As social commerce continues to expand, it becomes increasingly important to understand the various ways in which it is used and to assess the extent to which its social interaction component prevails over its transactional functions, or vice versa, as well as the degree and frequency with which entrepreneurs rely on it. Such analysis would be essential to ensure enhanced protection without resulting in over-regulation. The resulting policy framework could be integrated into broader digital economy strategies, consumer protection laws, and programmes supporting MSMEs and women's entrepreneurship.

This need for appropriately tailored policy responses must also be considered in light of the broader regulatory capacity of developing countries. A significant number of developing countries have adopted e-commerce policies; but these strategies have not always translated into concrete implementing rules and actions. While some countries have modernised their legal frameworks to accommodate new online business models, yet the pace and scale of reform remain uneven. Only a limited number have developed comprehensive e-commerce legal frameworks covering all key components. Many developing countries, particularly least developed countries, continue to face substantial constraints in advancing and implementing

reforms due to limited human, technical and financial resources, as well as insufficient coordination among government branches, the private sector, civil society, and development partners (UNCTAD, 2025).

The analysis above highlights the opportunities that social commerce can create, particularly for women entrepreneurs, while also underscoring the challenges and policy trade-offs associated with its growing role in digital trade. These considerations point to the need for policy approaches that are proportionate, inclusive, and responsive to the specific characteristics of social commerce and the capacities of different countries. Against this backdrop, the section below sets out policy measures that governments could consider, highlights the contribution that private operators could make, and examines the actual and potential role of international organizations and multistakeholder frameworks in facilitating dialogue and cooperation on social commerce.

The role of governments

Governments first need to develop a better understanding of the different ways in which social media platforms are used for commercial purposes. This includes identifying the activities that constitute social commerce as a segment of e-commerce and distinguishing them from purely social interactions in the digital space. Governments should also assess the contribution of social commerce to economic growth and inclusive trade. In doing so, they could draw on information, data, and expertise from platform owners and administrators, as well as from delivery companies and online payment providers (see below).

An important task for governments is to determine whether existing legal and regulatory frameworks are adequate to

govern social commerce or whether it should be treated as a distinct economic activity warranting specific rules. If specific regulation is considered necessary, the framework should balance competing objectives, including consumer and data protection, fraud prevention, health and safety, taxation, inclusive digitalization, women's economic empowerment, and MSME digitalization. In other words, while the risks associated with social commerce need to be addressed, overregulation should be avoided. Excessive regulatory requirements could undermine the very characteristics of social commerce—low barriers to entry, flexibility, and accessibility—that make it an important channel for inclusive entrepreneurship.

Governments should also invest in digital infrastructure, digital skills, access to finance, and digital payment systems so that all market participants, including women entrepreneurs, can participate in social commerce safely and productively.

Finally, countries that lack the financial, technical, or institutional capacity to upgrade their digital infrastructure and modernize their regulatory and financial frameworks should be supported by development partners. International organizations and multistakeholder forums can play an important role in providing such support (see below).

The role of platforms

Establishing a fair regulatory framework begins with gathering reliable data on the impact of social commerce on individual incomes, country economic growth and inclusion. However, due to its informal nature, comprehensively assessing social commerce is challenging. Most of the available evidence on its impact, particularly on women's economic empowerment,

comes from focus group discussions and surveys conducted by international organizations, think-tanks or the academia.

Major social media platforms that facilitate business transactions already collect data on sellers, business types, products, and transaction values through user profiles, product listings, payment systems, and analytics dashboards. Incorporating sex-disaggregated variables would generate valuable insights into how women participate in social commerce and the extent to which they benefit from it. More specifically, such data would facilitate analysis of gender differences in participation, earnings, scale, and growth, assess whether women-owned micro and small enterprises are disproportionately concentrated in part-time, temporary, or low-value activities, and help identify the specific barriers they face.

Platforms generally do not publish data mainly collected for commercial and analytic purposes. When data is shared, access typically remains platform-controlled due to its commercial value and sensitivity, as well as the lack of regulatory obligations to disclose it in most jurisdictions. A constructive step forward would be to require greater transparency and data sharing by platforms, thereby providing policymakers with the evidence base needed to design and implement policies that promote inclusive digital entrepreneurship. Initiatives in this sense, mainly targeting major platforms including social media ones, are being taken and tested, for example by the European Union[11].

11 The regulatory framework includes The Digital Services Act; The Digital Markets Act; The Data Act. The EU regulatory framework, by imposing transparency and disclosure obligations, may provide insights into small business participation in social commerce, however, it does not require platforms to provide gender-specific breakdown.

The role of official surveys

Official surveys on household, time use, enterprise, and labour force can become effective mechanisms to measure to what extent women entrepreneurs participate in social commerce and benefit from it. This can be done by including questions about participant demographics, platforms used, time spent, revenue earned, employee numbers, product sold, payment methods, and delivery procedures.

The role of online payment providers and delivery companies

Online payment providers and delivery companies may also supply useful data if payments and deliveries are handled formally. They could share data on the number of sellers, the volume and value of the transactions, sectoral patterns, if transactions are seasonal or regular, if they grow or shrink, if they are local, domestic or cross-border, the number of refunds and disputes, geographical areas excluded from delivery. This data would help to assess not only participation in social commerce but also measure benefits. Though payment and delivery companies usually do not label businesses by gender, aggregate and statistical gender data may be inferred including through business owner's first name, sellers ID, legal name of the business, national business registries, and chambers of commerce records.

The role of international organizations

Social commerce spans countries and sectors, so it should be examined in various contexts. National and regional strategies can both shape and be shaped by multilateral discussions.

Examples of existing mandates and possible actions that could be undertaken by international organizations are presented in Table 1 below. The list is by no means exhaustive; rather, it seeks to illustrate the wealth of expertise and forums already available that could be leveraged in the context of social commerce.

Table 1 International organizations' existing workstreams and forums relevant to social commerce and potential actions

Organization	Relevant forum / workstream	Relevance to social commerce	Potential action
WTO	Work Programme on e-commerce	It could provide a forum to build understanding of the trade-related dimensions of social commerce within ongoing discussions on digital divide, consumer and data protection, digital trade facilitation, and legal and regulatory frameworks.	Include social commerce in the discussions on regulatory frameworks and their impacts

WTO	Moratorium on customs duties on electronic transmissions	Currently of limited direct relevance. However, the growing cross-border trade in digital products could make the issue increasingly relevant. The lapse of the moratorium in March 2026 and possible tariffs could generate additional costs for MSMEs with limited margins.	Consider the potential effects of tariffs on Consider the potential effects of tariffs on electronic transmissions on social commerce and, in particular, on women-owned MSMEs.
WTO	Informal Working Group on Trade and Gender	The theme "digitalization" provides an opportunity to examine social commerce as a business channel for women entrepreneurs and consider the regulatory factors that facilitate or hamper their participation	Include social commerce in discussions and mapping of trade-policy measures related to women and digitalization.

WTO	Informal Working Group on MSMEs	Ongoing work on digital transformation, informality, good regulatory practices, and inclusive trade provides an opportunity to discuss social commerce.	Examine the effects of digital-trade regulations on MSMEs that use social commerce as their main trade channel.
UNCTAD	E-commerce Week; Intergovernmental Group of Experts on E-commerce and the Digital Economy; Working Group on Consumer Protection in E-commerce	Ongoing work on digital trade, MSMEs, and women's economic empowerment provides an opportunity to discuss social commerce.	Include social commerce in the agendas of relevant forums, particularly within the discussions on new online business models.
UNCTAD	eTrade Readiness Assessments and data collection on digital trade	The ongoing analysis of developing countries' digital legal frameworks is suited to include an assessment of the use of social commerce, particularly by MSMEs	Include case studies on social commerce in the eTrade Readiness Assessments and collect relevant data to facilitate policymaking.

ILO	Informality, self-employment, decent work, and women's economic participation	Ongoing work on self-employment, flexible income-generating opportunities, and women economic participation is well suited to address social commerce	Recognize social commerce as a legitimate economic activity and examine its social and economic implications in research work.
ILO	International Labour Conference; Care Economy and Women at Work initiatives	on employment, the care economy, and women's economic participation provide an opportunity to address social commerce	Include social commerce in relevant discussions, deliberations, and programmes.
UN Women	Women's entrepreneurship, informal and home-based businesses, and digital inclusion	Social commerce fits within ongoing regulatory and capacity-building activities on digitalization, and informal and home-based businesses.	Develop gender-responsive regulatory principles for national digital strategies and incorporate social commerce into programmes on women's entrepreneurship and digital inclusion.

UN Women	Commission on the Status of Women; flagship reports, and digitalization programmes	Social commerce intersects with topics addressed in intergovernmental deliberations and research work	Address social commerce in intergovernmental meetings, flagship reports, programmes, and partnerships on digitalization.
ITU	Digital inclusion; Women and Girls in ICTs; SMEs digitalization	ITU's role in producing global digital gender data makes its work particularly relevant	Strengthen data collection on the entrepreneurial and income-generating use of social commerce and recommend the inclusion of social commerce in digital-strategies.
World Bank	Women entrepreneurs' access to finance and credit; Women Entrepreneurs Finance Initiative	The World Bank provides financial and capacity-building support to women entrepreneurs	Include social commerce into programmes supporting women entrepreneurs' access to finance and creditworthiness

World Bank	Gender Toolkit and other policy resources	Capacity-building and other resources meant to support women's risks and opportunities in the digital economy are made available to different stakeholders	Include social commerce among the tools that can enhance women's economic empowerment and participation in digital markets

Source: Author's own compilation

The role of multistakeholder collaboration

Beyond the initiatives that international organizations are undertaking, or could undertake individually, there is growing recognition of the need to deepen multistakeholder collaboration and strengthen international cooperation in the digital domain.The Global Digital Compact, adopted by the United Nations in 2024 as part of the Pact for the Future, provides a global framework for an inclusive, secure, and sustainable digital environment. Its objectives include closing digital divides and expanding participation in and benefits from the digital economy. Given that social commerce is linked to women's economic empowerment and financial independence, fostering an enabling environment for its development seems to align with the Compact's objectives.

The eTrade for All initiative, which brings together 35 international organizations, regional development banks, civil society actors, and national agencies, supports the implementation of the Global Digital Compact through technical assistance and knowledge sharing (UNCTAD, 2025).

In short, social commerce can be integrated into the existing mandates and workstreams of several international organizations, individually or through existing coordination mechanisms. Discussions could help define the different dimensions of social commerce and link the development of appropriate regulatory frameworks to broader policy objectives, including gender equality, women's economic empowerment, market access, entrepreneurship, and financial inclusion. Regulatory and policy choices can have significant implications for the inclusiveness of digital trade.

Meaningful discussions on social commerce must also address the many challenges that women entrepreneurs, particularly in developing countries, have traditionally faced in offline trade and that may persist or take new forms in digital markets. They include limited access to finance and education, gaps in entrepreneurship skills, time constraints, weak professional networks, and limited knowledge of market access requirements and customs procedures for cross-border trade.

The new challenges associated with moving business activities online also require careful consideration. These include facilitating access to appropriate digital devices, ensuring reliable and affordable Internet connectivity, and providing programmes that develop digital skills needed to navigate the evolving digital business environment (Zarrilli, 2026).

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Digitalization, gender and trade: evidence from Nigeria for inclusive trade policy in developing regions

Digitalización, género y comercio: evidencia de Nigeria para política comercial inclusiva en regiones en desarrollo

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Abstract

Persistent gender gaps in digital connectivity, literacy, and institutional support limit women's participation in digital trade, particularly in capacity-constrained economies. This article examines how gender-responsive digital trade interventions strengthen women-led and women-led small and medium enterprises (SMEs) participation in global markets. Using Kabeer's (1999) empowerment framework and a five-stage Digitalization Pathway (Access, Adoption, Application, Adaptation, Advancement), the study analyzes qualitative evidence from Trade Support Institutions and women-led SMEs in Nigeria (2019-2025). Findings suggest that digitalization, when supported by coaching, mentoring, and institutional integration, contributed to strengthened SME resilience, competitiveness, market visibility, and access to international market opportunities. Respondents also reported increased confidence, visibility, and agency, although persistent constraints related to connectivity, digital literacy,

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certification costs, and institutional tracking systems limited the depth and sustainability of these gains. Despite persistent barriers including unstable connectivity, digital literacy gaps, and absent tracking systems, interventions fostered confidence, visibility, and agency. The study offers policy-relevant insights for export promotion agencies and trade ministries in Latin America, the Caribbean, and other developing regions sharing similar institutional constraints: capacity-limited Trade Support Institutions, high SME informality, and persistent digital gender divides.

Keywords: gender and trade – digital trade – women-led SMEs – export promotion – trade support institutions.

Resumen

Las brechas de género persistentes en conectividad digital, alfabetización y apoyo institucional limitan la participación de las mujeres en el comercio digital, particularmente en economías con limitaciones de capacidad. Este artículo examina cómo las intervenciones de comercio digital sensibles al género fortalecen la participación de pequeñas y medianas empresas (pymes) lideradas y propiedad de mujeres en los mercados globales. Utilizando el marco de empoderamiento de Kabeer (1999) y una vía de digitalización de cinco etapas (Acceso, Adopción, Aplicación, Adaptación, Avance), el estudio analiza evidencia cualitativa de Instituciones de Apoyo al Comercio y pymes lideradas por mujeres en Nigeria (2019-2025). Los hallazgos sugieren que la digitalización, cuando está respaldada por coaching, mentoría e integración institucional, contribuyó a fortalecer la resiliencia, la competitividad, la visibilidad en el mercado y el acceso de las pymes a oportunidades en mercados internacionales. Las personas entrevistadas también reportaron mayores niveles

de confianza, visibilidad y capacidad de acción, aunque las limitaciones persistentes relacionadas con la conectividad, la alfabetización digital, los costos de certificación y los sistemas institucionales de seguimiento limitaron la profundidad y sostenibilidad de estos avances. A pesar de barreras persistentes incluyendo conectividad inestable, brechas de alfabetización digital y ausencia de sistemas de seguimiento, las intervenciones fomentaron confianza, visibilidad y agencia. El estudio ofrece conocimientos relevantes para agencias de promoción de exportaciones y ministerios de comercio en América Latina, el Caribe y otras regiones en desarrollo que comparten limitaciones institucionales similares: Instituciones de Apoyo al Comercio con capacidad limitada, alta informalidad de pymes y brechas digitales de género persistentes.

Palabras Clave: género y comercio – comercio digital – PyMEs lideradas por mujeres – promoción de exportaciones – instituciones de apoyo al comercio.

1.- Introduction

Digitalization is transforming international trade by offering small and medium enterprises (SMEs) new channels to access buyers, reduce transaction costs, and expand market visibility. For women entrepreneurs in developing economies, however, digitalization represents more than technological upgrading; it can function as a pathway to strengthened agency, flexibility, and participation in global markets where mobility restrictions, gendered time burdens, informality, and limited institutional support constrain economic opportunities. These challenges intensify in fragile and capacity-constrained economies, where Trade Support Institutions (TSIs) face pressure to deliver inclusive export support while navigating limited resources and uneven digital infrastructure.

While a growing body of literature highlights digital trade's potential to enhance women's economic participation (UNCTAD, 2021; World Bank, 2021), empirical evidence remains limited on how digitalization translates into empowerment and trade outcomes in practice, particularly within institutional ecosystems characterized by informality and gendered digital divides. Much existing work relies on aggregate indicators or normative policy prescriptions, offering limited insight into the sequencing, adaptation, and institutional conditions through which digital trade support becomes effective for women-led SMEs.

Emerging research further suggests that digital technologies can alter the internationalization pathways available to women-led SMEs. Digital tools may reduce information and transaction barriers by expanding access to international market intelligence, facilitating interaction with buyers and partners, and enabling firms to develop international commer-

cial relationships without relying exclusively on traditional intermediaries. Pergelova et al. (2019), for example, find that digital technologies can facilitate the internationalization of female-led SMEs through improved access to international market intelligence. Recent evidence from Colombia shows that ICT capabilities can strengthen SME export performance, while earlier evidence from Chile highlights the complementary role of international networks and opportunity recognition in international performance (Gomez-Sanchez et al., 2024; Bianchi et al., 2017). These studies suggest that digitalization should be understood not simply as technology adoption, but as a capability-building process whose trade effects depend on how firms acquire, apply, and combine digital resources with complementary institutional and market support.

This article addresses this gap by empirically examining how gender-responsive digital trade interventions operate within real-world TSIs and women-led SMEs. Drawing on qualitative evidence from the *Nigeria's Women Exporters Fund (WEF) project of TFO Canada's Women in Trade for Inclusive and Sustainable Growth (WIT) program (2019–2025)*[1], the study traces how digital access, adoption, application, adaptation, and advancement unfold sequentially in practice, and under what institutional and gendered conditions these stages translate into meaningful trade and empowerment outcomes.

Relevance for Latin American and Caribbean Trade Policy

Although empirically grounded in Sub-Saharan Africa, this study addresses challenges that are also relevant to Latin America and the Caribbean (LAC), where women entrepreneurs operate within heterogeneous digital, institutional, and

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trade ecosystems. Research from the region has documented persistent gender differences in digital access and use (Gray, 2017), while more recent evidence from the Caribbean shows that women entrepreneurs' engagement with digital technologies is shaped by the broader institutional, social, and business environments in which they operate (Best and al., 2024). These findings reinforce the need to understand digitalization not simply as access to technology, but as a process conditioned by skills, institutional support, business capabilities, and gendered constraints.

Many LAC economies also share institutional and structural characteristics with African trade ecosystems, including capacity-constrained Trade Support Institutions (TSIs), high levels of informal and semi-formal women-led SMEs, and persistent gender gaps in digital access, skills, and platform use. In both regions, TSIs are increasingly expected to deliver more digitalized and inclusive export-support services, often without commensurate investments in institutional systems, staff capacity, or long-term monitoring and data infrastructure. Research on SME internationalization further suggests that digital capabilities alone are insufficient to generate international performance. Evidence from Latin American SMEs indicates that technological capabilities interact with international networks and firms' capacity to recognize and act upon market opportunities (Bianchi et al., 2017). Similarly, research on female-led SMEs suggests that digital technologies may facilitate internationalization by strengthening access to market information and connections with customers and partners (Pergelova et al., 2019).

These similarities provide a basis for analytical comparison while recognizing the considerable diversity that exists across and within both regions. The Nigerian case is therefore not

presented as empirical evidence of how identical interventions would perform in LAC. Rather, it is used to identify mechanisms and institutional design principles that may have analytical relevance in contexts facing comparable challenges in digital inclusion, SME support, export readiness, and institutional capacity. Transferability in this article is thus analytical rather than statistical or empirical: the relevance of the findings to individual LAC countries depends on adaptation to their specific regulatory, institutional, market, infrastructural, and gender contexts.

Within this perspective, the staged Digitalization Pathway provides a practical framework for export promotion agencies and other TSIs to assess where women-led SMEs are situated along the digitalization continuum and to design stage-appropriate, gender-responsive support. The empowerment lens complements this institutional perspective by illuminating how access to digital resources, strengthened agency, and emerging business achievements may interact to enhance women entrepreneurs' strategic positioning in international markets. Together, these analytical lenses support an understanding of digitalization as a progressive capability-building process rather than a binary condition of technology access or non-access.

Research Questions and Contribution

This article does not propose a new theoretical framework but contributes empirical validation and operationalization of an existing staged digital empowerment pathway within trade policy practice. The research examines:

1. How do TSIs design and implement digital trade services under capacity constraints?

2. How do women-led SMEs experience and navigate different stages of digital engagement?

3. Under what conditions do digital trade interventions translate into measurable empowerment and trade outcomes?

By applying a combined analytical lens drawing on Kabeer's empowerment framework and a five-stage digitalization pathway, the study moves beyond normative prescriptions to trace how institutional and gendered conditions shape digital trade support effectiveness. This implementation-focused evidence addresses persistent gaps in trade and gender policy literature concerning how digital reforms affect women-led SMEs in practice, generating policy-relevant insights for strengthening women's participation in international markets across developing regions.

Conceptual and Analytical Framework

This study integrates women's empowerment theory with a staged digitalization pathway to examine how gender-responsive digital trade interventions translate into empowerment and trade outcomes. The framework captures both structural and institutional conditions shaping digital trade ecosystems and the processes through which women entrepreneurs engage with, adapt, and benefit from digital tools.

Gender, Digitalization, and Trade

Digitalization does not occur neutrally or uniformly. Access to and use of digital technologies are shaped by intersecting factors including gender, geography, income, age, education, and institutional capacity. Recent Caribbean research shows that

women entrepreneurs' engagement with digital technologies is highly contextual and linked to broader processes of business resilience, empowerment, and transformation (Best et al., 2024). In many developing trade ecosystems, women-led SMEs operate within contexts characterized by high informality, uneven digital infrastructure, limited access to finance, and gendered norms constraining time, mobility, and decision-making (Banyan Global, 2023; UNCTAD, 2021).

Persistent digital inclusion gaps include disparities in mobile ownership, internet access, digital literacy, platform affordability, and exposure to e-commerce opportunities (GSMA, 2023). These structural inequalities influence how women entrepreneurs engage with digital tools and how TSIs design and deliver digital trade services. Within this context, digitalization is understood not as a binary condition (connected versus not connected) but as a progressive and uneven process shaped by institutional support, sectoral requirements, and gendered constraints.

Integrated Empowerment and Digitalization Pathway

The study integrates Kabeer's (1999) empowerment framework with a five-stage digitalization pathway. Kabeer conceptualizes empowerment as the process through which individuals gain ability to make strategic life choices in contexts where such choices were previously constrained. Resources refer to material, human, and social preconditions for exercising choice, including access to information, skills, networks, and institutional support. Agency captures capacity to define goals and act upon them, encompassing confidence, decision-making power, and autonomy. Achievements represent realized outcomes of empowered choices, such as improved economic participation, business growth, and market access.

The digitalization pathway operationalizes this empowerment process within trade ecosystems, adapting GSMA's 5A inclusion model to trade contexts (GSMA, 2023; USAID, 2020; ITU, 2022; UNCTAD, 2021):

1. Access covers connectivity, devices, affordability, and basic awareness enabling initial engagement with digital trade tools.

2. Adoption reflects initial, supported use including training, onboarding, mentoring, and trust-building within digital systems.

3. Application denotes routine, value-creating use of digital tools for market intelligence, e-commerce, certification, compliance, and buyer engagement.

4. Adaptation captures sector-specific integration, process re-engineering, certifications, logistics and traceability, aligning SME capabilities with cross-border trade requirements.

5. Advancement represents deeper institutionalization and scaling, where digital practices are embedded within organizational systems, gender-responsive services, leadership structures, and diversified market strategies.

By combining these dimensions, the framework conceptualizes digitalization as a continuum of empowerment rather than a linear pathway. Early stages of digital access and adoption may expand women's resources without immediately strengthening agency, particularly in contexts of time poverty, low digital confidence, or limited institutional follow-up. Meaningful empowerment emerges when digital tools are applied and adapted in ways enhancing women's decision-making capacity,

strategic positioning, and ability to meet trade requirements. Advancement depends not only on individual capabilities but also on institutional readiness, policy alignment, and sustained investment in gender-responsive digital trade support.

This staged perspective also responds to an important limitation in approaches that treat digital technology adoption as a single firm-level capability. Existing research indicates that digital technologies can expand access to international market intelligence and relationships (Pergelova et al., 2019). Evidence from Chile and Peru also shows that women-led businesses can pursue high-growth trajectories supported by innovation, expansion strategies, and enabling public policies (Huamán et al., 2022). Research shown that in Colombia further shows that digital capabilities can support SME internationalization and export performance, particularly when combined with networks and broader business capabilities (Gomez-Sanchez et al., 2024). The Digitalization Pathway extends this logic by examining the sequence through which access to digital resources may become routine business practice, organizational adaptation, and eventually more strategic participation in international markets.

Methodology

Research Design and Data Collection

The study adopts a qualitative case study design to examine how gender-responsive digital trade interventions were experienced and operationalized within a trade support ecosystem in Nigeria. Qualitative data were collected through nine semi-structured, in-depth interviews conducted virtually between 2024 and 2025. Participants were purposively selected based on their direct involvement in the delivery or receipt of digital

trade and export-support services. The sample comprised 1 TSI representative, 7 women-led SME representatives, and 1 trade coach providing technical and mentoring support. The objective of the purposive sample was to capture variation in institutional roles, sectoral experience, and stages of digital engagement rather than statistical representativeness.

Interviews lasted approximately 30 - 45 minutes and explored participants' experiences of digital access, training, technology use, export processes, institutional support, business adaptation, and perceived changes in business practices and decision-making. With participants' consent, interviews were recorded and transcribed. Participants were informed of the study purpose, the voluntary nature of their participation, and the measures used to protect confidentiality. Identifying information was removed from the analysis and quotations.

Interview guides were structured around the combined empowerment and digitalization framework, ensuring analytical consistency across actor groups while allowing flexibility for participants to introduce context-specific insights. Data were analyzed using thematic analysis, applying a deductive coding structure derived from the framework (empowerment dimensions × digitalization stages), while allowing inductive sub-themes to emerge within each analytical category. Triangulation across data sources and respondent groups enhanced analytical validity, reduced bias, and helped distinguish documented program outputs from participants' perceptions of change and reported enterprise-level outcomes.

Case Study: Nigeria and the WIT/WEF Intervention

Nigeria, as Africa's largest economy, presents a critical case for understanding how digitalization intersects with gender

and trade. With a young, tech-savvy population and rapidly growing digital economy, Nigeria is positioned to become a regional digital trade leader (Mba-Kalu, 2025). Yet significant gender disparities persist: only 33 percent of Nigerian women use mobile internet compared with 52 percent of men, and smartphone ownership among women (32 percent) is substantially lower than among men (51 percent) (GSMA, 2024; BusinessDay, 2024).

Within the WIT project, the Nigerian TSI engaged in gradual shift toward digitally enabled, gender-responsive service delivery. Prior to intervention, export support services were largely delivered through in-person training and ad hoc advisory support, limiting outreach to women entrepreneurs facing mobility, time, and cost constraints. Digitalization efforts introduced virtual training modules, online application processes, and remote coaching mechanisms, allowing the TSI to expand reach while reducing transaction costs. These institutional changes were accompanied by targeted capacity building for TSI staff, focusing on gender-sensitive service design, digital coaching methodologies, and sector-specific export requirements.

The Women Exporters Fund (WEF) component reached 511 women-led SMEs across five countries, with 162 SMEs offering improved products (certifications, e-commerce registration, new branding) exceeding the target of 117 SMEs. In Nigeria, 118 women-led SMEs received export support training, 50 SMEs were registered on e-commerce and social media platforms, and 26 SMEs received certifications (NAFDAC, USFDA, HACCP).

Positionality and Limitations

The author brings extensive professional experience in gender equality, trade facilitation, and digital inclusion. While

currently serving as Gender Equality and Social Inclusion Program Manager at TFO Canada, this role commenced after WIT project closure, and the author was not involved in project design, implementation, or management. To mitigate potential interpretive bias, the study relies on systematic triangulation of data sources, consistency in interview protocols, and cross-validation of findings across actor groups. While the qualitative case study design does not aim for statistical generalization, it supports analytical transferability by illuminating mechanisms through which gender-responsive digital trade interventions operate in practice.

The study also does not include a baseline, comparison group, or longitudinal export-performance data. It therefore does not seek to establish causal attribution between specific program interventions and subsequent business outcomes. Program monitoring data are used to document outputs, while interview evidence provides insight into participants' experiences, perceived changes, and reported business outcomes. References to improved capabilities, agency, resilience, or market engagement should consequently be interpreted as evidence of contribution and perceived change rather than experimentally established impact. Finally, the extension of findings to LAC is analytical: similarities across developing trade ecosystems provide a basis for identifying potentially relevant mechanisms and design principles, but not for assuming equivalent effects across regions.

Findings

The findings are organized around the five-stage Digitalization Pathway, examining how resources, agency, and achievements unfolded at each stage for both TSIs and women-led SMEs in Nigeria. Three forms of evidence are distinguished

throughout the findings: (1) documented program outputs drawn from project monitoring records; (2) participant-reported changes in practices, capabilities, confidence, or business relationships; and (3) reported enterprise-level trade outcomes such as certifications, buyer engagement, distributor relationships, or export transactions. Because the study does not include baseline, counterfactual, or longitudinal outcome data, participant-reported changes are interpreted as evidence of perceived contribution and emerging outcomes rather than direct causal effects of the intervention.

Stage 1: Access - Connectivity, Awareness, and Early Exposure

The Access stage is defined by acquisition of foundational digital resources and exposure to export-oriented knowledge. Most women-led SMEs relied initially on basic mobile-based communication tools. WhatsApp and email constituted dominant entry points into digital commerce, with social media platforms (Facebook, Instagram, TikTok, LinkedIn) widely used yet largely for informal promotion rather than strategic integration. While some enterprises reported websites and online catalogues, sustainability was uneven; one website was suspended due to maintenance constraints, underscoring digital infrastructure fragility without financial and technical continuity.

Access expanded significantly through structured training. TFO Canada's export readiness programs introduced modules on digital marketing, website development, and export procedures. As one respondent noted, "My first encounter with TFO Canada was in 2023...that's where I got interested about export." Knowledge-sharing spaces, including WhatsApp groups, further reduced informational asymmetries. TSIs acted as digital intermediaries through virtual trade missions, online

HACCP certification, and exposure to business-to-business (B2B) and e-commerce systems.

However, structural constraints persisted. Several respondents reported limited prior digital engagement, unstable connectivity, language barriers, and absence of structured tracking systems. Digital participation often relied on personal devices rather than dedicated business infrastructure, limiting scalability and formal integration.

Early achievements were observable. At institutional level, over 400 SMEs received training, demonstrating scale of outreach. At enterprise level, respondents associated increased digital exposure with participation in trade missions, buyer inquiries following international fairs, acquisition of HACCP certification, and initial indirect exports. These outcomes represent incremental yet tangible achievements, though agency remained largely visibility-oriented rather than revenue-optimized, and digital showcasing often preceded analytics integration or structured e-commerce systems.

Stage 2: Adoption - Onboarding, Training, and Early Platform Use

The Adoption stage represents qualitative progression from basic digital access to structured integration of digital systems within enterprise operations. Institutional support expanded toward applied digital literacy, with advanced training on international trade search engines (WTO, ITC, TFO platforms), digital compliance procedures, and e-commerce registration. SMEs were no longer merely aware of platforms; they were trained to navigate and operationalize them.

Several Women-led SMEs formalized their digital presence. One respondent described website development, Amazon registration, and hiring a paid social media manager, reflecting financial reinvestment and internalization of digitalization as core business function. Another adopted Google My Business, Buffer for scheduled content, and multi-platform coordination, demonstrating ecosystem-level management rather than isolated digital use. Technological upgrading emerged through artificial intelligence (AI) and digital marketing tools, with social media recognized "as a business tool" rather than merely communication channel.

Compliance and certification became institutionalized digital resources. NAFDAC and FDA registration strengthened regulatory credibility, reducing structural trade barriers and enhancing buyer confidence as durable institutional assets. Program records and participant accounts indicate several outcomes associated with digital adoption as: SMEs registered on e-commerce platforms, acquired international buyers, improved packaging compliance, launched websites, and sustained operations during COVID-19 through virtual engagement.

However, adoption depth remained uneven. Some enterprises relied on family-supported hosting, while others invested in professional services. Certification gaps limited contract conversion in certain cases. Reduced reliance on intermediaries emerged as critical outcome, with SMEs gaining ability to independently consult compliance portals and communicate directly with international buyers, lowering transaction costs and enhancing bargaining power.

Stage 3: Application - Routine Use for Market Intelligence and Buyer Outreach

The application stage represents consolidation of digital adoption into routine operational practice, transforming digital assets into productive capabilities. At ecosystem level, institutions shifted from training delivery to digital solution brokerage, identifying context-specific tools, organizing webinars, and facilitating trade missions. This indicates continuous ecosystem scanning and localization of digital trade solutions.

At enterprise level, digital tools became embedded in transaction management. Routine email negotiations, WhatsApp follow-ups, and social media advertising integrated with trade fair contacts became normalized. AI-assisted proposal writing and funding applications enhanced responsiveness and productivity. Operational integration extended to financial governance through adoption of accounting software, digital invoicing systems, and internal record-keeping, signaling enterprise-level digital infrastructure supporting traceability, bookkeeping, and decision-making.

Observable achievements emerged from this operationalization. Some SMEs reported exporting via digital platforms, sustaining buyer relationships in Canada, United Kingdom, and Ghana, securing patents, acquiring distributors, and improving bookkeeping efficiency. Participants reported using digital platforms to extend buyer outreach beyond physical trade fairs and, in some cases, to maintain relationships associated with repeated export transactions.

However, disparities persisted. Some enterprises maintained export-clients but lacked customer relationship management (CRM) systems or analytics, limiting strategic scaling. Others

continued informal practices without structured financial systems, preventing export conversion despite improved packaging. Hybrid trade governance emerged as defining feature, with SMEs combining digital outreach with physical trade missions and logistics coordination, recognizing that "online contact is not enough to conclude business."

Stage 4: Adaptation - Tailoring Tools and Integrating with Operations

The adaptation stage reflects structural deepening where SMEs and institutions recalibrate, upgrade, and reconfigure digital resources in response to infrastructural fragility, certification demands, and evolving market conditions. At institutional level, systemic consolidation occurred through digital membership ecosystem exceeding 5,000 alumni and 4,000 firms, supported by accounting and membership management software and hybrid (virtual-physical) training models. Institutions shifted toward segmented and differentiated SME support, encouraging intergenerational digital collaboration.

At enterprise level, certification stacking emerged as central adaptive resource. Respondents reported HACCP, ISO, BRC, and Authorized Economic Operator (AEO) certifications alongside increased production capacity, signaling vertical upgrading and readiness for sustained export demand. Continuous digital learning, online certification, automation exploration, and compliance documentation evidenced ongoing capability renewal rather than static adoption.

Adaptation also intersected with infrastructural resilience. One respondent described reliance on solar energy amid electricity instability, illustrating technological adaptation in fragile environments, though website suspension due to cost

underscored financial vulnerability within digital ecosystems. Collective strategies illustrated adaptive resource pooling, with group export models and structured online coordination mitigating individual scale and certification constraints.

Achievements at this stage included cultural normalization of digital entrepreneurship, structured marketplace entry, operational efficiency gains and time flexibility, strengthened post-fair follow-up, and incremental export growth with distributor expansion. Yet disparities persisted: SMEs lacking CRM systems or facing high certification costs remained constrained in scaling. Digital adaptation addressed gendered structural constraints. Some women entrepreneurs reported that workflow digitization and scheduling tools helped them manage time constraints and improving work-life balance for women entrepreneurs balancing caregiving and enterprise management.

Stage 5: Advancement - Data-Driven Scaling and Institutionalization

The advancement stage represents apex of the Digitalization Pathway, where digital resources extend beyond enterprise operations into policy engagement, global legitimacy, certification depth, and ecosystem-level influence. At institutional level, engagement in European Union-German Development Cooperation Investment Climate Reform processes and advocacy for clearer definitions of women-led businesses signaled movement toward policy-shaping authority. Digitalization at this stage supports governance participation and standard-setting rather than mere compliance.

At enterprise level, certification portfolios deepened significantly. Stacked international certifications (HACCP, ISO, BRC, NAFDAC, USFDA) alongside patent protections represent hi-

gh-entry barriers enhancing export credibility and embedding firms within formal global value chains. Participation in global trade fairs and development of international buyer networks further consolidated market presence.

Advancement also manifested in search visibility and marketplace integration. Enhanced Google discoverability, export orders and product samples sent abroad, infrastructure upgrading including warehouse and machinery investment, and acquisition of Canadian market intelligence indicated capital deepening and production readiness. Structured buyer databases reflected sophisticated understanding of digital marketplaces and international commercialization strategies.

Nevertheless, advancement was uneven. Some enterprises identified gaps in analytics systems, CRM tools, and certification affordability. While ambition and awareness were present, structural barriers constrained full integration into high-level global trade systems. Agency at this stage became strategic and reflexive, with entrepreneurs articulating long-term global ambitions and demonstrating strengthened negotiation confidence and brand positioning. Identity transformation emerged as critical dimension: enterprises increasingly perceived themselves as globally scalable actors.

Discussion

Digitalization and Women's Empowerment in Trade Ecosystems

The findings demonstrate that digitalization functions as empowerment pathway when embedded within gender-responsive institutional support. The Access stage established enabling conditions but proved insufficient for empowerment, confirming Kabeer's (1999) argument that resources alone do

not guarantee agency or transformative achievements. The predominance of WhatsApp-based commerce reflects gendered and resource-constrained digital entry; while mobile-first tools reduce barriers, they may confine enterprises to subsistence-level engagement without progression toward structured systems.

Institutional mediation proved decisive in transforming fragmented digital exposure into export-oriented pathways. Training, certification sponsorship, and trade mission participation functioned as resource multipliers, expanding both technical competence and perceived opportunity structures. Digital access triggered early forms of agency, with entrepreneurs reframing market horizons from regional to international and recognizing digital visibility as strategic necessity. However, agency remained uneven and largely visibility-oriented rather than revenue-optimized at early stages.

The adoption and application stages represented critical transitions where digital tools became strategic instruments rather than experimental add-ons. Reduced reliance on intermediaries, enhanced digital self-efficacy, and hybrid trade governance demonstrated expanding transactional autonomy. Psychological empowerment (confidence, professionalism, strategic targeting) became as important as technical capacity. Yet gains remained incremental, with certification bottlenecks and absence of advanced digital systems limiting scalability.

This transition is consistent with research suggesting that the value of digital technologies for SME internationalization lies not simply in technology ownership but in their capacity to expand market intelligence and relationships with international actors. Pergelova et al. (2019) identify international market intelligence as an important mechanism linking digital technologies to the internationalization of female-led SMEs.

Similarly, evidence from Latin American SMEs suggests that technological capabilities generate greater international value when combined with networks and opportunity-recognition capabilities. The Nigerian findings add an implementation perspective to this literature by illustrating how coaching, certification support, and institutional mediation may help entrepreneurs translate basic digital access into such capabilities.

Institutional Conditions for Gender-Responsive Digital Trade Support

The Nigerian TSI's transformation illustrates critical institutional conditions enabling gender-responsive digital trade support in capacity-constrained contexts. Virtual training modules, online application processes, and remote coaching mechanisms expanded outreach while reducing transaction costs. Hybrid delivery models combining virtual and in-person support proved essential for accommodating connectivity constraints and building trust.

However, institutional digital advancement remained intermediate. While digital tools were embedded in routine operations, they were not yet fully integrated into long-term monitoring or data analytics systems. The absence of comprehensive tracking systems to assess post-training applications and long-term digital adoption emerged as critical gap preventing TSIs from sustaining momentum and reinforcing emerging capabilities.

Personalized coaching emerged as core driver of change, helping women overcome confidence barriers and increasing ability to leverage digital tools effectively. Gender-responsive TSI capacity building strengthened institutional capabilities and improved supply of digital export-readiness services.

Sector-specific adaptation ensured digital tools and strategies remained relevant to diverse SME needs.

Nonetheless, persistent challenges limit full realization of digital empowerment: uneven digital literacy particularly among older women; gendered time constraints linked to domestic responsibilities; language barriers in non-English contexts; and prohibitive costs of certain digital platforms. At institutional level, comprehensive digital maturity (standard operating procedures, dedicated budget lines, key performance indicators for gender-responsive digital trade services) remains work in progress rather than fully consolidated.

The importance of contextual adaptation is also reflected in emerging Caribbean research. Best et al. (2024) show that the business-transformative effects of digital technologies among women entrepreneurs are embedded within specific social, institutional, and spatial contexts rather than occurring uniformly. This reinforces a central implication of the Nigerian case: digital trade support should not be reduced to technology provision or standardized training. Its effectiveness depends on how digital tools interact with entrepreneurs' business models, institutional environments, gendered constraints, and available support systems.

Implications for Trade Policy in Developing Regions, Including Latin America and the Caribbean

The Nigerian experience offers several policy-relevant insights for export promotion agencies and trade ministries in LAC and other developing regions, but these should be interpreted as analytically transferable propositions rather than empirically validated prescriptions for the region. Existing LAC and Caribbean research supports the broader relevance of gendered

digital divides, contextualized digital entrepreneurship, and the relationship between technological capabilities and SME internationalization. However, institutional arrangements, levels of digital infrastructure, trade regimes, SME characteristics, and gender norms vary considerably across and within regions. The following implications therefore identify design principles emerging from the Nigerian case that warrant contextual adaptation and, where appropriate, further empirical testing in LAC settings.

Staged digitalization pathways as policy framework.

The five-stage pathway provides practical framework for TSIs to design sequenced digital trade support, recognizing that meaningful empowerment requires progression beyond access to adoption, application, adaptation, and advancement. Policy interventions should target stage-specific barriers rather than assuming uniform digital inclusion.

Integration of sex-disaggregated indicators.

Absence of comprehensive tracking systems represents a critical policy gap. Trade ministries and export promotion agencies should integrate sex-disaggregated digital trade indicators into monitoring systems, capturing not only training completion but also post-training application, buyer engagement, certification acquisition, and export outcomes by gender.

Hybrid coaching models and institutional mandates.

Personalized digital coaching combined with hybrid delivery (virtual-physical) proved effective in capacity-constrained contexts. LAC trade institutions should consider embedding such models within institutional mandates, with dedicated budget lines and staff capacity rather than project-dependent digitalization.

Low-bandwidth and multilingual solutions.

Given persistent connectivity and language constraints, digital trade platforms and services should prioritize low-bandwidth options (WhatsApp, email, recorded webinars) and multilingual content to ensure inclusive access beyond urban, educated, English-speaking cohorts.

Certification and compliance support.

Digital trade empowerment in practice required simultaneous support for certifications, standards compliance, packaging, and logistics. Trade policy should integrate digital tools within broader export readiness ecosystems rather than treating digitalization as standalone intervention.

Regional cooperation and cross-border digital trade facilitation.

LAC regional organizations and trade agreement negotiators should consider how digital trade chapters can incorporate gender-responsive provisions, including simplified digital customs procedures, cross-border payment solutions accessible to women-led SMEs, and regional digital trade platforms with built-in gender tracking.

Long-term institutional investment.

Project-based digitalization risks unsustainability. National trade and digital strategies should explicitly integrate gender-responsive digital trade support within TSI governance structures, ensuring continuity beyond donor funding cycles.

Recommendations

SME-Level Recommendations

Women-led SMEs require tailored support to progress from basic access toward application and adaptation. Recommendations include accessible digital literacy training targeting older and rural women entrepreneurs; mentorship programs pairing digitally advanced women entrepreneurs with those at earlier stages; affordable certification pathways with subsidized compliance support; and peer learning networks facilitating knowledge exchange on sector-specific digital solutions.

TSI and Program-Level Recommendations

Export promotion agencies and trade support institutions should: develop comprehensive CRM and tracking systems capturing sex-disaggregated data on digital adoption, export outcomes, and buyer engagement; institutionalize hybrid coaching models with dedicated staff, budgets, and performance indicators; create low-bandwidth, multilingual digital trade platforms accommodating connectivity and language constraints; establish sector-specific digital solutions addressing unique requirements of agrifood, textiles, and other export sectors; and integrate gender-responsive service design within staff capacity building and organizational governance.

National and Regional Trade Policy Recommendations

Trade ministries should integrate gender-responsive digital trade strategies within national trade policies, with clear institutional mandates and budget allocations. Regional trade agreements in LAC could incorporate digital trade chapters addressing gender dimensions, including provisions for simplified

digital customs, cross-border e-payment solutions, and mutual recognition of digital certifications. Donors designing trade and gender programs should prioritize long-term institutional capacity building over short-term training targets, ensuring TSIs develop sustainable digital service delivery capabilities. Regional cooperation platforms should facilitate knowledge exchange on effective digital trade support models, enabling LAC institutions to learn from African and Asian experiences while adapting to regional contexts.

Conclusion

This study demonstrates that gender-responsive digitalization can contribute women's participation in trade when embedded within supportive institutional frameworks. The Nigerian case suggests that women entrepreneurs can enhance competitiveness, resilience, and autonomy when provided with appropriate combination of digital tools, localized coaching, and supportive ecosystems. By applying a combined empowerment and digitalization pathway framework, the research reveals how women move from exposure to digital tools toward active adoption, contextual integration, and early forms of leadership.

Rather than proposing new theory, this study validates the value of empirically testing staged digitalization pathways within real institutional contexts. The findings highlight that digital trade interventions become empowering not through access alone but through sequenced adoption, application, and adaptation supported by gender-responsive institutions. This implementation-focused evidence addresses persistent gaps in trade policy research concerning how digital reforms affect women-led SMEs in practice, particularly in fragile and capacity-constrained ecosystems.

For Latin American and Caribbean trade policymakers, the study offers analytically transferable insights rather than direct empirical evidence of intervention effectiveness in the region. Peer-reviewed research from LAC and the Caribbean confirms the relevance of gendered digital participation, context-specific digital entrepreneurship, and technological capabilities for SME development and internationalization. However, the applicability of the Nigerian pathway should be tested and adapted within specific LAC institutional and market contexts.

Yet the journey toward full digital advancement requires sustained institutional investment, structural support, and long-term tracking systems. Project-based digitalization risks unsustainability; comprehensive integration within national trade and digital strategies is essential. Future research should examine effectiveness of similar interventions across LAC contexts, develop quantitative measures of stage progression along digitalization pathways, and assess long-term export outcomes and business sustainability beyond project cycles.

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List of acronyms

ADB – Asian Development Bank
AfCFTA – African Continental Free Trade Area
AI – Artificial Intelligence
BRC / BRCGS – Brand Reputation Compliance Global Standards
BSO – Business Support Organisation
CRM – Client Relationship Management
ECOWAS – Economic Community of West African States
FDA – Food and Drug Administration
GSMA – GSM Association
HACCP – Hazard Analysis and Critical Control Point
ICT – Information and Communication Technology
ISO – International Organization for Standardization
ITC – International Trade Centre
LAC –Latin America and the Caribbean
M&E – Monitoring and Evaluation
MSME – Micro, Small and Medium-sized Enterprise
NAFDAC – National Agency for Food and Drug Administration and Control (Nigeria)
NEPC – Nigerian Export Promotion Council
NGDIS – National Gender Digital Inclusion Strategy

NITDA – National Information Technology Development Agency
SPS – Sanitary and Phytosanitary (measures)
SME – Small and Medium-sized Enterprise
Development cooperation agency –Trade facilitation Office Canada
TSI – Trade Support Institution
UNCTAD – United Nations Conference on Trade and Development
UNESCAP – United Nations Economic and Social Commission for Asia and the Pacific
UNFPA – United Nations Population Fund
USFDA / FDA – United States Food and Drug Administration
WEIDE – Women Exporters in the Digital Economy (Fund)
WL SMEs – women-led SMEs
WTO – World Trade Organization

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Economic empowerment or precarization of work for women micro-entrepreneurs in e-commerce

Empoderamiento económico o precarización del trabajo de las microempresarias en el comercio electrónico

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Abstract

This article examines the experiences of women entrepreneurs in Chile who use ecommerce to sell from their homes and generate income independently. Through the use of mobile phones, they are able to reconcile paid work with domestic duties and family responsibilities, however, this flexibility also entails constant connectivity, extended working hours, and the absence of basic labor rights such as access to healthcare, paid leave, or social security.

Additionally, these workers face increasing competition and uncertainty related to the visibility algorithms of digital platforms, which can shape their ability to access consumers and sustain their businesses. This article highlights the contradictions of informal digital entrepreneurship: while it offers

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opportunities for economic empowerment and autonomy, and the opportunity to access different markets; it also reproduces forms of labor precariousness.

This article proposes a critical reflection on the real conditions of those working in the informal e-commerce environment and underscores the need to rethink public and trade policies that recognize, support and protect these new emerging forms of independent economic activity.

Keywords: E-commerce – women economic empowerment – women micro-entrepreneurs – gender – labor precariousness – informal work.

Resumen

Este artículo examina las experiencias de mujeres emprendedoras en Chile que utilizan comercio electrónico para vender desde sus hogares y generar ingresos de manera independiente. A través del uso de teléfonos celulares consiguen reconciliar trabajo pagado con labores domésticas y responsabilidades familiares. Sin embargo, esta flexibilidad también lleva consigo conectividad constante, horas de trabajo extendidas, y la ausencia de derechos laborales esenciales como acceso a servicios de salud, licencias laborales o seguridad social. Además, estas trabajadoras enfrentan competencia de manera creciente e incertidumbre relacionada con algoritmos de visibilidad en plataformas digitales que pueden alterar su capacidad de acceder a consumidores y dar sostenibilidad a sus negocios. Este artículo destaca las contradicciones del emprendimiento digital informal: mientras que otorga oportunidades de empoderamiento económico y autonomía, y la oportunidad de acceder a distintos mercados, también reproduce formas de precarización laboral. Este artículo propone una reflexión crítica sobre las verdaderas condiciones

de aquellos trabajando en el espacio de comercio electrónico informal y pone énfasis en la necesidad de repensar las políticas públicas y comerciales que reorganizan, apoyan y protegen estas nuevas modalidades emergentes de actividad económica independiente.

Palabras clave: Comercio electrónico – empoderamiento económico femenino – mujeres micro emprendedoras – género – precarización laboral– trabajo informal.

1. Introduction: Micro Entrepreneurs in E-commerce in Chile

The digitalization of the economy has profoundly transformed the ways in which production, marketing, and market access are obtained (Mitchell, 2026). In Chile, this process intensified during the pandemic, when thousands of women turned to e-commerce as an alternative way to generate income from home[1]. E-commerce understood as the set of marketing and sale activities of goods and services carried out through digital channels (OCDE, 2011), including marketplaces, social networks, messaging applications and other Internet-based media (Laudon & Traver, 2021). In the case of women entrepreneurs, electronic commerce constitutes not only a sales channel, but also a mechanism for accessing

1 Although there are no systematic statistics in Chile that can show us this increase, it can be seen in the increase in participation in activities such as "Women Entrepreneurship in eCommerce" of the Santiago Chamber of Commerce, where around 5,000 women participated. https://www.ccs.cl/2021/12/10/casi-5-mil-emprendedoras-postularon-al-desafio-mujeres-emprendiendo-en-ecommerce-de-la-camara-de-comercio-de-santiago/?utm_

By 2026, 30% of the businesses on the Mercado Libre platform are led by women. https://www.adnradio.cl/2023/12/06/mujeres-lideran-cerca-del-30-de-los-emprendimientos/?utm_

markets, generating income and organizing work from home; It became established as accessible tools with low initial costs and seemingly compatible with domestic and caregiving responsibilities.

Public discourse has tended to associate this phenomenon with women's economic empowerment, highlighting the autonomy, flexibility, and creativity offered by digital entrepreneurship (ECLAC, 2021; ILO, 2019). However, this narrative overlooks the structural conditions in which women's participation in the digital economy is embedded. This article examines this tension and asks: does e-commerce constitute an effective path to economic empowerment for women in Chile, or does it reproduce dynamics of precarious employment historically associated with women's work?

The structure of this article begins by examining the structural inequalities faced by women entrepreneur in Chile, establishing a baseline for the analysis. It then describes the methodology used to collect and analyze the information that informs our findings and conclusions. Next, we present the results of our research, including an analysis of one of the cases examined, and conclude with a discussion of the main findings and their implications.

2. Structural Inequalities. Gender and Digitalization

Analyzing women's participation in e-commerce requires considering the structural inequalities that shape their integration into the labor market and entrepreneurs, these include:

- The gendered division of labor, which assigns women the primary responsibility for caregiving. Women continue to shoulder two to three times

more unpaid domestic and care work (Economic Commission for Latin America and the Caribbean, 2022).

- The financing gap, which limits their access to capital and investment.
- Insufficient specialized digital literacy, which reduces competitiveness in highly technological environments. Women have less access, time available for training, and lower levels of participation in technology sectors (ECLAC, 2021; Ministry of Science, 2023; INE, 2015).
- The low participation of women in technological design, which hinders the incorporation of gender perspectives into digital platforms.

These barriers create an ecosystem where women's entrepreneurship develops under structurally disadvantageous conditions.

3. Methodology

For the next sections a qualitative approach was used for the entrepreneur case study, empowerment vs. precarity, aimed at understanding the subjective experiences of women entrepreneurs who sell products through e-commerce from Chile to national and international markets. This approach allows for an analysis of how the participants understand their digital work in terms of autonomy, work-life balance, online platform management and precarity.

An instrumental case study was selected from the +20 entrepreneur cases studied, given that the interest lies not only

in the individual experience but also in its capacity to illustrate structural dynamics of women's digital entrepreneurship.

In-depth, semi-structured interviews allowed us to explore work and domestic experiences, inquire about perceptions of economic autonomy, analyze digital working conditions, identify experiences of algorithmic dependence and understand work-life balance strategies. The conversations were conducted virtually or in person, depending on the participant's availability, they were not recorded for the entrepreneur's privacy; they were registered on notes for analysis and were conducted by different members of the team. Purposive sampling was used, considering the following criteria: Woman over 18 years of age; Micro-entrepreneur who sells products through social media or e-commerce platforms; Activity primarily carried out from home; At least 6 months of experience in digital sales. We connected with microentrepreneurs from the Metropolitan, Biobío, and Magallanes and Chilean Antarctic regions, at entrepreneur government activities, forums and courses, to have a better understanding of which situations replicate in different regions, some of them sell on the local market and others international. It was not a criteria if the business was formalize or not.

The conversations were structured around four dimensions: 1. Economic empowerment: financial autonomy, decision-making capacity within the household, self-identification as an entrepreneur; 2. Job Insecurity: income instability, lack of social security and extended working hours; 3. Algorithmic Dependence: visibility on platforms, changes in digital rules and need for constant connectivity; 4. Care Overburden: distribution of domestic work, emotional impact and fragmentation of time.

4. Case Study

For Paulina, who has transformed her kitchen into a small *"alfajor"* factory, selling online is an adventure. For the first time she can bake while helping her children with their homework, answer customer messages between laundry shifts, sell to people from different cities and receive payment directly into her account—money that is all hers and gives her an independence she's never had before. Her cell phone has become a giant showcase, displaying her creations to the world, and every comment from a happy customer lifts her spirits and makes her feel like a true entrepreneur, all from the comfort of her home.

But that same comfort is sometimes a trap. Since her store is her cell phone, orders and messages flood in at all hours: during dinner, late at night, even on a Sunday morning, sometimes her family complains, but if she doesn't respond instantly, she fears the customer will go to someone else, and some platforms punish the delay replay. Thus, without realizing it, she ends up working more hours than if she had a regular job, always connected, unable to rest.

Furthermore, she sees more and more people selling the similar products, forcing her to lower her prices and fight relentlessly against an algorithm that sometimes makes her visible and sometimes hides her and does not know why.

And although she works so hard, she lacks the basics: if she gets sick, she doesn't sell and doesn't earn; she has no health insurance, no paid vacation.

Ultimately, for Paulina, e-commerce gave her the opportunity to start her own business and generate her own income

without neglecting her family, but it also exposes her to constant pressure and a reality where she lacks any safety net and she had to drop it. This case exemplifies how empowerment and precarity are not mutually exclusive categories, but rather coexisting dimensions in the digital economy for women.

5. E-commerce as a Path to Empowerment

Paulina's experience illustrates the economic empowerment potential of informal e-commerce while simultaneously revealing the care overburden embedded in women's digital entrepreneurship. By selling online, she gains financial autonomy, contributes directly to household income, and develops a stronger sense of entrepreneurial identity, she fells better. Digital platforms also allow her to reach customers beyond her local area without leaving home, creating flexibility to combine paid work with childcare and domestic responsibilities. However, this flexibility comes with a fragmentation of time: baking, responding to customers, managing orders, and caring for her children occur simultaneously. The constant expectation to be available can intensify domestic and emotional demands rather than reduce them.

At the same time, Paulina's story exposes significant job insecurity and algorithmic dependence. Her income is unstable because it depends on demand, and illness or the inability to work immediately translates into lost earnings. Without access to paid leave, healthcare, or social security, the risks traditionally absorbed by employers are transferred to the individual entrepreneur even if she has a formalized or informal business (a business is considered formal when registered in IRS and company registry). Moreover, her ability to reach customers depends increasingly on platform algorithms, visibility rules, and rapid responses, creating pressure

to remain constantly connected and adapt to changing digital conditions.

5.1 Economic Empowerment

E-commerce offers concrete advantages for women. The ability to work from home reduces infrastructure costs, eliminates geographical barriers, and facilitates the balance between paid work and domestic responsibilities. For many micro-entrepreneurs, generating their own income strengthens their economic autonomy, self-esteem, and decision-making power within the home. Also, this can be the first step to leave abusive relationships (Vyas & Watts, 2009; Eggers del Campo & Steinert, 2022).

Flexible hours and access to expanded national and international markets, with fewer barriers to discrimination, allow women from different regions of the country to sell products beyond their immediate surroundings. In this sense, e-commerce expands opportunities and diversifies income sources in contexts where formal employment may be inaccessible.

In most of the cases digital entrepreneurship emerges as a survival strategy rather than a planned business opportunity which translate in an informal business because it is not required by the online e-commerce platforms national or international, in the new trade business model triangular e-commerce or triangular cross-border trade you can sell in one country, ship directly from another and not have a formalized business.

In Chile, e-commerce regulates consumer rights (19.496, 21.398, D 6/2021), protection of privacy/personal data (19.628) and tax payments (Law 21,210) but does not regu-

late labor, social security or other similar rights specific for this business. As these entrepreneurs are not hired workers, they are considered independent workers, so the employers' obligations are transferred to the individual entrepreneur and have to pay social security (AFP) and health system (ISAPRE or FONASA) but this is a fixed minimal amount the entrepreneur needs to be sure will have every month.

5.2 Job Insecurity

Economic autonomy does not necessarily translate into job security or social protection. Digital entrepreneurship operates primarily in the informal sector and through self-employment (ILO, 2021; ECLAC, 2022), without access to basic labor rights, contractual stability, or established social security systems.

5.3 Algorithmic Dependence

In all the cases there is a level of participation from the entrepreneurs in some digital or ecommerce business educational program either from the local government (Municipalidad), central government (SERCOTEC, SENSE, CORFO, Ministry of Women and Gender Equality, Ministry of Economy or PROCHILE) or private. Still only 19% participate in Artificial Intelligence or advanced technology.

These limitations affect their ability to manage digital marketing strategies, interpreting metrics, understanding algorithms, or investing in paid advertising.

5.4 Care Overburden

Economic empowerment vs insecurity and care overburden are repeated in all the cases studied, at different levels depending on the product to be sold, knowledge level and care time consume. Some of them manage to formalize and even export products proving a successful business and still confront the same issues.

6. Precariousness as a Structural Dimension of E-commerce

Precariousness in e-commerce manifests itself in multiple dimensions, including unstable income, informality, and a lack of social protection (ILO, 2021; ECLAC, 2022; IDB, 2022). *"Digital hyperconnectivity is a universal infrastructure of contemporary life, shaping communication, sociability, culture, the economy, and politics at multiple levels"* (Schoonmaker, 2023). Micro-entrepreneurs must respond to inquiries, manage orders, and maintain a constant digital presence to sustain their visibility in highly competitive environments. The boundary between work time and personal time blurs, extending work to all hours of the day. According to a survey of over 1,000 online store owners, the weekly working time dedicated to managing an e-commerce business shows that approximately 34% work between 31 and 40 hours per week, another 31% work between 41 and 50 hours, and almost 6% work more than 50 hours per week (cm-commerce.com, 2020)[2].

The lack of social protection represents another critical dimension, where laws regarding work in digital applications

2 cm-commerce.com (2020) Ecommerce Confessions: How 1,000+ Store Owners Spend Their Time. Available at: https://cm-commerce.com/academy/ecommerce-confessions/ (Accessed: 20 February 2026).

have not addressed these needs. Digital entrepreneurs lack paid vacations, sick leave, and income stability. Any interruption—due to illness, maternity, or family issues—directly affects their economic survival.

Furthermore, algorithmic dependence introduces a factor of structural vulnerability. Product visibility and the reach of posts depend on opaque systems that prioritize constant interaction and advertising investment. This logic transfers market risks to the entrepreneurs themselves, who must constantly adapt to changing rules without any real ability to influence them. Srnicek explains that digital platforms concentrate data, infrastructure, and algorithmic control, generating structural asymmetries between those who operate on them and those who own them (Srnicek, 2017; Pasquale, 2015).

Precarity also has an emotional dimension. Self-imposed demands, stress, and economic uncertainty add to the pre-existing domestic burden, generating sustained physical and psychological exhaustion (Fraser, 2016; Federici, 2012; Standing, 2011).

7. Empowerment vs. precarity

E-commerce cannot be analyzed as a neutral space, it operates under market logics, algorithmic structures, and power relations that reproduce fundamental gender inequalities. labor flexibility, while real, is based on informality and the extension of work into private life and mental health.

The economic empowerment experienced by women is significant, but it occurs within a model that individualizes risks and responsibilities. Although e-commerce is presented as a democratizing space and expanding opportunities, in

practice it reproduces pre-existing technological and economic inequalities.

Does e-commerce constitute an effective path to economic empowerment for women in Chile, or does it reproduce dynamics of precarious employment historically associated with women's work? In our opinion e-commerce is a relevant tool for income generation and women's economic autonomy in Chile. However, its empowering potential is limited by structural conditions that reproduce job insecurity, informality, and an excessive burden of care work.

For e-commerce to become a true engine of economic justice, regulations and public and trade policies with a gender perspective are required, along with strengthened care systems, equitable access to financing, advanced digital literacy, regulation of digital platforms with gender perspective . This development should come from government institutions and private sector represented by the e-commerce platforms. Without these transformations, digital entrepreneurship will continue to represent a form of precarious empowerment: a path to economic advancement accompanied by structural vulnerability.

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Escape and Burden: The Dual Role of Exporting for African Women Entrepreneurs under Institutional Constraint*

Escape y carga: el doble papel de la exportación para las mujeres emprendedoras africanas bajo restricciones institucionales

Alisa Sydow**
Marianne Matthee****

Abstract

Sub-Saharan Africa (SSA) has the highest rate of entrepreneurship globally, with women constituting the majority of entrepreneurs in the region. Despite their prominence, women entrepreneurs face significant institutional and gender-related barriers that constrain business growth and access to export opportunities. Exporting can help overcome these constraints by providing access to wider markets, yet many women entrepreneurs rely on relationship-based transnational networks to navigate challenges such as limited information, financing constraints, discrimination, and high trading costs. Responding to calls for greater understanding

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of how institutional environments shape women entrepreneurs' internationalization, we conducted 33 in-depth interviews across 13 African countries. Our findings show that institutional forces significantly influence export decision-making and that women frequently enter foreign markets through trusted cross-border relationships rather than formal export-support mechanisms. While these networks facilitate export participation, they also shape how and where entrepreneurs export. We further find that exporting serves broader social and cultural purposes, enabling women entrepreneurs to support their communities, express cultural identity, and reshape perceptions of African businesses. We contribute to the international entrepreneurship and trade literature by showing that exporting functions as a negotiated form of institutional escape. Rather than providing a complete departure from institutional constraints, export participation is mediated through informal, relationship-based transnational networks that both enable and shape internationalization. In doing so, we highlight the dual role of exporting as both an opportunity and a constraint for women entrepreneurs operating in institutionally challenging environments and advocate for more inclusive trade-support mechanisms across Africa and the wider Global South.

Keywords: women entrepreneurs – institutional constraints –informal networks – exporting – inclusive trade support – Africa.

Resumen

África Subsahariana (ASS) presenta la tasa más alta de emprendimiento del mundo, y las mujeres constituyen la mayoría de las personas emprendedoras de la región. A pesar de su protagonismo, las mujeres emprendedoras enfrentan

importantes barreras institucionales y de género que limitan el crecimiento de sus negocios y su acceso a oportunidades de exportación. La exportación puede ayudar a superar estas limitaciones al ampliar el acceso a mercados más amplios; sin embargo, muchas emprendedoras dependen de redes transnacionales basadas en relaciones personales para afrontar desafíos como la escasez de información, las restricciones de financiamiento, la discriminación y los elevados costos comerciales. En respuesta a los llamados a comprender mejor cómo los entornos institucionales moldean la internacionalización de las mujeres emprendedoras, realizamos 33 entrevistas en profundidad en 13 países africanos. Nuestros resultados muestran que las fuerzas institucionales influyen significativamente en la toma de decisiones relacionadas con la exportación y que las mujeres suelen acceder a mercados extranjeros a través de relaciones transfronterizas de confianza, en lugar de recurrir a mecanismos formales de apoyo a la exportación. Aunque estas redes facilitan la participación en los mercados internacionales, también influyen en la forma y los destinos de exportación. Además, la exportación cumple propósitos sociales y culturales más amplios, al permitir que las emprendedoras apoyen a sus comunidades, expresen su identidad cultural y transformen las percepciones sobre las empresas africanas. Contribuimos a la literatura sobre emprendimiento internacional y comercio al demostrar que la exportación funciona como una forma negociada de escape institucional. En lugar de representar una salida completa de las restricciones institucionales, la participación exportadora está mediada por redes transnacionales informales basadas en relaciones personales, que facilitan el acceso a los mercados al mismo tiempo que moldean los procesos de internacionalización. De este modo, destacamos el papel dual de la exportación como oportunidad y como limitación para las mujeres emprendedoras que operan en entornos

institucionalmente complejos y abogamos por mecanismos de apoyo al comercio más inclusivos en África y en el conjunto del Sur Global.

Palabras Clave: mujeres emprendedoras – restricciones institucionales – redes informales – exportación – apoyo comercial inclusivo – África.

1. Introduction

Sub-Saharan Africa (SSA) boasts the highest rate of entrepreneurship globally. According to the World Bank (2019), women make up the majority of entrepreneurs in this region, underscoring their growing influence in the entrepreneurial landscape. However, despite the increase in women-owned businesses, these enterprises tend to underperform compared with those owned by men, particularly in profitability and job generation. Women-owned businesses typically employ fewer people (World Bank, 2019).

As noted by Ojong et al. (2021), African women entrepreneurs face significant challenges due to entrenched gender biases that expect them to prioritize childcare, household responsibilities, and familial traditions, while also adhering to conforming to societal and cultural expectations (Anambane & Adom, 2018; Gudeta & Van Engen, 2018; Isaga, 2019; Singh et al., 2010; Ukanwa et al., 2018). These gendered constraints are further compounded by institutional voids (Mair & Marti, 2009) and limited formal support systems (Ojong et al., 2021), which hinder business scalability and restrict access to opportunities.

Recent research by Pindado et al. (2023) suggests that exporting could help African entrepreneurs, particularly women, mitigate the effects of these institutional voids. By expanding their market reach, exporting is a crucial driver of business growth (Lu & Beamish, 2006). However, the gender gap in international trade remains pronounced in Africa. According to UNCTAD (2024), compared to men, African women generated only 25% of total domestic value added in gross exports in 2020, whereas this figure was nearly 40% in developed economies.

This disparity is also evident at the firm level. Analyzing data from 7,077 firms across 20 SSA countries, Moyo and Amusa (2026) found that female-owned and female-managed firms are considerably less likely to export. Furthermore, when they do export, they export a smaller share of their output than their male counterparts. The authors attribute these differences to unequal access to productive resources (such as finance), networks and opportunities, while broader societal and cultural norms continue to account for a significant unexplained portion of the disparity.

Within exporting, African women entrepreneurs encounter additional layers of barriers. They face multiple "at-the-border" constraints, such as discrimination, and often contend with higher trading costs than their male counterparts. Moreover, their "beyond-the-border" challenges, rooted in perceived roles related to homemaking and caregiving, further limit their mobility and flexibility. All of these factors contribute to reduced access to sustainable export-related opportunities (World Bank & WTO, 2020). Consequently, it is not surprising that many African women entrepreneurs depend on informal, relationship-based transnational networks for exporting (Lo, 2016; Ojong et al., 2021).

This reliance on informal relationship-based transnational networks underscores that the export behavior and decision-making processes of women entrepreneurs are influenced by a distinctive set of factors that may not affect men in the same way. As the World Bank (2019, p. 13) notes, "[f]emale entrepreneurs do not make business decisions in a vacuum. Rather, their business decisions differ systematically from those of male entrepreneurs because factors constrain them in a way that men are not." Women's lower participation in international markets cannot be explained solely by individual entrepre-

neurial capacity. Rather, it is shaped by the institutional and societal conditions that influence how women access markets and sustain exports.

Despite the significant challenges identified, there is limited research on how informal institutional environments influence the export strategies of African women entrepreneurs. Even less is understood about the trade-offs associated with relying on informal, non-strategic export pathways (Anngadwita & Indarti, 2024). Our paper addresses this research gap by investigating how institutional environments influence African women entrepreneurs' approaches to exporting and the consequences of their reliance on informal, relationship-based transnational networks for accessing global markets. We utilize Scott's (2013) institutional theory to explore how regulatory, normative, and cultural-cognitive forces shape women entrepreneurs' export decision-making.

Drawing on 33 in-depth interviews across 13 African countries (Mali, Cameroon, Uganda, Kenya, Benin, Burundi, Ghana, Nigeria, Tanzania, Namibia, Rwanda, Senegal, and Ethiopia), we respond to Anggadwita and Indarti's (2024) call for studies on women entrepreneurs' international behaviour and how they select export markets.

Our findings show how institutional forces shape African women entrepreneurs' export decisions. In particular, women entrepreneurs often prioritize export opportunities that are easy to access or arise opportunistically, reinforcing the limitations that they seek to escape or overcome. As a result, they may miss out on more profitable and scalable markets. At the same time, our findings reveal that, despite the challenges it presents, exporting empowers African women entrepreneurs to uplift others, express cultural pride, and reshape perceptions

of African businesses. Their strong sense of purpose and commitment to contributing to their communities reinforces their commitment despite ongoing institutional obstacles.

Drawing on the African business context, conceptualized as a "laboratory" for modifying and refining firm-level theory under conditions of heightened constraint (Barnard et al., 2017), this paper provides valuable insights for women entrepreneurs and policymakers across the Global South. By examining how institutional and gendered contexts shape African women's access to and participation in exports, we shed light on the challenges associated with advancing the inclusive trade policy agenda of the Global South. Insights from the SSA context underscore the need for a comparative, rather than siloed, approach to the design and implementation of inclusive trade support mechanisms that account for the ways institutional and gendered contexts influence women entrepreneurs' export decision-making.

The remainder of the paper is structured as follows: Section 2 presents the literature review, Section 3 outlines the research method, Section 4 reports the findings, Section 5 discusses them, and Section 6 concludes with policy recommendations.

2.- Literature Review

2.1 The outcomes of studies on African women entrepreneurship viewed through the lens of institutional theory

Institutional theory has proven highly effective in entrepreneurship research. Institutional theory helps explain how entrepreneurial success is influenced by forces beyond resource availability, such as culture, the legal environment, tradition, and history (Bruton et al., 2010; Su et al., 2017). Scott (2008, 2010)

structures institutional forces into a framework consisting of three pillars: regulative, normative, and cognitive–cultural. The regulative pillar includes formal rules, policies, and laws, while the normative pillar refers to the "social embeddedness of political and economic behavior" (Scott, 2010, p.6), encompassing societal values, norms, and expectations. The cultural–cognitive pillar encompasses shared conceptions and understandings that foster a sense of "taken-for-grantedness" (Scott, 2008, p.51).

As an institutional setting, Africa provides a rich context for applying the three pillars. Barnard et al. (2017) argue that the African context is complex, and African firms must navigate a range of strategic responses. African firms often develop specific behaviors to circumvent institutional voids to compete effectively and survive. However, when focusing on institutions, the lens used to examine the African context often overlooks the micro-perspectives of institutions – in other words, the individual's point of view (Kostova & Marano, 2019).

The literature on women's entrepreneurship in Africa shows that the regulatory environment, as defined by Scott's (2013) regulatory pillar, is a severe constraint on women's entrepreneurial activities. This constraint is more pronounced for women than for men because of factors such as women's financial exclusion, gender-based discrimination, and disproportionate caregiving responsibilities. Starting a business is a lengthy, burdensome, and expensive process (Amine & Staub, 2009). For example, obtaining licenses to operate in Tanzania entails many bureaucratic hurdles and high costs (Langevang et al., 2018). In some countries, such as the Gambia, tax rates are regressive (as in sales tax); they do not take profits and income into consideration (Della-Guista & Phillips, 2006). Beyond regulatory barriers, the business environment poses additional challenges. Ojong et al. (2021) explain that poor

road networks, water and electricity shortages, and corruption are prevalent in countries such as the Gambia, Nigeria, Ghana, South Africa, Cameroon, Rwanda, and Uganda.

Woldesenbet Beta et al. (2024), in their review of and future research agenda on women entrepreneurship in Africa, indicate that African women entrepreneurs are more credit-constrained than their male counterparts. This inhibits their ability to scale their businesses and overcome institutional challenges, for example, by investing in solar energy and hiring additional help to ease their household responsibilities. Women also face undue discrimination, as evidenced by Guma (2015). In his study of women entrepreneurs in Uganda's urban informal economy, Guma (2015) noted that women-owned businesses were subject to more bribery demands than businesses owned by men. In addition, they experienced high levels of harassment from city council officials. This type of gender-based discrimination that occurs in informal practices reinforces the formal institutional barriers that women face. In general, then, weak or hostile regulative institutions create uncertainty for African women entrepreneurs and make it difficult for them to access formal entrepreneurial ecosystems.

From a normative and cultural–cognitive perspective, traditional gender roles are deeply rooted in Africa. Research shows that African women entrepreneurs tend to employ more women in their businesses than their male counterparts (Okah-Efogo & Timba, 2015). This creates a social multiplier effect that enhances household welfare, as demonstrated by Nukpezah and Blankson (2017) and Friedson-Ridenour and Pierotti (2019), contributing to poverty alleviation (Ali et al., 2023). Furthermore, successful African women entrepreneurs have a long-term impact that reduces the gender wage gap (Chrysostome et al., 2024) because they are seen as role models for other women

entrepreneurs and often serve as mentors in their communities (Botha et al., 2007; Scott et al., 2012).

Beyond their contributions to societal welfare, African women's entrepreneurship also has a profound impact on these women as individuals (Ojong et al., 2021). For many, it is a means to achieve financial independence from their spouses, allowing them to meet their own and their families' personal care and consumption needs. This was highlighted by Swid et al. (2023) in their study of women entrepreneurs in Tanzania as the main reason they started their businesses. Furthermore, many women entrepreneurs take pride in their work, which contributes to elevated self-esteem and improved emotional well-being, as demonstrated by research conducted in Ghana and Nigeria (Dzisi, 2008; Mordi et al., 2010).

However, despite the powerful outcomes of African women's entrepreneurship, it often results in difficult trade-offs. This is because normative and cultural–cognitive institutions shape the lived realities of many African women entrepreneurs, and these realities may conflict with their strategies for growing their businesses. As mentioned, women entrepreneurs often struggle to balance work and family commitments (Matthee et al., 2023). For example, they are expected to prioritize household expenses and school fees over investing in the growth of their businesses, as Ukanwa et al. (2018) showed in their study of women entrepreneurs in rural Nigeria. Some women in Tanzania also lack support from their spouses once they become successful (Isaga, 2019). In Africa, cultural norms can further hinder their progress, as achieving success may be viewed (in Ghana) as disrespectful to their husbands (Anambane & Adom, 2018) or (in Nigeria) as incompatible with being seen as good wives and mothers (Singh et al., 2010). Gudeta and Van Engen's (2018, p.368) interviews with 31 Ethiopian

women entrepreneurs revealed "normative expectations on women to shoulder care and household responsibilities, as well as to fulfil societal roles and obligations". In another study of rural Nigerian women entrepreneurs, Akinbami and Aransiola (2016, p.161) note, "the respondents expressed that the men still assume the position of the headship in all areas of women's relationship with their husbands. They have no ability to make a free choice of the type of business to do and the location to operate their businesses due to cultural expectations."

Moreover, belief systems and cultural practices, such as widowhood practices and inheritance structures, make it more challenging for women to sustain their businesses. It is therefore evident that norms, societal expectations, and cultural beliefs reinforce gender disparities for African women entrepreneurs and have considerable implications for their business growth. These institutional constraints not only limit business growth but also African women entrepreneurs' ability to access formal pathways to international markets, which prompts the need for alternative approaches.

2.2 Exporting as a workaround practice

In challenging institutional contexts, African entrepreneurs develop "workaround practices" to navigate constraints and ensure business growth. These include political networking and the leveraging of kinship, family, and community relationships (Sydow et al., 2022). Expanding this logic, Pindado et al. (2023) argue that exporting itself can be a strategic workaround, while institutional voids also incentivize African entrepreneurs to internationalize as a form of "institutional escapism". Institutional escapism enables entrepreneurs to circumvent dysfunctional business environments and, by expanding market access, to expand their businesses. This tendency is even more

pronounced among African women entrepreneurs (Pindado et al., 2023), who face higher institutional barriers than men, such as harassment, financial exclusion, and disproportionate domestic burdens (Woldesenbet Beta et al., 2023).

However, the internationalization efforts of African women entrepreneurs are often not guided by conventional strategic decision-making based on factors such as market attractiveness, resource capacity, and strategic fit (Johansen & Vahlne, 2009). Instead, African women entrepreneurs tend to be reactive and rely on relational trust, prioritizing transnational networks when expanding their market reach (Ojong et al., 2021). For example, Gambian women entrepreneurs export garments to African women in the UK and USA (Della-Giusta & Phillips, 2006), while Senegalese women entrepreneurs utilize personal and social (diaspora) networks to export to New York (Lo, 2016). These examples illustrate how African women entrepreneurs export not through formalized strategies, but through personal, trust-based networks, often serving culturally similar customer bases abroad.

These informal, relational pathways into exporting reflect a form of networking bricolage that enables internationalization (Pindado et al., 2023). However, exporting is highly complex, and weak institutional contexts make it even more challenging (Matthee et al., 2023). For women, export challenges are amplified. A joint publication by The World Bank and WTO (2020, p.81) on the role of trade in promoting gender and equality explains why:

> Compared to men, women face many constraints that restrict their ability to trade and to realize the benefits of trade. Some of these barriers directly relate to how goods and services cross international borders, such as higher trading costs and

> discrimination that women can face at border crossings. However, "beyond-the-border" constraints are equally important. For example, women's limited access to education helps explain why their employment is concentrated in low-skill sectors such as textiles. Women entrepreneurs also have more difficulty than men in obtaining financing, especially for riskier activities such as trade. Ingrained gender bias for domestic tasks such as child rearing limits women's flexibility and mobility. These limitations can severely reduce women's access to trade-related employment and services.

As articulated by Anngadwita and Indarti (2024), these realities highlight a critical gap. To date, existing theories on internationalization do not adequately capture how the export behavior of African women entrepreneurs is shaped, not only by regulatory constraints but also by culture and values rooted in their unique business environments (Jafari-Sadeghi et al., 2021). As a result, the way in which environments shape African women entrepreneurs' approaches to selecting and entering export markets remains an unexplored area in the literature (Anngadwita & Indarti, 2024). This is echoed in Balzano et al.'s (2024, p.16) call for future research to uncover the opportunities and challenges that the institutional environment presents for SME internationalization, which will help to shape the understanding of "… how SMEs adapt to variations in the institutional context, as well as the mechanisms they use to overcome obstacles and capitalize on the advantages associated with internationalization".

Against this backdrop, our study aims to explore how informal institutional environments influence the export strategies of African women entrepreneurs, using Scott's institutional forces framework. The latter has been helpful in understanding the factors that influence export decision-making and behavior (see, for example, Hessels & Terjesen, 2010). We also intend

to shed light on the consequences of exporting, "a strategy for escaping the inefficiencies of the home market, allowing SMEs to leverage the relative stability and growth potential of foreign markets" (Balzano et al., 2024, p.14), relying on informal, relationship-based transnational networks to do so.

3.- Method

3.1 Data collection

The study was conducted in collaboration with eTrade for Women, a UNCTAD initiative aimed at empowering women digital entrepreneurs in emerging markets, including Africa. From November 2024 to March 2025, we carried out 33 in-depth interviews with African women entrepreneurs from 13 countries across SSA, reaching data saturation (Saunders et al., 2018).

Our sample included women entrepreneurs operating in diverse entrepreneurial ecosystems within SSA, reflecting variations in the perceived supportiveness of their entrepreneurial cultures. For instance, participants viewed the entrepreneurial cultures in countries like Kenya and Nigeria as relatively more supportive, while countries such as Mali, Burundi, Ethiopia, and Benin were perceived to be on the less supportive end of the spectrum. This contextual diversity enhances the study's relevance to the broader SSA landscape and informs the development of recommendations that address common challenges and opportunities faced by women entrepreneurs across the region.

The interview participants were selected through purposeful sampling based on the following criteria: (a) representation from various African countries, (b) agnostic to sectors,

(c) officially registered businesses generating revenue, and (d) provision of products or services. The sample comprised both exporting and non-exporting firms, offering valuable insights into export barriers, export intentions, and factors influencing future decisions regarding internationalization. To mitigate the risk of recall bias in these retrospective interviews, we triangulated responses with evidence from company documents (such as websites, presentations, and internal communications), discussions with two field experts, and relevant policy documents. Table 1 presents information about the participants, their businesses, and their export activities.

Table 1: Key information on participants

Entrepreneur (Entr) #	Country of origin (business)	Type of business	Business age (years)	Family status	Children	Product / Service	Export	Export Destinations	# min of recording
1	Mali (Mali)	Software Development	6	Married	Pregnant	Service	Not yet, but planning	Togo, Burkina Faso	23
2	Cameroon (Kenya)	E-commerce	10	Married	Yes	Product	Yes	US, Senegal, Cameroon	27
3	Uganda (Uganda)	Edtech	4	Married	Yes	Service	Yes	Ghana, Malawi, South Sudan	28
4	Kenya (Uganda)	Edtech	5	Single	No	Service	No		53
5	Benin (Benin)	Software Development	8	Married	Yes	Service	Yes	Mali, Ivory Coast	45
6	Kenya (Kenya)	Transport	5	Married	Yes	Service	No		58
7	Burundi (Burundi)	Education	2	Married	Yes	Service	Yes	Mali	20
8	Ghana (Ghana)	Agriculture	4	Single	No	Product	Yes	Togo, Benin, Nigeria, Kenya	46
9	Kenya (Kenya)	Tech Consultation	11	Married	Yes	Service	Yes	Uganda, Sierra Leone	34
10	Benin (Benin)	Edtech	10	Married	Yes	Service	Yes	Togo	49
11	Nigeria (Nigeria)	Logistics	5	Single	No	Service	No		52
12	Nigeria (Nigeria)	HR Consulting Technology	6	Married	Yes	Service	Yes	UK, Dubai, Ghana, Kenya	43
13	Kenya (Kenya)	Natural Beauty Products	8	Married	Yes	Product	Yes	US, South Africa	55
14	Uganda (Uganda)	Talent Marketplace	4	Married	Yes	Service	No		56

15	Nigeria (Nigeria)	E-commerce	2	Married	Yes	Service & Product	Yes	China	45
16	Uganda (Uganda)	E-commerce	7	Married	Yes	Service	Yes	Kenya, Tanzania	53
17	Cameroon (Cameroon)	Edtech	5	Married	Yes	Service	No		32
18	Kenya (Kenya)	E-commerce	9	Single	No	Product	Yes	Nigeria, Kenya	57
19	Kenya (Kenya)	E-commerce	12	Single	No	Product	Yes	US	46
20	Tanzania (Tanzania)	Software Development	3	Single	No	Product	Yes	Kenya, Nigeria, Uganda	35
21	Kenya (Kenya)	E-commerce	6	Single	No	Product	Yes	South Africa, DR Congo, US	45
22	Kenya (Kenya)	Digital Marketing Agency	15	Single	No	Service	No		53
23	Kenya (Kenya)	Jewelery	4	Married	Yes	Product	Yes	US	33
24	Nigeria (Nigeria)	Talent Marketplace	5	Single	No	Service	No		49
25	Kenya (Kenya)	Jewelery	5	Married	Yes	Product	Yes	US, Germany, Nigeria	31
26	Kenya (Kenya)	Job Profiling Platform	4	Divorced	Yes	Service	Yes	Zambia, Ivory Coast	51
27	Namibia (Namibia)	E-commerce	6	Widowed	Yes	Product	Yes	South Africa	51
28	Rwanda (Rwanda)	E-commerce	3	Married	Yes	Service	No		48
29	Senegal (Senegal)	Digital Services	6	Divorced	Yes	Service	Yes	Switzerland, Ivory Coast	54
30	Senegal (Senegal)	E-commerce	5	Married	Yes	Service	Yes	US	34
31	Nigeria (Nigeria)	Transport	6	Single	No	Service	Yes	Ivory Coast	59
32	Kenya (Kenya)	Fintech	7	Married	Yes	Service	Yes	Uganda	55
33	Cameroon (Ethiopia)	Fashion	5	Married	Yes	Product	Yes	Kenya, Nigeria Togo, Ivory Coast	42
Total									1,463

Source: Authors' own

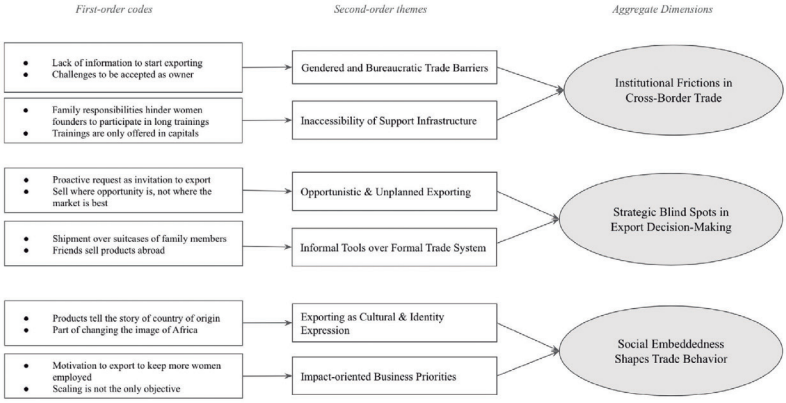
All interviews were recorded, transcribed, and coded using the MAXQDA coding software. At the beginning of each interview, we informed the participants that the research was academic in nature and assured them that all personal information would be anonymized to encourage open communication. To establish an atmosphere of open sharing, we began with exploratory questions such as "Why did you start your business?" and "What goal do you want to achieve with your business?" These were followed by questions customized to our research question. For example, we asked, "How would you describe your experience exporting your products/services?"

As the data-collection process progressed, we compared the emerging evidence with institutional theory literature and literature on African women entrepreneurship (see, for example, Bruton et al., 2010; Ojong et al., 2021) and with literature on exporting as a strategic workaround practice (see, for example, Pindado et al., 2023). Therefore, the interview questions focused on understanding how women entrepreneurs overcome institutional barriers to starting to export. Key questions during the interviews included "How do you overcome these challenges to starting to export?" and "How do you organize and plan to export your products/services?"

3.2 Data analysis

We conducted our data analysis using the analytical framework developed by Gioia et al. (2013). The framework has three stages designed to establish a clear connection between empirical observations and existing theoretical concepts, thereby generating novel insights. Our final coding structure is illustrated in Figure 1.

Figure 1: Aggregated Themes



Source: Authors' own

Step 1:

Open coding. First, we created two lists: one of key challenges to engaging in exporting and one of key practices shared by our interview partners. To ensure consistency, we discussed identifying these items between both authors (Larsson, 1993). After each interview round, we implemented an "open coding" procedure (Strauss & Corbin, 1998). During this process, we carefully examined the interview transcripts and established a dataset of codes. Each code consisted of a concise description encapsulating the essence of a text segment (i.e., in vivo codes; see Gioia et al., 2013). We then merged similar codes and developed first-order categories that reflected the "concepts in use" of our respondents (Gephart, 2004).

Step 2:

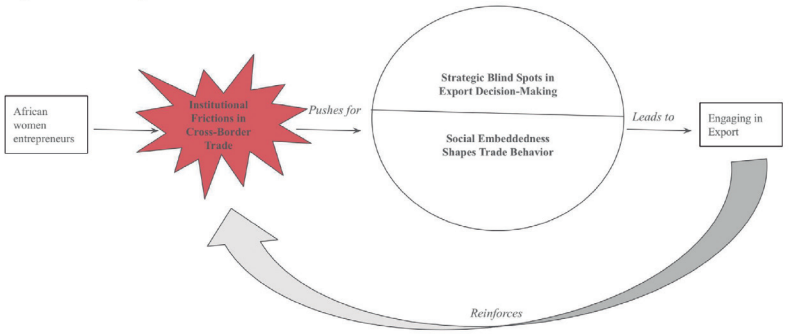
Axial coding. For the coding, we followed an abductive approach, repeatedly moving back and forth between the data and established theory. This iterative method was designed to establish connections between emerging themes and pre-exis-

ting theoretical frameworks (Gioia et al., 2013). For example, we created initial categories influenced by institutional theory (e.g., Ojong et al., 2021) and export as a workaround practice (e.g., Pindado et al., 2023) to generate first-order codes. At this stage, we tried to remain close to our data, as seen in the following first-order codes: "Proactive request as invitation to export" and "Scaling is not the only objective". Then we clustered conceptually overlapping first-order categories into second-order themes that represent key elements of how institutional environments influence the export strategies of African women entrepreneurs. The two authors collaborated closely to compare and discuss the emerging coding structures based on empirical evidence.

Step 3:

Aggregate dimensions. Once we had obtained a set of second-order themes, we further grouped these themes into aggregate dimensions representing new theoretical constructs (Gioia et al., 2013). For instance, we combined "opportunistic & unplanned exporting" and "informal tools over formal trade system" into the aggregate dimension of "strategic blind spots in export decision-making". Throughout this process, we continually went back and forth between existing theories and our findings to relate the two. Based on close discussions between both authors, reflected against the literature (e.g., Bruton et al., 2010; Pindado et al., 2023), we subsequently developed a model (see Figure 2) that depicts how African women entrepreneurs engage in cross-border trade while facing institutional voids.

Figure 2: Conceptual Framework



Source: Authors' own

4. Findings

The findings from our study offer valuable insights into how institutional environments influence the export strategies of African women entrepreneurs. Our analysis of 33 in-depth interviews revealed three key categories reflecting the structural conditions, coping mechanisms, strategic limitations, and cultural logics shaping women's export behavior.

4.1 Institutional frictions in cross-border trade

Gendered and bureaucratic trade barriers

Our findings showed that women entrepreneurs in various African countries face significant challenges when navigating formal export channels. These challenges stem from various factors, including regulatory complexity, opaque procedures, and gender discrimination during entry and engagement processes. Many participants reported a general lack of accessible information and systemic exclusion from institutional support. For example, a woman entrepreneur from Burundi stated:

> "And also they change all the time the laws, the policies and the laws, and it's discouraging people to do anything." (Entr #7)

Another entrepreneur from Ghana mentioned that regulations are constantly changing and that receiving feedback from local institutions regarding exports is difficult. During our interview, she shared some of her previous experiences.

> "Ghana Post, sending items to Togo, to Benin, you go there – no, you call them, they don't answer. You call them because you want to get information, how should the item be packaged, what can't I put in the package, what are the restrictions? How many days will it take for the item to get there? My items are seeds. What condition is it going to be exposed to a lot of heat, because heat will have an impact on the seeds, and all of that. They don't answer their phones. Forget about emails, because that doesn't work, if the phone doesn't work, email isn't going to work. Ja, so getting information from them is hard. Now you eventually go there with your product, and some of them are super rude, they forget that not everyone uses the mailing system, their … [indistinct] system, no, everyone does it. And they are not ready to give you information, they just want you to bring your package and then be serving, they are done. They don't want to provide information; they don't want to assist you." (Entr #8)

Similarly, a woman entrepreneur from Kenya suggested providing clear information online to ensure everyone has easy and affordable access.

> "So, first of all, that kind of information is very clearly available digitally, because again, maybe you don't want to keep going physically to the offices. So, first of all, when that information is there, then now it points you to a direction to know where to go. And then ideally now those offices just have proper processes and systems that work, having the right team

> of people who are there, guys who have the skills, you know." (Entr #21)

However, some participants reported challenges gaining acceptance as the owner when engaging with various stakeholders throughout the export process. For example, one woman entrepreneur from Mali said:

> "It's not easy every day because we have a very cultural situation. At the beginning, I had some – here in Mali, we have the social thing is like people just see your age. Even if you hire someone, this one will see maybe she's younger than me and who will try to, how to call it, who will try maybe to not accept everything you say and try to play with the fact that you – okay, I shouldn't respect you as you are my boss, but you should respect me because I'm older than you." (Entr #1)

A Kenyan woman entrepreneur described a situation in which she was negotiating with a new export client. However, during the conversation, the client insisted on speaking with one of her male colleagues. She explained:

> "And I don't feel like how you treat a trophy, we are wrapped in a development company where we would develop and install systems, customer systems. I remember this time I marketed our product, and the client was interested, we scheduled the online, so the person didn't know who he was talking to. Ooh, and he came to the office and saw – he was told he was supposed to talk to me, I'm the one who's doing the system. He looked at me and said he wanted to talk to a guy." (Entr #9)

Inaccessibility of support infrastructure

Beyond formal trade barriers, the women entrepreneurs often described how social expectations and spatial location hindered their ability to increase exports. Throughout our in-

terviews, women spoke about the difficulty of finding time for training, as they were already struggling to devote enough time to their businesses. One founder shared her thoughts:

> "Because yes, I have experienced some bias because I'm a woman, for instance, in Senegal and in a lot of other countries, the women have a lot of responsibilities at home, so it's quite difficult to find a balance between the professional life and the private life. So, I think this is quite a bugger because as a woman you are always judged, for instance if you don't work, they will say, oh, you can't participate when there are bills to pay, you don't do anything. If you work, they say, no, you will not take care of the children. So, whatever you do, you are judged, so you just have to be stronger." (Entr #29)

A second challenge encountered was access to support infrastructure, as most support services, such as training and networking, were organized in capital cities. For example, a woman entrepreneur living on the Kenyan coast explained:

> "…because when you are working from the coast you tend to be isolated. That worked against me, but …[indistinct] it's scary moving to Nairobi." (Entr #22)

4.2 Strategic blind spots in export decision-making

Opportunistic and unplanned exporting

Many women in our study relied on relationships rather than formal analysis when engaging in exporting. As a result, export decisions often emerged reactively, whenever an existing contact or request arose, rather than through deliberate market selection or long-term planning. One founder from Ghana explained how a single-family connection had sparked cross-border sales.

> "So, some of them were Ghanaians who had moved to Benin, or who lived in Benin as well. So, the first few were like, okay, I'm going to Benin, my sister wants to do gardening, I would like to have some seeds. So, they buy it and they send it, then the next time, because she liked it, recommendation, they then called and like, okay, this person told me about you, I want this, I want that, that kind of thing. And so, it was mostly recommendations and the impact projects we did, yes, that helped us get that far." (Entr #8)

Instead of targeting high-potential markets, she and others simply extended the supply to any location where social ties emerged.

> "We do sell to Togo, Benin, Nigeria, and to just a few – Kenya and Côte d'Ivoire. We just pop in a few of them. That happened after we did an impact project and a program that we do every year. So, it was free, we trained people on agriculture, how to plant, how to grow your own veggies at home and all of that. We gave them free stuff, free seeds and everything. Some people picked it up from Ghana and transferred it, others wanted us to send it by DHL, FedEx and all of that, and post, Ghana Post." (Entr #8)

Informal tools over formal trade systems

Several participants noted that inefficient systems make Pan-African commerce cumbersome, even when regional demand exists. One Kenyan woman entrepreneur described workaround practices to overcome some logistical barriers.

> "Now imagine – and it's purely B2B. And there's a lot of cross-border trade that is already happening, but the process is so inefficient. Like in Nigeria, I know there are Kenyans who have to buy plane tickets to come to Nigeria to shop for Shea butter, hair and fabric. Why can't they just order from their

> phones, or like from the web? And even then, when they do that, they still have to experience the payment challenges." (Entr #18)

Owing to the slowness and cost of formal systems, entrepreneurs rely on trusted contacts abroad to transport and sell goods.

> "Yes, yes, I do. I sell through friends, and also, I'd include this opportunity from Switzerland, I was able to also get to build some networks, through friends, acquiring friends, and they've been able to buy products. I have friends and family in the US, Canada, where I also sell to them. For now, it's just referrals from these friends and families." (Entr #23)

The challenge was further compounded by regulatory uncertainty. Confronted with constantly changing export restrictions, some women entrepreneurs stored inventory with family members outside their home countries to ensure they could meet their orders.

> "Yes, so I sell from my website, and in order to be able to ship, since sometimes regulations change in Ethiopia, some things are not – you can't ship certain things at some point. For example, right now we can't ship jewelry, a few months ago we couldn't ship leather. So, since it's always changing, I have a stock of things in France at my brother's place. So, whenever there's an order on the website, all of that stock is in France, and I only post on the website what is available there, so it makes it very easy to ship." (Entr #33)

Additionally, this Ethiopia-based entrepreneur mentioned that shortages due to foreign-currency volatility can be avoided by having friends or family members import or export products in suitcases.

> "And when you don't have access to foreign currency in the bank, even if you have a foreign currency account, you can't import, you can't get a letter of credit, so that will affect your …[inaudible]. So, I'm fortunate that I don't import through these official channels, because I don't need to bring in four containers or whatever, I bring in suitcases of things or whatever." (Entr #33)

4.3 Social embeddedness shapes export behavior

Exporting as an expression of culture and identity

Women entrepreneurs consistently framed their export activities as part of a broader narrative of social responsibility, cultural identity, and community engagement. They viewed exporting not only as a business move but also as an extension of their social commitments.

During our study, we noticed that exporting became a vehicle for cultural storytelling and nation branding. One designer–entrepreneur, who had travelled extensively across the continent while working for the African Development Bank, explicitly framed her venture as a "love letter to Africa."

> "I decided that I wanted to create a brand, to create something that would be a love letter to Africa. Because having spent five years with that organization, that was actually the African Development Bank, I had travelled all over the continent, and I had seen the amazing resilience, the creativity, all of our traditions, our culture as Africans, and I knew I wanted to create some kind of a business, I knew I wanted to do something creative. I didn't know what, I didn't know how, but when I decided to resign and move back to Ethiopia, which was my home base, it was just very clear that I had to create something artistic, focus on Africa, and that's how the brand came about." (Entr #33)

Similarly, a Cameroonian woman entrepreneur who fell in love with Kenya shared her passion for showcasing a more attractive image of the country through exports.

> "And I also have another product, it's calling Kenya for You, it's to promote Kenya, because I'm really, really fell in love on this country, I really like Kenya. And now I feel let me organize some business … [indistinct] in Kenya, because Kenya has a lot of opportunities that most of the people, especially the French speaker, didn't care about Kenya. It's sad." (Entr #2)

Beyond creating individual brands that better represent certain African countries, several women saw exporting as a way to correct reductive external narratives about their home countries.

> "But sometimes it also comes from a place of, to borrow your word, ignorance, that people just don't know the full story of Africa. People have singular narratives of Uganda, or singular narratives of East Africa, you see?" (Entr #14)

Impact-oriented business priorities

In addition to showing that exports are an expression of culture and identity, our results revealed that most women entrepreneurs prioritize impact-oriented goals for business growth. One woman entrepreneur from Nigeria explained how she worked with her employees to improve their lives.

> "And I tried the model we have, how can we train her, give her access to a smartphone, help her trade, and let's see if it does increase her income. Guess what, in less than three months, this woman was making thousands of dollars. She has moved houses, she had put her children in school, she had employed about 10 more women in her community, you know, it was just brilliant." (Entr #15)

Others framed entrepreneurship as a duty to mobilize and empower wider producer networks. A Kenyan agritech founder recalled learning this lesson from a mentor who had integrated hundreds of smallholder farmers into export supply chains.

> "So, for me, this taught me that entrepreneurship does not just have to be about you, but you also need to create an impact, like the way he was able to mobilize farmers, empower them and also help them find a market for the silk they were producing." (Entre #16)

For many, scale was measured in livelihoods rather than revenue. One fashion entrepreneur explained that her ambition to export was driven by the number of artisans she could sustainably employ.

> "Okay, so this is – you know, one of the things that drives me is the number of artisans that I work with. So far at our level here right now, as we speak, I work with about eight or nine, some part-time, some we bring only when we – but then I have five full-time tailors. My dream is to work with 100–200, which means I will be doing large-scale, and this is why I'm really going for exporting." (Entr #19)

The women entrepreneurs also emphasized the motivational power of seeing concrete improvements in their employees' lives.

> "And then the people that are actually earning – getting employment and earning their – contributing positively to life knowing fully well that they are doing something meaningful with their lives, you see the people that you've been able to give access to jobs that they probably would not have had, and these are just some of the things that keep me going and also motivated." (Entr #11)

5. Discussion

Our study examined how institutional frictions in cross-border trade influence African women entrepreneurs' export decision-making and how reliance on informal, relationship-based transnational networks shapes export behavior. The findings suggest that exporting is not merely a route to business growth but also a means of navigating institutional voids, albeit one characterized by limitations and gender-specific constraints.

Consistent with Pindado et al. (2023), our findings suggest that African women entrepreneurs often use exporting to navigate, bypass, or partially escape institutional constraints. However, this escape is negotiated rather than absolute. While prior research has characterized exporting as a form of institutional escapism (Pindado et al., 2023), our findings suggest that such escape is facilitated through informal, relationship-based transnational networks. Rather than providing a complete departure from institutional constraints, these networks enable entrepreneurs to navigate them while remaining shaped by the same institutional environments they seek to overcome.

The findings show that women entrepreneurs operate within regulatory, normative, and cultural-cognitive institutional environments (Scott, 2010) that constrain their export options. Regulatory systems are often perceived as unclear and inconsistent, while access to information and formal support mechanisms is frequently limited (Matthee et al., 2023). At the same time, societal expectations place disproportionate domestic and caregiving responsibilities on women, affecting the time, mobility, and resources available for business activities (UNCTAD, 2025). Together, these institutional frictions make accessing foreign markets through formal channels particularly challenging.

As a result, exporting frequently emerges through existing relationships and opportunities rather than through systematic market planning. Participants often described entering export markets through referrals, trusted contacts, family members, and friends located abroad. Export participation, therefore, appears to be shaped less by formal export-planning processes and more by the practical need to overcome institutional constraints. Rather than preventing export engagement, institutional frictions influence how export decisions are made and the pathways through which internationalization occurs.

In this context, informal, relationship-based transnational networks become important mechanisms for accessing foreign markets. They provide trusted relationships, customer referrals, and market information that help entrepreneurs navigate the uncertainty associated with cross-border trade. Consistent with Ojong et al. (2021), these networks may also provide access to advice, ideas, and opportunities that are difficult to obtain through formal export-support systems. In this sense, they function as substitutes for institutional resources that are inaccessible, ineffective, or absent. This observation aligns with Matthee et al. (2023), who found that women exporters often create a "shadow" or informal export ecosystem to facilitate internationalization.

While these pathways facilitate export participation (Lo, 2016; Ojong et al., 2021), they also shape export behavior. Export opportunities often arise through social relationships rather than through deliberate market exploration. Consequently, entrepreneurs may not always engage in exporting in ways associated with structured export expansion. The benefits derived from exporting, therefore, depend not only on access to foreign markets but also on the institutional conditions and relational pathways through which market access is achieved.

Exporting, in this sense, does not automatically generate the developmental and firm-level benefits commonly associated with internationalization (Lu & Beamish, 2006). As Balzano et al. (2024) suggest, when SMEs enter markets characterized by similar institutional constraints, they may not benefit from the stability and growth potential often associated with international expansion. The effectiveness of exporting thus remains contingent upon the institutional environment in which export activities are embedded.

Our findings further suggest that export opportunities frequently emerge through relational ties rather than through explicit assessments of market potential or long-term positioning. While these socially embedded pathways facilitate market access, they may also narrow the range of opportunities entrepreneurs pursue. This points to the possibility of a self-reinforcing dynamic. Because informal transnational networks offer immediate, practical solutions to institutional constraints, entrepreneurs may continue to rely on established relationships when engaging in export activities. Over time, export participation may become increasingly shaped by these networks rather than by formal institutions or systematic market exploration. This recursive relationship represents a central contribution of our study and helps explain why exporting functions simultaneously as both an opportunity and a constraint.

The persistence of this pattern is further explained by Scott's (2013) normative and cultural-cognitive institutional pillars. Women entrepreneurs described substantial domestic care responsibilities, difficulties attending training programs, challenges accessing urban-based support networks, and ongoing social judgement regarding work-family roles. These findings align with earlier studies (Anambane & Adom, 2018; Gudeta & Van Engen, 2018; Isaga, 2019; Singh et al., 2010)

and illustrate how export behavior is socially embedded rather than purely economically rational. Decisions concerning export participation, business growth, and engagement with support mechanisms are shaped not only by economic considerations but also by family obligations, social expectations, and gendered norms. The pursuit of growth through exports may therefore involve significant personal trade-offs that further complicate entrepreneurial decision-making.

At the same time, the findings reveal that exporting serves purposes extending beyond commercial objectives. Many participants viewed exporting as a means of expressing cultural identity, reshaping external perceptions of African countries, creating employment, and contributing to community development. Exporting was frequently associated with the empowerment of artisans, producers, and local communities. These findings suggest that export participation is often motivated by broader social goals in addition to economic ones (Lashitew et al., 2024). Export engagement, therefore, cannot be understood solely through conventional economic lenses that prioritize growth, profitability, and market expansion. Instead, exporting also serves symbolic, social, and identity-related functions that reflect the broader embeddedness of entrepreneurship within community and societal contexts.

However, these socially oriented motivations do not remove the constraints identified above. Rather, they coexist with them. Exporting enables women entrepreneurs to access foreign customers, pursue social impact, and navigate institutional barriers, yet it remains shaped by the same institutional conditions they seek to overcome. Through informal, relationship-based transnational networks, women entrepreneurs gain access to international markets despite institutional frictions. At the same time, these pathways continue to reflect and reproduce

the influence of the institutional environments within which their export activities are embedded.

6.- Conclusion and Policy Recommendations

In conclusion, our findings from 33 in-depth interviews highlight the dual role of exporting for African women entrepreneurs operating under institutional constraints. Institutional frictions in cross-border trade, including regulatory complexity, limited support infrastructure, gender discrimination, and competing domestic responsibilities, constrain access to formal export pathways. In response, women entrepreneurs adopt exporting as a workaround strategy, relying on informal, relationship-based transnational networks to access foreign markets. These networks provide access to customers, information, referrals, and trusted relationships, enabling women entrepreneurs to navigate institutional barriers and participate in international trade.

At the same time, these informal relationship-based transnational networks shape export behavior. Export opportunities frequently emerge through existing relationships and referrals rather than through systematic market exploration, reinforcing the socially embedded nature of export decision-making. As a result, institutional frictions influence not only whether women export, but also how they export and the markets they enter. This suggests the possibility of a self-reinforcing dynamic in which established relationships continue to shape export participation over time.

Exporting, therefore, functions as both an escape and a burden. Through informal relationship-based transnational networks, women entrepreneurs are able to bypass some of the limitations of their domestic environments and gain access to

foreign markets. Yet export participation remains shaped by regulatory hurdles, social expectations, and continued reliance on these networks. Rather than representing a complete escape from institutional voids, exporting functions as a negotiated response to institutional constraints, creating opportunities while simultaneously reflecting the continuing influence of those constraints.

Finally, our findings show that exporting serves purposes extending beyond economic growth. For many participants, exporting was also a means of expressing cultural identity, promoting positive narratives about Africa, creating employment, and contributing to community development. Exporting, therefore, carries both economic and socio-cultural significance, reinforcing the broader embeddedness of entrepreneurial decision-making within institutional and community contexts.

A key contribution of this study is the identification of informal, relationship-based transnational networks as critical enablers of export participation among African women entrepreneurs. In institutionally constrained environments, these networks provide access to customers, information, referrals, and trusted relationships that facilitate cross-border trade. By demonstrating how social embeddedness shapes export behavior, this study contributes to the international entrepreneurship literature and extends existing work on institutional escapism. While prior research has portrayed exporting as a means of escaping institutional voids, our findings suggest that this escape is mediated through informal transnational networks that both enable and constrain internationalization. Exporting, therefore, is best understood not as a complete escape from institutional constraints, but as a negotiated response to them.

We offer five key policy recommendations to better support African and other women entrepreneurs in the Global South who are engaged in or considering entrepreneurship-driven exporting.

First, governments and trade-support institutions should implement gender-responsive export policies and flexible export-readiness programs that accommodate women entrepreneurs' business and caregiving responsibilities through accessible online, modular, and community-based delivery formats.

Second, policymakers should strengthen formal trade-support systems while recognizing the value of informal, trust-based transnational networks. Simplified export procedures, transparent and digitized trade information, accessible customs support, and targeted assistance for first-time exporters can reduce dependence on informal channels while preserving their benefits, including trust, referrals, and market intelligence. At the same time, entrepreneurs require support to navigate regulatory compliance, product standards, taxation requirements, and other formal trade obligations necessary for sustainable export growth.

Third, trade-support services should be decentralized through regional export-support hubs, local mentoring programs, mobile advisory services, and community-based training initiatives. Such measures would improve access to information and support for entrepreneurs located outside major urban centers.

Fourth, policymakers should invest in digital trade capabilities, including digital infrastructure, e-commerce training, digital payment systems, and online export-support platforms. These interventions can expand access to foreign markets and trade-related information while providing more formal and

scalable pathways into international markets. Digital tools should complement, rather than replace, existing transnational networks.

Fifth, export-promotion organizations should recognize both economic and social outcomes. Since many women entrepreneurs pursue exporting to create jobs, empower communities, and promote cultural identity, trade-support programs should incorporate social-impact objectives alongside conventional export-performance measures.

More broadly, our findings suggest that policymakers should view reliance on informal export networks as a symptom of institutional shortcomings rather than a substitute for effective trade-support systems. While these networks provide important pathways into international markets, long-term policy efforts should focus on reducing the regulatory, informational, and infrastructural barriers that necessitate such workarounds. Although this study focuses on women entrepreneurs in Africa, the findings have wider relevance across the Global South. They show that exporting can create opportunities for market access, cultural expression, and social impact, while remaining shaped by institutional and gendered constraints. Recognizing this tension is essential for developing more inclusive trade-support systems that enable women entrepreneurs not only to enter export markets but also to participate in them more effectively and sustainably.

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Gender-differentiated trade data: Comparison of data collection methods

Datos comerciales desagregados por género: comparación de los métodos de recolección de datos.

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Mikaela Similä**

Abstract

Women and men are affected differently by international trade and trade policy. To accurately identify and estimate the impact of trade on women and men, and their differential engagement in trade, it is necessary to collect and analyse trade data that are disaggregated by gender. This paper examines data collection systems used to measure women's engagement in trade and the type of analyses they allow. This is achieved by highlighting different data collection methodologies used across countries, the resulting data available regarding women's participation in trade as workers, business leaders and consumers, and the comparative challenges posed by distinct methodological approaches.

Keywords: sex-differentiated trade data – gender-differentiated trade data – data collection systems – data methodologies.

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Resumen

Mujeres y hombres son afectados de manera diferente por políticas comerciales y el comercio internacional. Para identificar de manera precisa y estimar el impacto del comercio sobre mujeres y hombres, y su participación diferenciada en el comercio, se necesita recolectar y analizar datos de comercio que se encuentren desagregados por género. Este artículo examina los sistemas de recolección de datos utilizados para medir la participación femenina en el comercio, junto con los tipos de análisis que ellos permiten realizar. Esto es conseguido destacando diferentes metodologías de recolección de datos utilizadas en diferentes países, los datos disponibles resultantes sobre participación femenina en el comercio como trabajadoras, líderes de empresas y consumidores, y los desafíos comparativos planteados por los distintos enfoques metodológicos.

Palabras Clave: Datos de comercio diferenciados por sexo – datos de comercio diferenciados por género – sistemas de recolección de datos – metodologías de datos.

Introduction

Women and men are affected differently by international trade and trade policy due to differences in their representation within the economy and to various social inequalities (National Board of Trade Sweden 2020). To accurately identify and estimate the impact of trade on women and men, and their differential engagement in trade, it is necessary to collect data that are disaggregated by gender[1]. Collecting gender-disaggregated data is essential to expose hidden gaps, direct resources accurately and improve policymaking through more targeted solutions.

Specifically, gender-differentiated data is essential for analysing women's participation in trade as employees, as business leaders and owners, and as consumers. This data can be collected from a variety of sources including economic, population, and agricultural censuses, household surveys, ad-hoc surveys of business owners and managers, as well as business and administrative registers (UNCTAD 2019). One example of the types of analyses that can be undertaken using such data is the OECD's *Trade and Gender Review of Latin America*, an analysis of women's engagement in trade and its impacts on them in seven countries in Latin America (OECD, 2025). It uses available sex-differentiated data to explore gaps in women's participation in trade as workers and business leaders, examines impacts of trade on different types of households, including those led by women when data are available, and relevant trade policy settings. This analysis serves as a basis for a series of policy

1 For the purposes of this paper, the words "sex-differentiated" data and "gender-differentiated" data are used interchangeably. While gender interacts with sex, sex is based on biological attributes of males and females, whereas gender is a social construct which is broader than sex and is informed by roles, norms and concepts of masculinity and femininity. "*Gender statistics are defined as statistics that adequately reflect the differences and (in)equalities in the situation of women and men, girls and boys*" (UNSD, 2022).

recommendations for consideration by the governments of the seven Latin American countries examined.

There has been an international impetus in recent years to enhance data collection related to engagement in trade of sub-groups within society, including women. Many countries have combined existing datasets, or started new surveys, to shed light on the engagement of women in trade and the differential impacts of trade on women and men. Gender-differentiated data and data methodologies have been a key pillar of the work plan of the WTO Informal Working Group on Trade and Gender since its inception in 2020. The OECD Gender Data Initiative aims to examine gaps in gender-differentiated data across a wide range of thematic areas, establish guidelines for gender data development, coordinate updating of gender-differentiated data, and strengthen countries' capacity to collect, curate and use gender data. The relative lack of gender-differentiated trade data has been a point of discussion in many fora including the WTO Informal Working Group on Trade and Gender, 2025 APEC Women and the Economy Forum, OECD Friends of Gender Equality+ and the 2024 G20 Trade and Investment Track.

The OECD, along with UN-ECLAC, held a workshop in Santiago, Chile in May 2025 to discuss data collection and methodologies and share experiences of data linking, survey design and challenges faced in calculating and collecting sex-differentiated data among data scientists and analysts in Latin America. Those discussions were informed by a preliminary version of this paper; and this revision has been informed by those discussions.

The aim of this paper is to examine data collection systems used to measure women's engagement in trade and shed light on the type of analyses they allow. This is achieved by highlighting

different data collection methodologies used across countries, the resulting data available regarding women's participation in trade as workers, business leaders and consumers, and the comparative challenges posed by distinct methodological approaches. In general, there is no one-size-fits-all or 'best practice' that can be easily transferred from a statistical system in one country to another. The countries examined in this study are: Brazil, Canada, Chile, Finland, Mexico, New Zealand and Sweden. Also included is a cross-country data source, the OECD's Trade in Employment by characteristics (TiMBC). These case studies were chosen to illustrate the range of administrative, survey-based and synthetic data sources and different methods of data linking, aggregation and compilation. This overview is far from comprehensive and does not purport to cover all countries' gender-differentiated data sources and methodologies. Other examples include Uruguay's ad hoc survey of exporting enterprises, Georgia's microdata linking at the sectoral level, United States' data linking of US Census data with trade data, the UNCTAD–UNECA–UNECE microdata-linking project piloted in Cameroon, Georgia, Kazakhstan, Kenya, Senegal and Zimbabwe, and the World Bank's Enterprise Surveys, among many others.

This study extends the evidence base covered in UNCTAD's *Compilation guidelines for measurement of gender-in-trade statistics* (UNCTAD, 2023) which itself builds on *Towards a conceptual framework for measuring gender-in-trade in official statistics* (UNECE, 2019a). This paper aims to tease out differences between data sets' methodologies and reflects on potential for greater harmonization and comparability; as such, it could inform efforts to calculate and collect gender-differentiated data at the national level. It can also inform analysts and other users of gender-differentiated trade data of the challenges they

may encounter using different types of data and the potential for comparative analysis.

The challenge across all countries and data providers is to obtain data related to trade along with that reflecting business characteristics, such as the employment of women in exporting firms and the gender of firms' leaders and owners. This is obtained using a variety of methods which depend on countries' data collection histories, the resources and priority put to collecting such data, and data protection practices. Typical data collection methods include administrative data, business registries, business surveys, labour force surveys and customs data.

To analyse women's role in trade, it is often necessary to integrate data from different sources. This is particularly the case when combining administrative sources with customs data, as seen, for example, in Brazil and New Zealand. New Zealand collects individual-level and firm-level data on employees and firm characteristics as well as customs data on goods exports and imports. Linking these datasets enables an analysis of women's engagement in trade in two important roles: as employees and as business leaders. A similar approach is adopted by Brazil, where foreign trade data is combined with employment and corporate structure data to analyse women's roles as employees and business leaders. However, these analyses primarily focus on trade in goods, thereby limiting insights into women's engagement in trade in services.

In contrast, Finland and Sweden largely rely on register-based systems for data collection and linkage. Registers facilitate the integration of data on foreign trade from company databases with individual-level data on employees and business owners. This approach allows for a comprehensive analysis of women's participation in trade across both goods and services, covering

the entire registered population and reducing the need for assumptions on business' leaderships. It is not, however, a system that is well suited to taking account of informality in labour markets and economies.

Data linkages between administrative sources and surveys are also common. For instance, Chile and Mexico combine multiple administrative sources with surveys to provide analyses of women's participation in trade. Chile's approach facilitates the analysis of women's role as business leaders, while Mexico's approach allows for an analysis of women's role as employees. Mexico's analysis is restricted to manufacturing trade, while Chile surveys total trade.

Moreover, several studies have integrated gender-differentiated data into modelled scenarios of trade policies to analyse the impacts of trade on women's employment and other job characteristics. In this paper, Canada and Sweden exemplify such studies as they employ regression methods to analyse the impacts of trade on women workers. Additionally, modelled scenarios to analyse impacts of trade scenarios on women consumers exist for New Zealand.

The OECD and others have utilised input-output tables to measure men's and women's differential engagement in trade throughout the value chains in the sectors in which they are employed. The OECD calculates Inter-Country Input-Output (ICIO) tables combined with employment data which estimate direct and indirect export employment by industry and gender.

Overall, data on foreign trade in services are more limited compared to trade in goods due to challenges in data collection. Survey-based approaches facilitate the inclusion of services trade, where women are often concentrated, in gender and

trade analyses. Some analyses rely solely on survey responses, targeting a sample of the population. This for instance pertains to Canada, where a survey on the financing and growth of Canadian small and medium-sized enterprises includes questions on the characteristics of the owner, thereby enabling the analysis of women's participation in trade as business owners.

Across the country case studies, a notable data gap exists regarding the collection of gender-disaggregated consumption data. Consumption data is typically collected at the household level, making gender disaggregation challenging. In fact, according to UNECE (2019a), there are no registers or censuses linking traded goods to their consumers. Some limited information exists on products that are destined to be consumed by either men or women but this is confined to a subset of apparel[2]. This limits the insights into the impacts of trade on women in their economic role as consumers. Two exceptions include single-person and single-parent households, where the gender of the head of household, in their majority women, can be linked directly to household consumption patterns.

Variations in data collection methodologies can affect cross-country comparisons. Differences in definitions and classifications, particularly in business sizes and industry classifications, further impact the accuracy of such comparisons, as they often align with national or continental classifications.

This paper starts with a synthesis table of the data collected in each country, the data sources used, and the analysis that can be undertaken using the indicators collected. The subsequent section describes in some detail the data collection methods and sources used in the OECD TiM by characteristics dataset that

2 See for example (Korinek, Moïsé and Tange, 2021 or Gailes et al., 2018).

examines women in trade through value chains and in each of the seven countries covered. The last section offers some reflections on the analyses allowed by the different collection methods, drawbacks of each, areas of incompatibility, suggestions for enhancing comparability across countries and practical issues to consider in devising a set of indicators on women in trade. That last section, *Concluding reflections on the diversity of approaches in collecting data on women in trade*, aims to inform efforts by data scientists looking to calculate and collect gender-differentiated data, and inform analysts and other users of the data of some of the shortcomings of each type of dataset that may impact the scope and quality of their analysis.

Table 1: Key information on participants

Entrepreneur (Entr) #	Country of origin (business)	Type of business	Business age (years)	Family status	Children	Product / Service	Export	Export Destinations	# min of recording
2	Cameroon (Kenya)	E-commerce	10	Married	Yes	Product	Yes	US, Senegal, Cameroon	27
3	Uganda (Uganda)	Edtech	4	Married	Yes	Service	Yes	Ghana, Malawi, South Sudan	28
4	Kenya (Uganda)	Edtech	5	Single	No	Service	No		53
5	Benin (Benin)	Software Development	8	Married	Yes	Service	Yes	Mali, Ivory Coast	45
6	Kenya (Kenya)	Transport	5	Married	Yes	Service	No		58
7	Burundi (Burundi)	Education	2	Married	Yes	Service	Yes	Mali	20
8	Ghana (Ghana)	Agriculture	4	Single	No	Product	Yes	Togo, Benin, Nigeria, Kenya	46
9	Kenya (Kenya)	Tech Consultation	11	Married	Yes	Service	Yes	Uganda, Sierra Leone	34
10	Benin (Benin)	Edtech	10	Married	Yes	Service	Yes	Togo	49
11	Nigeria (Nigeria)	Logistics	5	Single	No	Service	No		52
12	Nigeria (Nigeria)	HR Consulting Technology	6	Married	Yes	Service	Yes	UK, Dubai, Ghana, Kenya	43
13	Kenya (Kenya)	Natural Beauty Products	8	Married	Yes	Product	Yes	US, South Africa	55
14	Uganda (Uganda)	Talent Marketplace	4	Married	Yes	Service	No		56

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15	Nigeria (Nigeria)	E-commerce	2	Married	Yes	Service & Product	Yes	China	45
16	Uganda (Uganda)	E-commerce	7	Married	Yes	Service	Yes	Kenya, Tanzania	53
17	Cameroon (Cameroon)	Edtech	5	Married	Yes	Service	No		32
18	Kenya (Kenya)	E-commerce	9	Single	No	Product	Yes	Nigeria, Kenya	57
19	Kenya (Kenya)	E-commerce	12	Single	No	Product	Yes	US	46
20	Tanzania (Tanzania)	Software Development	3	Single	No	Product	Yes	Kenya, Nigeria, Uganda	35
21	Kenya (Kenya)	E-commerce	6	Single	No	Product	Yes	South Africa, DR Congo, US	45
22	Kenya (Kenya)	Digital Marketing Agency	15	Single	No	Service	No		53
23	Kenya (Kenya)	Jewelery	4	Married	Yes	Product	Yes	US	33
24	Nigeria (Nigeria)	Talent Marketplace	5	Single	No	Service	No		49
25	Kenya (Kenya)	Jewelery	5	Married	Yes	Product	Yes	US, Germany, Nigeria	31
26	Kenya (Kenya)	Job Profiling Platform	4	Divorced	Yes	Service	Yes	Zambia, Ivory Coast	51
27	Namibia (Namibia)	E-commerce	6	Widowed	Yes	Product	Yes	South Africa	51
28	Rwanda (Rwanda)	E-commerce	3	Married	Yes	Service	No		48
29	Senegal (Senegal)	Digital Services	6	Divorced	Yes	Service	Yes	Switzerland, Ivory Coast	54
30	Senegal (Senegal)	E-commerce	5	Married	Yes	Service	Yes	US	34
31	Nigeria (Nigeria)	Transport	6	Single	No	Service	Yes	Ivory Coast	59
32	Kenya (Kenya)	Fintech	7	Married	Yes	Service	Yes	Uganda	55

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33	Cameroon (Ethiopia)	Fashion	5	Married	Yes	Product	Yes	Kenya, Nigeria Togo, Ivory Coast	42
Total									1,463

Source: Authors' own

Multi-country data on women in trade

Trade in Employment by Characteristics (TiMBC) database

The OECD Trade in Employment (TiM) database is derived from the Trade in Value Added (TiVA) indicators. These indicators capture the value added by country in the production of goods and services that are consumed globally (Martins Guilhoto et al, 2022). This provides a more comprehensive understanding of global production networks and supply chains compared to traditional trade statistics. The TiVA approach highlights the contribution of services to trade, the role of imports in export performance, and the true nature of economic interdependencies. This is achieved through indicators based on the value-added origins of exports, imports and final demand for both countries and industries.

TiVA data are estimated using Inter-Country Input-Output (ICIO) tables, which show the flows of final and intermediate goods and services by industry. These tables provide insights into the economic relationships between countries and offer a comprehensive perspective on the locations where value is added along Global Value Chains (GVCs). The ICIO tables are constructed using statistics collected from national, regional, and international sources in accordance with the 2008 System of National Accounts (2008 SNA).

The construction of the OECD's ICIO tables involves harmonising national Supply and Use tables (SUTs) and Input-Output tables (IOTs) into standard formats and classifications. These are then combined with bilateral trade in goods and services statistics and balanced under constraints based on

official National Accounts by economic activity and National Accounts Main Aggregates. The OECD's ICIO system consists of a set of annual symmetric industry-by-industry global input-output tables. From these tables, several matrices can be generated each year to calculate TiVA indicators.

It is important to note that harmonised national SUTs and IOTs, which are key inputs in the construction of ICIO tables and the subsequent calculation of TiVA indicators, are often published by countries with a time lag of three to five years. To produce ICIO tables for more recent years, the latest available harmonised SUTs are extrapolated under constraints coming from National Accounts (SNA) time series, and further adjusted using Balance of Payments statistics and bilateral trade in goods and services. An important underlying assumption is that the industry input and output structures in extrapolated SUTs are similar to those of the latest available SUTs. Therefore, TiVA estimates for the most recent years should be regarded as estimates.

The 2023 edition of TiVA provides indicators for 76 economies, including all OECD, European Union, ASEAN, and G20 countries, as well as a selection of region aggregates, covering the period from 1995 to 2020 (OECD Directorate for Science, Technology, and Innovation, 2023). Additionally, TiVA indicators are provided for 45 unique industries and related aggregates, based on the International Standard Industrial Classification Revision 4 (ISIC Rev.4) classification.

Similar to TiVA, TiM statistics offer an overview of an economy's trade interdependencies in GVCs, but in the context of employment and labour compensation. TiM offers industry-specific employment indicators, consistent with the output and value-added metrics in the TiVA database (OECD 2024a).

It estimates the share of employment sustained by exporting activities and shows the extent to which a country's labour force is dependent on its international integration. Additionally, it shows the extent to which exporting activities or foreign final demand sustain domestic employment used in production, including indirect exports, i.e. production of inputs that are subsequently exported by a different industry in the supply chain (OECD 2023c). The 2023 edition includes close to 60 economies, including all European Union, OECD and G20 member countries, most East and Southeast Asian economies, as well as region aggregates (OECD 2024b). Latin American countries included are: Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Peru. The 2023 edition covers all 45 TiVA industries for the period 1995-2020.

The indicators are derived by combining the latest edition of the OECD's ICIO database with estimates of employment and employee compensation by industrial activity from official sources (Horvát, Webb & Yamano, 2020). Statistics on domestic employment by industry are collected from various sources, including the OECD's Annual National Accounts and Structural Analysis (STAN) databases, official national statistics, and research projects. The most common source for detailed industry information is industry surveys or Structural Business Statistics (SBS) from the OECD, Eurostat, UNIDO, or national sources. Estimates of domestic employee compensation by industry are derived from the OECD's SUTs tables, Annual National Accounts, STAN database, or national sources.

However, due to data availability and the inherent limitations in constructing ICIO tables, TiM indicators are subject to certain assumptions. Notably, when constructing indicators of employment embodied in exports, it is assumed that at the most detailed level of industry covered in the TiM database,

exporting firms have the same labour productivity, expressed as output per employment, as firms producing goods and services for domestic markets. Additionally, it is assumed that exporting firms have the same share of imported intermediates, in relation to output, as domestic firms. However, data available for China and Mexico regarding global- vs domestic-oriented production allow to account for firm heterogeneity for these two countries' manufacturing sectors, which is reflected in TiM estimations.

The TiM by characteristics database adds the dimension of workers' characteristics including gender, age, and skill level based on occupation and education, respectively. Age is divided into three categories: ages between 15-29, 30-49, and 50+; skill level is divided into three categories: high-, medium- and low-skilled (Chiapin Pechansky and Lioussis 2024). It does so by estimating employment by characteristic and by industry, for example share of employment by gender, country, sector and year, which is then combined with TiM statistics.

This extension allows for addressing gender-related questions such as the impact of trade on male and female employment (OECD 2023c). The TiM by characteristics database provides indicators for 12 unique industries. The database includes indicators that provide a comprehensive picture of employment by industry and by firm characteristics and the corresponding engagement in direct and indirect trade.

Notably, the TiM by characteristics dataset is publicly available[3]. TiM by characteristics data have been used to analyse women's engagement in trade within the OECD's framework of trade and gender analysis (Korinek et al. 2021). The OECD

3 See the OECD Data Explorer Trade in Employment by Workforce characteristics.

Framework examines the share of employment embodied in direct and indirect exports disaggregated, as well as the share of employment meeting domestic and foreign final demand disaggregated by gender and sector and over time.

Additionally, TiM by characteristics data have been utilised in the *Trade and Gender Review of New Zealand* (OECD, 2022a) and the OECD's *Trade and Gender Review of Latin America* (OECD, 2025) that covers the seven Latin American countries for which TiM by characteristics data are available.

The Trade and Gender Review of Latin America (OECD, 2025) undertakes an in-depth analysis of women's engagement through value chains at the sectoral level and over time, using the TiM by characteristics dataset. It allows analysis of women's and men's participation in direct exports and indirect exports, i.e., inputs into exported goods and services. This allows for differential analyses of the impacts of trade shocks on women's and men's employment and shifts in the structure of trade-related employment by sector and over time.

Country case studies

The countries examined in this section include Brazil, Canada, Chile, Finland, Mexico, New Zealand and Sweden. These studies provide insights into the types of gender-differentiated data that are currently available, identify gaps in the data, and explore the kinds of questions that can be answered using the available data.

Brazil

The Brazilian Ministry of Development, Industry, Commerce and Services has conducted a comprehensive analysis

on women's participation in foreign trade in Brazil[4]. The study links data on Brazil's exports and imports, primarily of goods, with labour market information and the corporate structure of firms, facilitating an analysis of women's employment statuses, the industries they work in, their income levels, their entrepreneurial roles, and their participation in global trade (Ministry of Development, Industry, Commerce and Services 2023). The dataset provides a gender-specific perspective on Brazil's labour and corporate data related to foreign trade, covering the period from 2010 to 2022.

To conduct the analysis, multiple data sources were utilised, including foreign trade data from the Foreign Trade Secretariat (SECEX), formal employment data from the Annual List of Social Information (RAIS) and registration data and corporate structures from the Federal Revenue Service of Brazil (RFB). Additionally, tariff data from the Market Access Map (Macmap) was incorporated.

SECEX is responsible for processing, analysing, and disseminating Brazilian foreign trade information. The foreign trade data is collected through mandatory import and export declarations from all companies engaged in foreign trade operations, enabling the identification of companies operating in Brazilian foreign trade. Foreign trade data is classified according to the Mercosur Common Nomenclature (NCM), a product classification system adopted by Mercosur countries, derived from the Harmonised System (HS) of goods classification used in foreign trade.

Labour market data was sourced from RAIS, providing information on the number of formal jobs reported by com-

4 The reference for the information in this section is Women in Foreign Trade in Brazil (Ministry of Development, Industry, Commerce and Services, 2023).

panies, and facilitating analyses based on various employee characteristics, such as gender, age, educational level, and salary. By linking RAIS microdata with SECEX data, it is possible to identify patterns relating indicators of gender, race, age, and level of education to foreign trade activities, thereby highlighting the intersection between foreign trade and gender in Brazilian firms.

To identify the corporate structures of Brazilian firms, the report utilises the 2022 RFB database, which includes the names of individual partners per establishment. These names were correlated with gender classification data for Brazilian names provided by Brasil.io, based on data from the 2010 Census conducted by the Brazilian Institute of Geography and Statistics (IBGE). This indicates the gender probability for each name according to the frequency observed in the census. The partner names in the RFB database were associated with the most likely gender, and these data were subsequently linked with foreign trade data from SECEX. This solution was found as the dataset does not include information regarding the gender of establishment owners and leaders.

In addition to the corporate structure, RFB database allows for the identification of the economic activity of companies and their size based on the number of declared employees according to the National Classification of Economic Activities (CNAE). Companies are categorised based on major activities and divided into four groups: agriculture and cattle raising, extractive, processing, and others. The latter category refers to companies whose primary activities are related to services, commerce, and civil construction. Since the economic activity of the company is assigned at the enterprise level, it is possible for a services company to also engage in the export or import of goods. Moreover, company sizes are divided into Micro-enterprises, Small enterprises, and Medium and Large Companies. However, it is

important to note that the registration data from the RFB lacks explicit classification for Medium or Large Companies, and no current legislation defines these terms for CNPJ registration[5]. Hence, the report considers businesses as Medium or Large if they do not fall under the categories of Individual Microentrepreneurs (MEI), Microenterprises, or Small Companies.

The available data enables an analysis of women's participation in trade as employees, disaggregated by the foreign trade activity of firms, i.e., whether the firm is exporting, importing, or not engaging in foreign trade. Women's participation is expressed as the share of jobs held by women relative to the total number of jobs in each group of firms. The disaggregated data enables a comparison of female employees in firms not participating in Brazilian foreign trade and in firms that recorded export or import activities. The analysis is conducted between 2010 and 2020, thereby allowing for an examination of how women's employment has evolved during this period.

The labour market analysis can be further disaggregated by economic activity. This allows for the determination of the distribution of formal jobs among firms engaging in Brazilian foreign trade, disaggregated by economic activity and gender. It also enables the analysis of the share of women's formal employment relative to the total number of jobs for each economic and foreign trade activity of firms. Thus, it is possible to compare the female employment share in the group of firms that engage in trade to the group of firms that do not participate in foreign trade, for each activity and across activities.

The data is further utilised to analyse wage differences among workers by gender, economic activity, and whether the

5 CNPJ is a registration number unique to each legal entity in Brazil.

company participates in foreign trade, utilising data from 2019. By identifying the wages of female and male employees, it is possible to analyse the wage gap, measured as the percentage difference between the salaries of men and women. This analysis can further be disaggregated by economic activity and foreign trade activity, allowing for an analysis of the differences in the wage gap between firms that engage in foreign trade and firms that do not engage in foreign trade.

Women's participation in formal employment can also be determined by the size of the company, in which firms are categorised according to the number of employees and are divided into four categories: less than 10 employees, between 10 and 49 employees, between 50 and 249 employees, and those with 250 employees or more. For the analysis, women's employment is also disaggregated by trade activity. As mentioned, company size can also be classified using the RFB size classification, following the CNAE division. This enables the analysis of the share of women's participation in formal employment relative to the total number of employees by firm size and foreign trade activity of firms, using 2019 data. This allows for a comparison of female participation by size between exporters, importers, and non-trading firms.

The data also enables the analysis of women's participation in employment by trade activity and section of the HS. This facilitates the analysis of the relationship between the foreign trade activity by section of the HS and the female participation rate in export and import firms that commercialise the products classified in these sections. It is also possible to analyse the relationship between the degree of differentiation of exported products and female participation in employment. These analyses are conducted using 2019 data.

The labour market analysis further includes an analysis of the level of income at the destination countries and the female participation in export-related employment. This relationship is analysed controlling for sector fixed effects according to the CNAE division and using 2019 data.

The report further examines the corporate structure between women and men, enabling the analysis of women's participation in foreign trade as entrepreneurs. By leveraging corporate data from the RFB database, it is possible to analyse the representation of women among partners of Brazilian firms. The report examines the share of firms in each foreign trade activity group that have a majority of women among their partners, i.e., firms where more than 50% of the partners are women, using 2022 data.

The analysis of women's role as business leaders can further be disaggregated by firm size, enabling the determination of the proportion of firms that have more than 50% women as partners, disaggregated by foreign trade activity group and firm size. Moreover, this can be examined at an industry level, analysing the share of women in the corporate structure by economic and foreign trade activity. This analysis also reflects regional differences, as Brazilian states have varying levels of specialisation in each economic activity. The available data enables the analysis of the proportion of firms with a majority of women partners by state, comparing exporting firms with non-trading firms.

The report further analyses women entrepreneurs in different sectors of the economy. The five sectors with the largest and the five sectors with the smallest proportions of companies composed mostly of female partners in 2022 are presented. The share of companies in each category of partners (mostly women, proportional between men and women, and mostly

men) is analysed by sector of exported products. The sectoral distribution of companies predominantly composed of female partners also reflect differences in tariffs. By combining data from RFB, SECEX and the Macmap database, it is possible to analyse the average tariff for products exported in each category of partners. This analysis is primarily conducted primarily using data from 2019.

The available data enables the analysis of women's participation in trade as employees and entrepreneurs. While the available data covers a broad range of economic activities, including services categorised under the "other" classification in the CNAE, it's important to note that the current analysis primarily focuses on trade in goods. Furthermore, it is important to acknowledge that corporate structure refers to public companies therefore many micro and small enterprises are not included. The data also do not include informal employment, known to be high in Brazil.

Canada

Statistics Canada is leading an initiative aimed to enhance and expand statistics related to diverse populations in Canada (Statistics Canada 2023a). This involves both the acquisition of new disaggregated data, and the development of data assets by incorporating new questions and data elements into existing surveys and administrative data programs, creating new surveys, and increasing sample sizes to facilitate data disaggregation (Statistics Canada 2023b).

Statistics Canada aims to disaggregate data to the most detailed level possible in the context of its Disaggregated Data Action Plan (DDAP) while integrating Gender-Based Analysis Plus (GBA Plus) considerations and maintaining data quality

and confidentiality. GBA Plus is an analytical process implemented by the Government of Canada, providing a robust method for examining systemic inequalities. It also offers a means to evaluate how diverse groups of women, men, and gender-diverse people may experience policies, programs, and initiatives.

In order to enhance the statistical representation of diverse population groups in surveys, Statistics Canada has diversified its sampling strategies. This includes employing multiple sampling frames and optimising sample allocation among various subpopulations of interest. This is accomplished while coordinating the samples drawn to minimize overlap and reduce additional respondent burden. Statistics Canada combines its census and survey data with data collected by other federal, provincial, or territorial organisations (Statistics Canada 2023a). The data from these organisations are classified as administrative data.

For example, the monthly Labour Force Survey (LFS) in 2022/23 was supplemented by incorporating additional indicators on the quality of employment for diverse population groups in Canada. Specifically, data related to childcare and career challenges experienced by parents, financial difficulties encountered by households in the context of high inflation, and the number of Canadians working via digital platforms were collected. LFS data are utilised to calculate the unemployment rate, as well as other standard labour market indicators such as the employment rate and the participation rate (Statistics Canada 2024).

The LFS also generates employment estimates by industry, occupation, sector, and hours worked, all of which can be cross classified by a variety of demographic characteristics, such as age and gender. Estimates are produced for Canada, the provinces, the territories, and many sub-provincial regions. For

employees, data on wage rates, union status, job permanency, and business size are also produced. These data could be used to analyse women's role in trade as employees, by identifying the gender of the employees that are employed in industries that are engaged in trading activities.

The 2023 State of Trade report on inclusive trade highlights the importance of analysing the impact of trade and trade policies on the labour force with a gender lens. This includes employing both ex-ante economic modelling and ex-post analysis methodologies (Government of Canada 2024). Inclusive trade research aims to understand the ways in which women, Indigenous and other racialised people, youth, 2SLGBTQI+ individuals, and SMEs benefit from trade and investment. It focuses on identifying both the challenges and success strategies for underrepresented groups in going global, as well as to inform policies and programs designed to ensure that everyone can benefit from Canada's foreign trade.

To conduct ex-ante modelling of trade agreements, the report utilises a computable general equilibrium (CGE) model of international trade. By integrating gender-disaggregated labour data into the modelling framework, it becomes possible to analyse the trade policy's impact on employment by gender. Census data are utilised to determine the number of employees across different occupations in Canada, disaggregated by gender and age. To allow for a more dynamic labour market in the model, data from Statistics Canada's Survey of Labour and Income Dynamics is utilised. The survey includes data on how Canadian employees change occupations, or enter and exit the labour force, disaggregated by gender and age. The combination of these data sources provides a detailed representation of the employment status of Canadians, allowing for an analysis of the

short-term impact of trade policy on employment by industry, occupation, gender, and age.

The ex-ante modelling approach was utilised by the Office of the Chief Economist (OCE) to assess the potential economic impact of the Canada-United States-Mexico Agreement (CUSMA) on the Canadian economy, including the labour force impact of CUSMA on males and females. The data was based on the Global Trade Analysis Project (GTAP) database, which benchmarks all bilateral trade flows, trade protection and domestic support to 2014 (Office of the Chief Economist 2020). This enables the estimation of the potential employment effects of CUSMA's implementation, disaggregated by sex and occupation.

For ex-post analyses, one possible approach is to analyse the female employment in firms that export to countries affected by a new trade policy. Analysing data on firms exhibiting substantial export growth to new trading partners following the implementation of a trade agreement will reveal how this has influenced their hiring decisions. Nonetheless, it is acknowledged that the ex-post approach to analysing how trade policy affects employment for males and females may be challenging, including the difficulty of establishing a direct causal link between new trade policies and outcomes for employees.

The OCE applies the ex-post analysis approach to analyse the implementation of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (Office of the Chief Economist 2023). To analyse the degree to which Canadian SME exporters, workers, and female employees have benefited from the CPTPP tariff reduction commitments, data on trade by exporter characteristics from Statistics Canada are utilised. The data provide information on the characteristics of Canadian businesses exporting goods, such as industry type and export

value (Statistics Canada 2023c). Through the identification of individual exporters in the merchandise trade data within the Statistics Canada Business Register (BR), export records can be linked to business characteristics available in the BR. Additionally, linkage to the Survey of Employment, Payrolls and Hours (SEPH) data provides insights into employment within these businesses. This enables the analysis of female employment for firms that exported to the new CPTPP markets from 2018 to 2019, disaggregated by size of export growth.

Moreover, Statistics Canada is conducting the Survey on Financing and Growth of Small and Medium Enterprises (Statistics Canada 2021). The survey collects information on the financing, growth, financial position, ownership, and innovation of SMEs, including by firm characteristics. However, the survey does not allow the analysis of entry, exit and changes over time in firms and in gender of ownership.

The target population for the survey is derived from the Business Register (BR). The 2020 survey focused on private sector, for-profit SMEs employing between 1 and 499 people and generating over $30,000 in annual revenues. The method of data collection for the 2020 survey was an electronic questionnaire, in contrast to previous iterations which were conducted by computer-assisted telephone interviews (Innovation, Science and Economic Development Canada 2022). It is important to note that changes in data collection methods can impact the comparability of data across different iterations of the survey. Therefore, comparisons should be made with caution.

The Survey on Financing and Growth of Small and Medium Enterprises is utilised in the State of Trade 2023 report on inclusive trade and the WTO Making Trade Work for Women report (chapter 5) to estimate the relationship between women's

entrepreneurship and exporting (Government of Canada 2024; WTO, 2023). Similarly, Global Affairs Canada utilises the survey data to analyse the distribution and export propensity of Canadian SMEs by the majority gender of ownership (Bélanger Baur 2019) and the barriers women-led firms face to export (Sekkel, 2020). The survey also collects information on other business characteristics, including the age of the business, and ownership characteristics such as the education level and management experience.

The State of Trade 2023 report utilises the survey to provide a comprehensive analysis of SMEs and is, for instance, used to determine the share of SMEs by gender of ownership, the export propensity of women-owned SMEs and gender differences in the use of digital platforms. A business is considered women-owned when women own more than 50% of the business, correspondingly for men, and equally owned when men and women each own 50% of the business. This analysis highlights the gender gap in exporting SMEs and how it has evolved between 2011 and 2020. It is worth noting that SMEs that are men-owned and equally owned are usually grouped together for comparison purposes in the analysis, because they exhibit similar export behaviours.

The share of SME exporters can be analysed by gender and industry utilising the North American Industry Classification System (NAICS). This provides a nuanced understanding of the industry-specific challenges and opportunities faced by SMEs of different genders. Moreover, the report determines the share of SMEs by gender and firm size. There are two possible measures of firm size: the number of employees and annual gross revenues. The most common measure is the number of employees, which categorises SMEs into four sizes: micro-sized (1-4 employees), tiny (5-19 employees), small (20-99 employees) and medium-si-

zed (100-499 employees). Moreover, the 2020 survey includes data on SMEs offering e-commerce services at both the firm and industry levels. This allows for an examination of the proportion of SMEs offering e-commerce services, broken down by gender, firm size, and industry.

The survey collects information on the types of debt, lease, and equity financing that SMEs rely on. Additionally, it captures data on recent attempts to obtain new financing. This comprehensive data collection allows for a comparison between women-owned and men-owned SMEs, highlighting the obstacles they face in trading, including financing and cash flow challenges. Specifically, the survey allows for an investigation into the proportion of SME exporters who perceive certain obstacles as moderate or major barriers to exporting, based on the gender of ownership. This analysis has been conducted in previous iterations of the survey, enabling a temporal comparison. For example, it provides insights into how export obstacles have evolved for women-owned SMEs.

The data enables the analysis of the gender distribution of SMEs that export to various international destination markets, as well as the average share of sales made outside of Canada. Additionally, the report delves into SMEs' import propensity . Import trade is categorised by the majority gender of ownership and divided into three categories: intermediary inputs, goods for resale, and services.

Moreover, the State of Trade 2023 report provides valuable insights into women's participation in multinational enterprises (MNEs). The data used in the report is custom order data from Statistics Canada, with calculations made by the OCE. Specifically, Statistics Canada collects data on MNEs through the Activities of Multinational Enterprises in Canada program

that includes the characteristics, activity, financial position, and performance of MNEs operating within Canada (Statistics Canada 2023d). By analysing this data, it is possible to examine the share of women employees in MNEs versus non-MNEs, disaggregated by industry. The data do not however include measures of gender-disaggregated wages and the representation of women in senior management position within MNEs.

The data used in the State of Trade 2023, including the Survey on Financing and Growth of Small and Medium Enterprises, provide a nuanced understanding of women's participation in trade as labour force participants and business leaders in Canada, including firms that export services.

Chile

The National Institute of Statistics (INE) and the Ministry of Women and Gender Equality (MMEG) coordinate the Gender Statistics Subcommittee (SEG), which comprises 14 Ministries and State Services in Chile, including the Ministry of Foreign Affairs. The objective of the Subcommittee is to coordinate, provide technical guidance, systematise, and promote the production and analysis of gender statistics, as mandated by the national legal framework. This involves integrating gender variables into statistical production and generation of administrative records (SEG n.d).

The SEG provides a set of gender indicators, presented across nine dimensions. These indicators, aim to accurately represent the situation of men and women, including gender inequalities, gaps, or barriers faced in these dimensions. For example, the SEG aims to shed light on women's power in decision making, as well as the gendered division of labour, encompassing both paid and unpaid work. The gendered division of labour refers

to the distinct roles and functions traditionally associated with men and women, which can limit women's participation in the labour market.

The National Statistics Institute of Chile (INE) collects employment data through the National Employment Survey (ENE) (INE 2020). The purpose of the ENE is to provide labour market data to guide decision-making and analysis of economic policies and employment at a national level. It has been conducted since 1966 and has undergone several modifications since then, including changes to sampling frames, with the most recent modification occurring in 2020. This can have implications on the comparability over time. The 2020 edition includes measures on informal employment, new forms of jobs, and the labour flexibility experienced by dependent and independent workers. Employed persons are classified into 21 sections according to the National Classification of Economic Activities from Socio-demographic Surveys (CAENES). This enables the analysis of participation in trade-related activities based on the economic sector of employment, including services.

Additionally, the INE conducts the National Time-Use Survey (ENUT), which measures the time allocated by the population to various activities, including paid work, unpaid household work, and personal activities such as personal care, social life, and study (INE 2015). The survey aims to highlight gender inequalities in time allocated to domestic work and unpaid care, and to characterise inequality in time use according to classification variables such as age, gender, relationship with the labour market, and socioeconomic status.

The ENUT is based on direct interviews with persons aged twelve and over in the country's main urban centres of all the regions. The first version of the ENUT was conducted for the

year 2015, and in 2023, INE began the field work on the pilot test of the second version of the ENUT (INE 2023). To conduct the survey responses, the ENUT uses a structured questionnaire based on a selection of activities of interest, with the Classification of Time-Use Activities for Latin America and the Caribbean (CAUTAL 2015) serving as the basis for the selection and logical and conceptual order of activities. By measuring unpaid work and characterising the demand for care in Chile, the ENUT supports the development of public policies aimed at reducing the gender gap in the labour market (INE 2022).

The INE also maintains the Household Budget Survey (HBS), an economic survey conducted every five years that collects information on household expenditures and income (INE 2018). The HBS collects data on household consumption expenditures and disposable income, providing socioeconomic information on urban households. By identifying characteristics such as the size and composition of the households responding to the survey, it allows for the analysis of household consumption patterns.

In June 2023, Chile introduced the Feminist Foreign Policy (FFP), which includes a specific provision for gender and trade issues. The FFP emphasises that international economic and trade relationships are a crucial element for removing barriers to the full integration of women into the economy and promoting gender-equal economic recovery. A critical action to achieve this objective and contribute to the development of public policies in support of women-led export businesses is to make decisions based on statistical evidence.

To this end, the Undersecretary for International Economic Relations (SUBREI) of the Chilean Ministry of Foreign Affairs has published a series of reports on the participation of women in Chilean exports. The sixth edition of the study includes a new

methodology to analyse businesses, including those surveyed as part of the study "Analysis on the Reality of Export SMEs", conducted by the Institute for International Studies (IIS) of the Universidad de Chile in collaboration with SUBREI in 2021. This allows for the characterisation of all of Chile's export businesses based on the gender of leadership, enhancing measurement precision.

The sixth version is the first to allow comparative analyses, as it includes data from both 2021 and 2022. It is also the first to allow comparisons between men-led and women-led firms, and includes calculations of the gender gap in the participation of businesses in Chilean exports, defined as the difference in percentage points between men-led export businesses and women-led export businesses in the same year.

The data utilised in the report is sourced from SUBREI, the National Customs Service, and the Chilean Internal Revenue Service. A business is considered women-led if the business' ID in the Internal Revenue Service system is associated with at least one female legal representative, and when the ID of a natural person is reported as "Female". Additional criteria defined by ProChile are also considered[6]. Moreover, the company must have exported during 2021 and 2022, as recorded by the National Customs Service.

The available data allows for the determination of the number and share of export businesses that are led by women,

6 ProChile defines that a business is led by women when it meets at least one of the following criteria:
a. At least 50% of the ownership of the business belongs to women.
b. The legal representation of the business is held by a woman.
c. The business' board of directors consists of at least 50% women.
d. The position of the general manager of the business is held by a woman.

relative to the total number of businesses engaged in foreign sales, at both national and regional levels. This provides insights into the share of Chile's export values that are generated by women-led businesses. By also determining the proportion of export businesses led by men, it is possible to identify the gender gap in Chilean exports.

Further, the data enables the estimation of exports from women-led businesses, disaggregated by business size and total sales. Businesses are categorised as micro, SME, and large, based on their sales records. Specifically, businesses are classified as micro if they record total sales up to UF 2,400, as SME is their total sales record is between UF 2,400.1 and UF 100,000, and as large if their total sales exceed UF 100,000 in Chile[7]. This facilitates a comparison of export businesses led by women and men disaggregated by size, thereby enabling the determination of the gender participation gap by business size.

The report also provides data disaggregated by product and sector. For instance, the participation of women-led businesses in exports is available for each product group. Additionally, it is possible to analyse the main products exported by women-led businesses in 2022 and 2021, and how they have evolved. Moreover, the change in data collection methodology further enables the comparison of the main products exported by businesses led by women and those exported by businesses led by men, allowing for the determination of the gender gap.

Similarly, the data enables the analysis of the largest export sector for businesses led by women, by determining the share of their foreign sales attributed to each sector. It is also possible to determine the total value of exports by sector, and identify

7 UF is short for Unidad de Fomento, which is a Chilean unit of account that is adjusted for inflation.

the share generated by businesses led by women and by men. This highlights the gender gap in both the shipment value and the number of export businesses.

The analysis of women-led businesses can also be conducted by macro sector, considering the shipment value of the business and their share of participation in each macro sector. These are divided into seven macro sectors, including services[8]. Moreover, by identifying the number of export businesses in each macro sector, and the number of those led by women and men, it is possible to analyse the gender gap in terms of the number of export businesses and macro sector.

The available data further enables the analysis of the share of exports from women-led businesses that correspond to services compared to those led by men. This analysis can also be conducted by sector.

The data further allows for the analysis of the regions of origin of products and services exported by businesses, disaggregated by gender of leadership. This highlights the gender participation gap by the number of export businesses and region of origin.

The new methodology implemented by SUBREI, introduced in the sixth version of the report, further enables an extension of the analysis to explore the export frequency and extensive margin of shipments to characterise the participation of women-led businesses in Chilean exports. For this purpose, the report analyses women-led businesses' exports by the number of export days, destination markets and products and services

8 Services Exports are considered as services classified under Item 0025 of the Customs Tariff of the Republic of Chile, which are recognised as exportable services by the National Customs Service.

exported, with data from 2022. This allows for the identification of the destinations in which the export value from women-led businesses is higher than that of men-led businesses, measured in shipment value. The data also enables the analysis of women-led businesses' exports by free trade agreement in the year 2022, expressed as the shipment value and the number of export businesses.

A further extension of the sixth edition is the analysis of technology intensity of exports from women-led and men-led businesses. This allows for the determination of the proportion of foreign sales from women-led businesses that are associated with high-technology and medium-technology manufacturing, as well as gender gaps. This provides a nuanced understanding of the role of gender in businesses engaged in technologically intensive exports.

The available data provide a comprehensive picture of women's participation in trade as business leaders, including in different sectors of the economy and allows comparison with men business leaders in export. However, comparisons with women-led (or all) firms that sell to the domestic market are generally not possible. Moreover, data on women's employment in trade is more limited. The ENUT captures time spent on unpaid work, an important component of the gender gap in formal employment.

Finland

Statistics Finland utilises register-based data using a personal identity number to collect gender-differentiated data for both the census and surveys (Statistics Finland n.d.a). Statistics Finland has extensive rights to obtain personal data from various authorities for statistical compilation. For example, data are sourced

from the Finnish Digital Agency, the Tax Administration, the Social Insurance Institution of Finland, and the Finnish Centre for Pensions. Additionally, employers provide data regarding their employees' wages and working hours.

The Business Register, maintained by Statistic Finland, contains data on enterprises and establishments (Statistics Finland n.d.b). The register receives data from several administrative sources, with the Tax Administration being the primary source. When data are unavailable from existing public administration registers, Statistics Finland collects information for statistical compilation through inquiries and surveys. This is particularly applicable to new enterprises, for which data are collected annually through inquiries. These inquiries provide data on industry, location, and personnel of establishments.

The Business Register offers comprehensive data on enterprises, including the Business ID, region, business size, industry, sector, and the business' engagement in foreign trade. Data on establishments are not as extensive and include variables such as the establishment code, region of location, business size, industry, and type of establishment. Sectors are classified according to the standard Classification of Sectors 2023, and industries follow Statistics Finland's Standard Industrial Classification 2008 (TOL 2008) (Statistics Finland n.d.c).

Statistics Finland also provides quarterly data on foreign trade in goods and services (Statistics Finland n.d.d). The statistics are derived from several sources, including direct data collections, administrative files, data derived from statistics, or estimated from other sources. The data adhere to international statistical standards, enabling comparison over time and across countries.

Lindroos, Luomaranta and Nurmi (2019) compile information on gender equality in trade by combining data from different statistical and administrative registers. By linking individual employees to their employing companies, the analysis achieves a higher degree of precision compared to analyses that are based on macro-level indicators. The latter often involve assumptions such as uniform sectoral structure of male and female employees across various industries within trading companies.

Statistics Finland's registers facilitate the linking of micro-data sets on foreign trade from company datasets by the Finnish Customs and Statistics Finland, employee characteristics from the FOLK employee data set, and business owners from the FLOWN business owner data set. This enables the analysis of women's participation in trade as employees and entrepreneurs.

The FLOWN data provide data of companies and their owners, containing shareholder data, partner information, dividend information by payer and recipient, and information on listed companies (Statistics Finland 2020) provided by the Finnish Tax Administration. The data provided in FLOWN can also be linked to company employees, available from the FOLK ready-made material modules. The FOLK module on employment contains individual-level data on employment statistics from Statistics Finland's personal data warehouse, and business register offices (Statistics Finland 2024).

By combining business data with data on the gender structure of employees, it is possible to determine the proportion of female employees relative to male employees. This analysis is conducted between 2008 and 2016 in the report by Lindroos et al. (2019). Moreover, the analysis is supplemented by wage information, enabling an examination of the gender wage gap between women and men by determining the share of wages for females

and males. These analyses can be broken down by exporter status, distinguishing between exporting and non-exporting companies. Exporters encompass all companies that engaged in exports during the reference period, while all others are classified as non-exporters. Companies can be further segmented based on their involvement in foreign trade, with categories including exporters, importers, exporter-importer firms[9], and domestic businesses not engaged in foreign trade, i.e. non-traders. This allows for the analysis of women's participation in trade as employees by foreign trade activity.

The available data also facilitate an analysis of gender differences in educational background by foreign trade activity. For instance, it is possible to determine the proportion of women in highly educated workforces, disaggregated by foreign trade activity. This analysis is conducted with data from 2008 and 2016, enabling a temporal comparison. It is also possible to analyse the gender differences at a narrower industrial sector, although this is not depicted in a visual form in the report.

Linking foreign trade data with business owner data allows for an analysis of women's participation in trade as entrepreneurs. The report categorises firms as women-owned when women's shareholdings exceed 60%, and correspondingly for men. Otherwise, the firm is categorised as equally owned. By examining occupational status data, it is possible to determine the share of women entrepreneurs by exporter status, allowing for an analysis disaggregated by the gender of ownership.

9 Exporter-importer firms are defined as companies that meet both the conditions being an exporter and an importer, i.e., companies with at least 5% of their revenue and expenditure tied to foreign trade, and the value of both exports and imports exceed €5,000.

Analysing the number of employees, disaggregated by the gender of ownership, enables a comparison of the business size of women- and men-owned companies. This can be further broken down by exporting or foreign trade activity. Moreover, it is possible to analyse the share of women employees by exporter status and gender of ownership. The data can also be used to compare the labour productivity, i.e. the value added per person, and wages per person between women- and men-owned companies. This analysis can be further disaggregated based on exporter status.

Statistics Finland collects and analyses consumption data by household, utilising the Household Budget Survey (Statistics Finland n.d.e). The survey produces data on the structure of households' consumption, changes in consumption expenditure, and differences in consumption by population group. The target group is private households permanently residing in Finland and their members. It comprises individuals who live together and who share a food economy or otherwise use their income together.

A significant part of household-specific classification data is based on the reference person's data. The reference person is the household member with the highest personal income (Statistics Finland n.d.f). While income is primarily the criterion for determining the reference person, in some cases (e.g., entrepreneur households) the activity of the entire household is considered. Starting from the statistical reference year 2022, the reference person has been defined based on register data, instead of interview data.

The register-based format of data in Finland enables a comprehensive analysis of women's participation in trade as both employees and entrepreneurs, including in the services sector,

for all sizes of firm, as well as wage gaps between men and women engaged in trade-related jobs. These analyses are possible over time and encompass all individuals engaged in the Finnish economy. However, data on women's participation in trade as consumers is not directly collected, as consumption data is gathered at the household level. However, since households are classified by the reference person which is the household member with the highest personal income, consumption patterns within households with differing higher earners could in principle be differentiated.

Mexico

The National Institute of Statistics and Geography of Mexico (INEGI) provides the Profile of Export Manufacturing Enterprises (PEME) to generate data on the foreign trade activities of manufacturing enterprises (INEGI n.d.). Since 2007, the PEME has provided annual information on the number of enterprises and the value of exports and imports related to manufacturing activities. This data collection contributes to the comprehensive measurement of the country's foreign trade and can be used to analyse the impact of foreign trade activities of manufacturing enterprises on employment levels and production volumes.

In 2022, the PEME started disaggregating data by sex, marking a significant step towards integrating trade and gender statistics in Mexico (INEGI 2023a). Disaggregation by sex is commonly recorded in the economic census, surveys, and administrative records. The time series starts from 2018 and aims to provide statistics on foreign trade flows, focusing on key economic variables of manufacturing firms. This includes the participation of women and men in trade.

The PEME by sex is conducted by integrating sex-disaggregated data into business and trade statistics from various sources. These include the Statistical Business Register of Mexico (SBR), economic censuses, the International Merchandise Trade of Mexico, the Monthly and Annual Surveys of the Manufacturing Industry, and statistics from the Manufacturing, Maquila and Export Service Industry (IMMEX) (INEGI 2023b).

The SBR serves as the underlying framework for integrating information on enterprises and their economic activity from different data sources. This database contains current and historical basic information on all the economic units of the country, such as identification data, location, industry classification, and other economic variables like the number of employees and income. Customs records from the International Merchandise Trade of Mexico provide insights into the country's merchandise exports and imports. Moreover, the Monthly and Annual Surveys of the Manufacturing Industry provide valuable information on the status, evolution, and structural changes within the manufacturing sector. Lastly, IMMEX provides monthly data on the characteristics and evolution of all active establishments authorised by the Ministry of Economy to conduct in foreign trade operations under the IMMEX Program.

In order to link business and trade statistics, Microdata Linking (MDL) serves as an important tool. It facilitates the production of more detailed statistical information by linking several data sources, such as foreign trade statistics, structural business statistics, and other data linked to the Statistical Business Register, through a unique identifier. By integrating different data sources through MDL, it is possible to analyse gender participation in trading manufacturing enterprises since 2018.

The observation unit in this context is the enterprise, defined as an organisation owned by a single legal entity that conducts one or more economic activities, with autonomy in marketing, financing, and investment decisions. Enterprises are classified as either single-establishment enterprises, which have only one establishment, or multi-establishment enterprise, which is an enterprise that consist of more than one establishment. The economic activity of the enterprises is classified according to the North America Industrial Classification System (NAICS, 2018) based on the SBR.

Enterprises can be categorised based on their economic activity and level of foreign engagement. Those engaged with foreign markets are identifiable through their reported data on exports, imports, and income from maquila, sub-maquila, or re-manufacturing. These enterprises are further classified according to factors such as economic activity, enterprise size, production value, and geographical areas of operation. Enterprise sizes are categorised according to the number of employees, and are divided into micro (1-10 employees), small (11-50 employees), medium (51-250 employees), large (251-500 employees) and macro (more than 500 employees).

The linking of data enables to analyse the number of employees in enterprises conducting manufacturing activities, disaggregated by sex, the trade activity of the enterprise, i.e., whether the enterprise is exporting, importing, or both, the enterprise size, and NAICS sector and subsector. By determining the total number of employees, disaggregated by sex, it is possible to determine the female participation rate in manufacturing traders. This analysis can be disaggregated by enterprise size and NAICS sector and subsector. This enables the identification of which sectors and subsectors that mainly constitute women, by comparing with the national average.

PEME by sex provides insights for the design, monitoring, and evaluation of public policies aimed at reducing the trade barriers faced by women. This includes the effects of Global Value Chains (GVCs) on national production, investment, and employment disaggregated by sex. INEGI further plan to annually disseminate the PEME by sex and expand the statistical series from the year 2013 onwards. Additionally, they plan to explore additional characteristics of enterprises and employment, thereby enhancing the statistical information derived from the linkage of business and trade microdata.

The available data provide a substantial first step in analysing women's participation in trade as employees, considering enterprises that carry out manufacturing activities. Hence, the current analysis does not consider trade in services, or women's participation as entrepreneurs or business owners in manufacturing trade activities.

New Zealand

Statistics New Zealand provides data adhering to specific standards and classifications (Statistics New Zealand n.d), among these a statistical standard for the collection and dissemination of data on gender, sex, and variations of sex characteristics (Statistics New Zealand 2021a). To ensure adherence to best practices, these statistical standards are regularly evaluated by Statistics New Zealand.

Data provided by Statistics New Zealand enables the analysis of women's participation in trade, including their roles as employees and business leaders and owners. This data has been used in analysis conducted by the OECD and the New Zealand Ministry of Foreign Affairs and Trade (MFAT) in their Trade

and Gender Review of New Zealand (OECD, 2022b), and a report by MFAT (MFAT, 2022).

There are two different approaches for analysing women as employees. The first involves a top-down approach, utilising New Zealand's Input-Output tables and survey-based official employment data to estimate export and tradable sector employment by industry and gender (Bailey & Ford, 2018). In addition to New Zealand's direct exporters, the tradable sector includes industries that supply goods and services to exporters, produce goods and services that could potentially be exported, and are exposed to import competition. However, this approach requires some simplifying assumptions, the most notable of which is that the export propensities apply evenly across an industry.

Employment data is sourced from the Household Labour Force Survey (HLFS) provided by Statistics New Zealand. The HLFS offers a regular, timely, and comprehensive picture of New Zealand's labour force, producing a range of statistics each quarter related to the employed, the unemployed, and those not in the labour force, who comprise New Zealand's working-age population (Statistics New Zealand, 2023a). These measurements are subsequently cross tabulated by demographic characteristics such as age group, gender, locality, and ethnicity. Other labour-related characteristics include industry, occupation, and status in employment (Statistics New Zealand, 2017).

To calculate export employment for each industry, employment data by industry from the HLFS are multiplied by the ultimate export intensities (Bailey & Ford, 2018). These intensities capture both the production of goods and services that are exported and those that are used as inputs to exports. The estimates provide insights into how labour force participation differs by gender across exporting industries. When combined

with earnings information, they can also be used to investigate correlations between gender representation and gender earnings gaps in export industries. Moreover, the demographic characteristics included in the HLFS allows for intersectional breakdowns in the analysis of employees, such as by ethnicity.

The second methodology involves a bottom-up approach, utilising New Zealand's administrative data sets (MFAT 2022). Statistics New Zealand provides administrative data at both the firm and individual levels through the Longitudinal Business Database (LBD) and the Integrated Data Infrastructure (IDI) database respectively. The LBD captures data about individual firms, including customs data on goods exports and imports. This allows to identify firms that export goods. The IDI captures individual-level data from a wide source of administrative records on people and households, based on gender.

By leveraging the LBD and IDI database, it is possible to link firm data in the LBD to each firm's employee data in the IDI via monthly payroll tax filings. The data is subsequently de-identified to protect privacy and made available for researchers. This approach enables the analysis of firms by trade activity and the characteristics of their employees, including the number of employees, their gender, and wage characteristics.

These methodologies for collecting gender-differentiated data on women as employees enable a comprehensive analysis of women's participation in export-related employment. Specifically, it is possible to determine the female share of employment in export, tradable and non-tradable sectors. It also enables the comparison of women's participation in export versus non-export firms, as well as comparisons of women versus men in export-related employment. The review includes data on export employment between 2005 and 2021.

The availability of firm-level data further facilitates the analysis of the number of employed persons by firm size, and the share of export employment by firm size. The review makes use of data from 2018 and divides exporting firms into three firm sizes based on the number of employees: those with 1-49 employees, those with 50-249 employees, and those with 250 or more employees.

The top-down methodology can further be extended to examine the intersection between gender and ethnicity. For instance, the share of women working in export employment is available with intersectional characteristics, such as ethnicity, including by industry. It enables the determination of the share of export employment of total employment by gender and ethnicity. In the review, this analysis is presented between 2009 and 2020. Data is available by industry in 2021, enabling the determination of the number of employed persons by gender and industry. For the industry analysis, industries are classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC).

The firm-level data from the LBD database further allows for the analysis of firms' business owners and leaders, including their gender, by trade activity. This facilitates the differentiation of goods-exporting firms based on whether they have a majority of males of females in their leadership team, as compared to non-exporting firms. This is achieved by estimating the gender composition of senior management teams using employment and earnings data, under the assumption that individuals earning above a certain threshold in each firm constitute the firm's managers and leaders. This approach allows for the distinction between majority women-owned and men-owned firms. However, it is important to note that due to the lack of specific data, it is not definitely known how individuals' earnings

correspond to specific roles and decision-making responsibilities within each firm.

In the Trade and Gender Review of New Zealand, the quantitative data from the LBD is complemented by a qualitative analysis based on workshops and interviews with women entrepreneurs and exporters. The qualitative analysis consists of structured discussions with New Zealand women entrepreneurs, focusing on the challenges they face growing their businesses internationally, the discrimination they have encountered as business leaders, and the support they have received. These discussions were facilitated by New Zealand's trade promotion agency, New Zealand Trade and Enterprise (NZTE).

Using the firm-level data, it is possible to answer several questions related to gender and export activities, including the proportion of goods-exporting firms that have women in leadership roles compared to those led by men. This analysis can also be applied to non-exporting firms. Additionally, the share of the total value of exports that is contributed by women-led firms can be determined, as well as how having women in leadership or ownership roles might influence a firm's exporting characteristics. New Zealand also has collected data on women's engagement in trade as employees, by firm size and sector of activity. This can be compared with men's engagement in trade as well as with jobs that are not engaged in trade. New Zealand has also made possible intersectional analysis based on gender and ethnicity.

However, there is a notable gap in the dataset, which is the lack of data about firms that export and import services. This means that the analyses are limited to goods, as there is currently no administrative data source that comprehensively measures trade in services.

Women consumers

A significant challenge in analysing the impact of trade on women is the lack of gender-differentiated data on women as consumers. Consumption patterns are generally collected at the household level without a gender-specific breakdown within households. As such, the direct measurement of trade impacts on women's role as consumers is not possible. One potential solution to this issue is to analyse the effects of price changes due to trade and trade policy on different types of households and income levels, such as couples, single dwellers, two-parent families, and single-parent families. Women are disproportionately represented in certain household categories, such as single-parent households and elderly single dwellers, which allows for an indirect measurement of the impact on women.

Statistics New Zealand provides the Household Economic Survey (HES), which collects information on household income, savings, and expenditure, as well as demographic information on individuals and households (Statistics New Zealand, 2023b). The survey is conducted through face-to-face interviews and an electronic survey questionnaire, using a statistical method based on physical addresses to select households for each survey, which constitute a sample that represents a larger population. It describes the expenditure patterns of different socio-economic groups and is designed to measure the economic well-being of New Zealanders. The survey measures household income and housing costs annually, while wealth and detailed expenditure data are collected every three years.

One of the purposes for the HES is to study effects on income and expenditure of policy changes, (ILO n.d.) including trade policy changes. Hence, it is possible to study the effects of trade policy changes on income and expenditure for different house-

hold structures. The degree to which households are exposed to a tariff increase depends on the price changes of the commodities they consume and on the extent to which they consume each commodity (OECD 2022b). The OECD's computable general equilibrium (CGE) model METRO was utilised for this purpose in the Trade and Gender Review of New Zealand (OECD, 2022b). This enables an indirect analysis of the impacts of trade on women as consumers.

Sweden

Since 1995, the Swedish census has been entirely register-based (UNECE 2019). Gender information is typically obtained via personal identity numbers, which correspond to legal gender classifications. This data is derived from the records of registered individuals provided by the Swedish Tax Agency to Statistics Sweden, forming the Total Population Register (Statistics Sweden 2017a).

The Total Population Register also serves as a database that provides supplementary data to other registers and surveys, thereby reducing the number of questions in surveys and easing the burden on respondents. This is also applicable to household surveys, where gender information is retrieved from the population registry. The comprehensive integration of data within the Total Population Register ensures that a significant portion of individual statistics is harmonised and largely comparable.

According to Section 14 of the Official Statistics Ordinance, 2001, official statistics related to individuals are required to be disaggregated by gender unless there are specific reasons not to do so (Statistics Sweden 2018). Consequently, when individual-level official statistics are released, gender breakdowns are provided for each combination of other divisions and reference

times included (Statistics Sweden 2019). Statistics Sweden collects gender-specific data across various areas, including education, employment, unemployment, working hours, and salary statistics for both employees and entrepreneurs across different sectors (Statistics Sweden 2004).

Statistics Sweden provides labour market statistics derived from both administrative sources and surveys. The statistics sourced from administrative data are available from 1985 through the Register-based Labour Market Statistics (RAMS). RAMS offers insights into employment, commuting patterns, personnel composition, industrial structure, as well as events and flows within the labour market. These statistics are collected annually and can be disaggregated to a granular regional level or based on employee characteristics such as gender, education, and age (Statistics Sweden n.d.a). However, the RAMS source was discontinued in 2021 and has been replaced by the Population by Labour Market Status (BAS) dataset.

Similar to RAMS, BAS is a register-based statistical product that provides insights into the labour force supply in Sweden on a monthly, quarterly, and annual basis (Statistics Sweden n.d.b). For employed individuals, information that derives from the main place of work at which the person is employed is also reported, such as location and industry (Statistics Sweden 2024b). This information is collected from the Business Register and through employer declarations at individual level from the Swedish Tax Agency.

The primary purpose of the BAS register is to describe the state of the labour market and its development over time, with data available from 2020 onwards. In addition to detailing the number of employed individuals, BAS also presents statistics on the number of unemployed individuals and those outside the

labour force within the registered population aged 15–74 years. Employed are reported by occupational status, with the categories including employees, self-employed and entrepreneurs.

BAS provides intersectional statistics, enabling an analysis across various dimensions such as gender, age, country of birth, industry, sector, workplace and residential region, main source of income, and work-related income level. These statistics can be utilised individually or in combination to shed light on different divisions and reporting groups. Industry classifications follow the Standard for Swedish Industry Classification (SNI), while sector classification adheres to the Standard Classification by Institutional Sector (INSEKT 2014).

In addition to the administrative sources, Statistics Sweden conducts the Labour Force Survey (LFS) on a monthly basis with the aim to describe the current labour market conditions for the Swedish population aged 15–74 and providing information on labour market developments (Statistics Sweden n.d.c). However, as of January 2021, the target population has been expanded to include individuals aged 15–89, in accordance with Regulation (EU) 2019/1700 of the European Parliament and of the Council (Statistics Sweden 2024a). The target group includes individuals residing in private households who are listed in the Swedish population register. Background variables are retrieved from the Register on Educational Attainment of the Population and the Total Population Register. These variables encompass demographic characteristics such as gender, age, civil status, educational attainment level, presence of children at home, county of residence, metropolitan municipalities, and country of birth.

The LFS provides data on the number and share of employed and unemployed individuals on a monthly, quarterly, and annual basis. It serves as the primary source of continuous informa-

tion on total unemployment and is the official measure of the unemployment rate in Sweden. The LFS estimates several key statistical target characteristics related to labour force status on a monthly basis. These statistics provide essential insights into the dynamics of the labour market, including levels of employment and unemployment, as well as labour force participation rates. The survey's design aligns with International Labour Organization (ILO) conventions and recommendations, ensuring its relevance and reliability. As the survey is conducted in accordance with international guidelines and regulations, the results contribute to international comparisons.

Statistics Sweden further provides statistics on trade in goods and services, both domestically and internationally. The statistics on foreign trade in goods is published on a monthly basis, covering the value and quantity of foreign imports and exports of goods broken down by commodity and country (Statistics Sweden 2024c). In addition to the published statistics, it is possible to order statistics on foreign trade with goods linked to different variables in the Business Register.

Imports are reported for the country of consignment, and exports are reported for the country of destination, which refers to the most recently known country where the goods are intended to be consumed. Commodity classifications follow the Combined Nomenclature (CN), Standard International Trade Classification (SITC), and Swedish Standard of Product Classification by Industry (SPIN) respectively. SPIN is Statistics Sweden's own trade classification, in which products are grouped by the Standard Industrial Classification (SNI).

Statistics on foreign trade in goods with countries outside the EU is based on submitted import and export declarations from the Swedish Customs Administration. Statistics on foreign

trade in goods with other EU countries is collected monthly by Statistics Sweden via the Intrastat survey. The survey targets enterprises above a certain threshold value, and for those that are below the threshold, values are estimated by Statistics Sweden.

The statistics on foreign trade in services provide estimated values of Swedish imports and exports of services by quarter and year. The estimation basis primarily consists of reported values from the survey Foreign Trade in Services, which is compiled and produced by Statistics Sweden on behalf of the Riksbank (Statistics Sweden 2023b). The target variables are the total service value, disaggregated by service type, direction (i.e., import or export), and country, as well as the net trade in services, calculated as the difference between the total service value for export and the total service value for import, by service type or by country (Statistics Sweden 2024d).

To conduct the survey responses, a frame that consists of all active legal entities in Statistics Sweden's business register is constructed[10]. The frame is further supplemented with data from other sources, indicating that the company conducts foreign trade in services in the year concerned, and the extent thereof. Once the frame is constructed, a sample of Swedish companies and public authorities that are assumed to conduct foreign trade of any service in any direction during the current sample year is drawn from this frame. The legal entities in the frame are subsequently divided into disjoint strata, which is done in three dimensions: industry group, actor status and size. For the stratification into industry groups, the Swedish Standard of Industrial Classification (SNI) are used.

10 See Statistics Sweden (2024d) for a full description of the creation of the frame.

Kyvik Nordås, Lodefalk, and Tang (2019) utilise matched employer-employee and firm level trade data for Sweden to perform a granular analysis of Swedish labour market dynamics between 1999 and 2014. Data is collected from various sources, including the Structural Business Statistics (SBS)[11], Longitudinal Integration Database for Health Insurance and Labour Market Studies (LISA)[12], Enterprise Group Register (EGR)[13], Foreign Trade Statistics covering both goods and services, and Compensation of Employees and Current Transfers (FTS). Shift-share analyses are conducted to study changes in employment patterns by gender, occupation, and skill level, providing insights into labour market dynamics. These are subsequently related to foreign trade in goods and services. This allows for the analysis of how the probability of workers changing jobs is related to a change in the firms' export status, controlling for worker characteristics such as gender, skill level, and occupation.

Halvarsson, Lark, Tingvall, and Videnord (2022) utilise matched employer-employee data with trade data to analyse the relationship between contract intensity, exports, and the gender wage gap within Swedish firms between 1997 and 2015. Specifically, the paper aims to examine how the contract intensity of exported goods, i.e., goods that require more interaction between buyers and sellers for trade to occur, influences the gender wage gap. This analysis is carried out through the estimation of

11 SBS is an annual survey based on tax declarations from the Swedish Tax Agency, with the purpose to shed light on the structure of the business sector, excluding the financial and public sectors as well as household's non-profit organisations (Statistics Sweden 2017b). This includes aspects such as profitability, growth, development, financing, and production.

12 LISA contains detailed data on sickness-, parental- and unemployment insurance at the individual level, and is sourced from various databases, including the total population register, RAMS, and the Swedish Public Employment Service's register of job seekers, among others (Statistics Sweden 2023c).

13 EGR is included in the Business Register (FDB), which is one of the base registers in the statistical system of registers, providing information on businesses by industry and size (Statistics Sweden 2023d).

a multi-level fixed effects wage regression model. The combined dataset enables the analysis of the gender wage gap based on a firm's export intensity. The paper further analyses the impact of trade on female wages within industries characterized by high versus low contract intensity. Moreover, the authors explore the heterogeneous effect of increased exports across different employee groups, by dividing them into subgroups based on educational attainment and occupational category. Specifically, employees are divided into blue- and white-collar occupations, which is further divided into specific roles such as managers, sales, tech, and support workers.

The register-based format of Swedish data allows for the linking of data on individuals and firms, including their foreign trade activities. The rich availability of detailed microdata in Sweden facilitates the identification of the gender among business leaders or owners at various levels within companies. This enables the analysis of women's participation in trade both as employees and as business leaders. The Swedish Agency for Growth Policy Analysis (2023) notes that although the availability of gender-disaggregated data is relatively good in Sweden, research on the impact of foreign trade on men and women remains limited, particularly concerning gender differences at the managerial level. Notably, studies based on Swedish data have been focused on the gender wage gap.

Concluding reflections on the diversity of approaches in collecting data on women in trade

The case studies examined in this paper reveal variations in data collection methods for gender-disaggregated data on women in trade. While some countries base their analysis on administrative databases, other countries utilise surveys to target specific groups of the population. Countries use different

methodologies to combine data on business and employee characteristics with exports and imports. Trade data also differ in their coverage, in particular as regards services. These different data methodologies across countries generally come about due to differences in statistical systems and differences in, for example, societies' appetite for government oversight of detailed data collection. These diverse systems pose challenges and constraints on the possibility of undertaking comparative analyses, and suggest underlying differences in countries' analyses as regards quality, representation and timeliness.

The United Nations Statistics Division (UNSD, 2022) has produced a *Handbook on Management and Organization of National Statistical Systems* intended to guide national statistical offices (NSOs) in their work to maintain and develop statistical capacity that is fit for purpose. While not specifically targeting gender-differentiated data collection, the handbook sheds light on the advantages and disadvantages associated with various types of data sources, with particular emphasis on survey and administrative data. In general, there is no one-size-fits-all or 'best practice' that can be easily transferred from one country to another (UNSD, 2022).

Survey data

The main advantage of survey data is that it provides direct control over the data content since it is collected directly from respondents, enabling researchers to ask questions precisely on the subjects for which information is sought (UNECE 2007). Survey data are collected either through sample surveys or censuses (UNSD 2022). Both approaches are used to draw conclusions about the entire population, although only censuses cover the whole population. Sample surveys hold the advantage of being a more cost-effective alternative to censuses, but as data

are collected from a subset of units and inferences are made about the whole population, the data are subject to sampling error (UNSD 2022).

It is important to consider that non-response to surveys may cause biases in the statistics, as respondents are not always able or willing to provide correct answers (UNECE 2007). For instance, respondents may misinterpret questions or skip some of them, leading to response errors. This is especially true for self-completed surveys, which typically have lower response rates than interviewer-assisted methods, as there is no pressure for the respondent to complete the questionnaire. Consequently, the quality of the data may constrain the potential analyses that can be undertaken.

Despite the constraints and potential biases that arise from surveys, they can complement other analyses, particularly in areas such as women's engagement in trade, and trade in services, where comprehensive data sources are relatively scarce. In many countries, gender-differentiated trade data are limited to firms that engage in trade in goods due to the lack of data on businesses' export and import of services in administrative sources and surveys, such as those in Brazil, Mexico and New Zealand. Additionally, services sectors are often inadequately covered in business and labour force surveys (Korinek et al. 2021). Datasets that are limited to trade in goods make the analysis of women's participation in trade challenging, considering that women are typically more present in services sectors, both as employees and business leaders. Analyses based on data restricted to trade in goods can therefore yield biased results, as they cannot provide a comprehensive picture of women's engagement in trade. Surveys can complement analyses based on data of trade in goods, enabling the examination of both goods and services exporting firms. However, compared to comprehensive administrative

data sources, they generally include far fewer firms. Moreover, depending on the methodology, surveys can include individuals or economic activity that take place in the informal economy, which are not captured in administrative data.

Administrative sources

In contrast to sample surveys, administrative sources often provide complete coverage of their target population, thereby reducing sampling errors and non-response bias (UNECE 2011). Moreover, they are typically more accurate as they are collected directly from official records. It is possible to produce more detailed statistics using registers, including statistics for small areas and very detailed classifications, than with sample surveys. Furthermore, different registers can be easily and precisely linked by leveraging common identifiers, such as unique personal identity numbers and unique registration numbers of firms.

The use of registers is common in the Nordic countries, as observed in the case studies of Finland and Sweden. For instance, leveraging unique identifiers of all residents and firms in Sweden enables the creation of a linked employer-employee database. This allows for the tracking of employees and their earnings over time, facilitating the possibility to conduct a wide range of analyses as Swedish data contain comprehensive and detailed information about employees, jobs, and the firms that they work in. However, such data collection methods are ill-suited to account for informality in labour markets and economic activity.

The different methodologies in collecting gender-differentiated data limit the extent of cross-country analyses that can be conducted. Countries sharing the same data collection method, such as Finland and Sweden, both of which largely rely on register-based data, facilitate cross-country comparisons. However,

comparing estimates between countries with different data collection methods can be more challenging and may not yield as accurate analyses. For example, Chile collects information on the role of women as business leaders in exporting firms through surveys. Given the inherent biases in survey-based collection methods, in combination with the smaller target group compared to the register-based approach in Finland and Sweden, it becomes challenging to draw conclusions from comparisons between the countries.

International standards, classifications and definitions

The UN Handbook on Management and Organization of National Statistical Systems emphasises the importance of adopting international standards in official statistics to enhance the quality, comparability, and utility of national statistics (UNSD 2022). Data on employment can be collected either through labour force surveys or linked employer-employee data, with the latter sourced either from business registers and business statistics or through business surveys. Consequently, not only do the collection methods differ in the questions asked, but also in terms of the respondents targeted. While labour force surveys target individuals, business surveys and register data target businesses. Generally, business survey and registry data are considered superior in quality compared to labour force surveys due to greater incentives and capabilities to provide precise information, including precise classification of business sectors. This variation in data collection method on employment makes comparative studies challenging, as it indicates that the quality of the data differs between countries.

Another confounding aspect is the classification system used in each country. For instance, when comparing the female proportion of exporting SMEs in different countries, it is

important to keep in mind that SMEs are defined differently between countries. For instance, in Canada, SMEs are primarily classified based on the number of employees, while in Chile, business sizes are categorised based on their sales records. This also applies to industry classifications, which often rely on national or continental standards and therefore vary between countries although many national industry classifications follow international standards.

Across countries and methodologies, there is a lack of comparability among national definitions of women's leadership and ownership. For example, to determine business leaders, New Zealand bases its definition on employees' wages, assuming that employees' wages above a certain threshold constitutes the firm's leaders. In order to determine the gender of the firm's leader, Brazil relies on the probability in the census that their name refers to a women or man. Moreover, Brazil's leadership indicator is based on public companies' corporate structure thereby does not include all types of firms. All of these proxies can lead to errors and missing data. In countries such as Finland and Sweden, that largely rely on register-based systems, the professional roles and shareholder information is available and thereby more accurately measured.

An international consultative process organised by the International Trade Centre, the Swedish Institute of Standards and the International Standardisation Organisation (ISO) developed an agreed definition for women-owned and women-led businesses, published as an ISO/IWA standard[14]. This standard can serve as a benchmark for policymakers wishing to identify women-owned and women-led firms; it can also provide a common definition for statistical agencies wishing to expand

14 It is the IWA34:2021 Women's entrepreneurship – Key definitions and general criteria, edition 1, https://www.iso.org/standard/79585.html.

their coverage of gender-differentiated trade data. Such processes of agreeing on definitions, while time consuming, can help to increase comparability across countries and agencies.

Comparable indicators are best calculated when national statistical offices' data are compatible and harmonised with international standards. This includes, for example, detailed industry breakdowns of firm's characteristics including employment. Many OECD countries have been collecting Labour Force Surveys (LFS) for many decades. As such, the definitions in LFS are already well-established. The TiM by characteristics (TiMBC) dataset described above uses LFS data and can therefore provide harmonised cross-country, high-dimensional data on gender-differentiated employment. Challenges arise, however, if countries' LFS data are not reported using internationally agreed classifications, such as those for worker's occupation and industry breakdowns. Additionally, most countries do not revise their historical datasets which adds challenges to harmonising their time series when classifications change over time. Considerable time is spent in the production of TiMBC addressing these discrepancies to generate gender-differentiated indicators.

It is also important to note that modelling scenarios such as estimates of impacts of trade on women consumers that are generally done using CGE models necessarily rely on assumptions. For instance, CGE modelling requires assumptions in areas such as gender-differentiated employment decisions, trade-offs between women's and men's employment, and gender-differentiated behaviours in responding to gains or losses in wages and employment opportunities (Korinek et al. 2021).

Moreover, calculated data, such as TiM by characteristics, rely on hypotheses and assumptions. Therefore, when conducting analyses based on synthetic data like TiM, the major

assumptions underlying the data are implicated in the results of the analysis. This imposes constraints on the possibilities to undertake meaningful analyses using this data. Additionally, as mentioned above, TiM by characteristics is built from national data sources, and until data collection and aggregation are harmonised across countries, it is challenging to conduct comparable studies in part because the quality of the data differs between countries.

Implications from the selected countries' gender-differentiated trade data

The approach in analysing women as employees in Brazil, Canada, Mexico and New Zealand through the linking of employment data and trade data could be applied in other countries, as the vast majority of the countries covered in the case studies collect employment data disaggregated by gender. The linking of these data, although difficult, offers a wealth of information on participation in labour markets of different types of individuals and firms and their engagement in trade. Each dataset has its constraints, however, for example the lack of coverage of trade in services or specificities in the calculation of women in leadership outlined above.

One data source that holds substantial promise to shed light on time constraints on women's participation in the labour force as well as engagement in informal jobs is time-use surveys. Time-use surveys include information about how members in a given household spend their time at a very granular level, such as in paid employment; in unpaid work such as child and elder care, domestic work, cooking, shopping; in transport; personal care; sleeping; and leisure. Women engage in much more unpaid work compared with men and the extent of this unpaid work comes out clearly in a granular fashion in time-use surveys.

Most countries hold time-use surveys but many do so very infrequently. In some OECD countries, for example, more than a decade has passed since the last time-use survey was undertaken. In many countries and households, substantial changes have happened in the way time is spent and the gendered division of labour within the household in the last decade. Although costly, time-use surveys shed light on the gendered differences in time spent by women and men in different activities which impacts their ability to engage in labour markets and trade. They can also shed light on informal employment.

Finally, the lack of data on gender-differentiated consumption is applicable to almost all countries covered in the case studies. Consumption data is generally measured at a household level, making it difficult to differentiate between the consumption of women and men. The OECD has undertaken studies using household consumption data in a number of countries to estimate the impacts of trade on different household types (OECD, 2022b and OECD, 2025), including households where women are disproportionately head of household like single-parent families with children, as well as by gender of the head of household (OECD, 2022b and OECD, 2025). This approach could be adopted by others, in order to expand the knowledge base of the impacts of trade on households at different income levels, with different compositions and by gender of the head of household.

Although there are many constraints on using existing data to obtain comprehensive analyses of the engagement of women in trade, many of them outlined above, the reality remains that these data exist more than ever before. Many countries are now collecting such data, or combining existing datasets for the first time to obtain more granular snapshots of who trades what and who is engaged in trade. Moreover, some countries have

taken the extra step to de-identify granular data in order to make these available for research purposes which can support extending the knowledge base on women's engagement in trade and the impacts of trade on women. The analysis provided here may suggest ways in which countries can refine their data collection methodologies to obtain more granular analysis of engagement in trade. Better, more granular, higher quality data is important not only as an end in itself but as an input into better policymaking.

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Reality Check: the impact of the Gender Chapter in the agreement between Chile and the European Union*

Reality Check: el impacto del Capítulo de Género en el acuerdo entre Chile y la Unión Europea

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Abstract

This paper examines the potential impact of the gender chapter in the modernised EU–Chile trade agreement through a contextualised intersectional analysis. Drawing on desk research and in-depth interviews with grassroots, rural and Indigenous women from Chile, it analyses how the chapter's commitments align with the lived realities of those most affected by trade liberalisation. While the agreement acknowledges gender-differentiated impacts of trade,

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the findings reveal that it homogenises "women," overlooks intersecting inequalities, and fails to address structural barriers such as care burdens, informality, unequal access to productive resources and environmental degradation. The absence of enforceable obligations and meaningful consultation processes further weakens its potential for meaningful impact. The paper contributes to feminist political economy by demonstrating the persistent disconnect between policy narratives and on-the-ground experiences, and by showing how trade policy can inadvertently reproduce structural disadvantages. It concludes that gender chapters must be based on intersectional gender assessments, include enforceable implementation mechanisms and embed meaningful consultation with women's rights organisations to support gender-just trade outcomes.

Keywords: gender equality – trade – Chile – women's organisations – intersectionality.

Resumen

Este artículo examina el posible impacto del capítulo de género del acuerdo comercial modernizado entre la UE y Chile mediante un análisis interseccional contextualizado. Basándose en investigación documental y en entrevistas en profundidad con mujeres de base, rurales e indígenas de Chile, analiza hasta qué punto los compromisos del capítulo se alinean con las realidades vividas por quienes se ven más afectadas por la liberalización comercial. Aunque el acuerdo reconoce los impactos diferenciados por género del comercio, los resultados revelan que homogeniza a las "mujeres", pasa por alto las desigualdades interseccionales y no aborda barreras estructurales como las cargas de cuidados, la informalidad, el acceso desigual a los recursos productivos y la

degradación ambiental. La ausencia de obligaciones exigibles y de procesos significativos de consulta debilita aún más su potencial para generar un impacto sustantivo. El artículo contribuye a la economía política feminista al demostrar la persistente desconexión entre los discursos de política pública y las experiencias en los territorios, y al mostrar cómo la política comercial puede reproducir inadvertidamente desventajas estructurales. Concluye que los capítulos de género deben basarse en evaluaciones de género interseccionales, incluir mecanismos de implementación exigibles e incorporar procesos significativos de consulta con organizaciones de derechos de las mujeres para apoyar resultados comerciales con justicia de género.

Palabras clave: igualdad de género – comercio – Chile – organizaciones de mujeres – interseccionalidad.

1. Introduction

Recent years have witnessed a significant increase in mainstreaming gender equality in trade agreements, through gender provisions or stand-alone gender chapters. This development was facilitated by decades of feminist macroeconomic research demonstrating the two-way relationship between gender and the economy, meaning that economic policies shape gender relations, while gender relations impact macroeconomic performance and growth (Elson and Cagatay 2000, Seguino 2013, van Staveren 2002; 2011). This groundbreaking work established that trade affects women and men differently, depending on the structural inequalities affecting their status and roles in the economy, as workers, producers, consumers, and providers of paid and unpaid care. It also contended that the economic gains generated by international trade had been unequally distributed across social groups, with disparities shaped by gender, class,

ethnicity, and geography (Fontana 2009; 2016; Bahri 2023; Klimke & Tietje 2023). Feminist scholars highlighted that trade can only lead to sustainable development when its gains are equitably distributed (Fontana 2016, UNCTAD 2020). The groundbreaking work done during these decades established a feminist macroeconomic research agenda (Seguino 2013), which has since influenced trade agreements, multilateral fora, development summits and international declarations. As this paper contends, a major weakness lies in the design and implementation of gender provisions. These are often voluntary, and lack mechanisms for implementation, monitoring and impact-assessment.

The increasing number of gender provisions and stand-alone gender chapters in free trade agreements is frequently presented as a policy innovation. As a result of their novelty, there is little research on the effectiveness of gender chapters in FTAs and the impact they have on gender equality in the countries which have included such provisions. Many scholars argue that the non-binding nature, combined with the absence of implementation, monitoring frameworks and enforcement commitments, accounts for their limited effectiveness (Cohen 2021; Bahri 2021; 2023; España 2021; Lopez et al. n/d ; Ramos Borges et al 2024; Boell et al. 2021). However, much of this research predominantly addresses policy intent, leaving a research gap in understanding their situated, intersectional impact in specific local contexts.

This paper examines the potential impact of the stand-alone gender chapter in the EU-Chile trade agreement on intersectional inequalities. A key question is whether this gender chapter has been designed to effectively address or (even) reverse the gendered distributional inequities embedded in Chile's socio-economic and trade structures. Similarly, it probes to what extent

the gender chapter has the potential to contribute to enhancing gender and intersectional equality in the country.

Chile offers a particularly relevant case study, due to the visible efforts made by the Chilean government in recent years to strengthen the policy and legal frameworks in favour of women's rights at the national level, and to relocate gender equality commitments in official trade agreement texts at the international level. These initiatives are commendable; however, as discussed in the following chapters, much remains to be done in terms of implementing these commitments and enforcing existing policies and laws at the national level.

The unique contribution of this paper lies in applying a contextualised intersectionality framework to assess the EU-Chile gender chapter. Going beyond mere gender-responsive policy analysis, the paper examines how its commitments relate to the lived realities of heterogeneous groups of women and men, thereby exposing the disconnect between policy narratives and everyday experience. It is hoped that this contextualised approach will contribute to filling in a gap in existing literature on gender and trade and contribute to ensuring fair and effective trade policies.

Our conceptual framework proposes a contextualised analysis of gender inequality in relationship with intersecting grounds of inequalities. It builds upon the recommendations by Patricia Hill Collins (2019) to i) consider social context as a site for knowledge production; and ii) to contextualise theoretical and policy insights because inequalities are not fixed, universal, or additive, but rather produced and experienced through specific local and historical circumstances. An intersectional lens

requires focusin[1]g on how power relations at work in social and economic structures shape lived experiences of intersecting inequalities at specific moments and in specific locations (Collins 2019)[1]. In the specific case of Chile, key intersecting grounds of discrimination informing equality are: socioeconomic status, age, ethnicity, geographical location (rural, urban, migrant status), disability, among other factors of social stratification. We argue that a situated intersectional approach more clearly illustrates the likely impacts of trade agreements on the livelihoods and fundamental rights of women and men who live, produce and consume in economies structured upon social and economic hierarchies.

The methodological framework includes desk research, field and semi-structured online group and individual interviews with representatives of six grassroots women's organisations (mostly rural and indigenous), and one scholar[2]. The grassroots women interviewed are members of RATMURI, a regional branch of the National Association of Rural and Indigenous women (ANAMURI). RATMURI is the association of rural and indigenous small-scale producers and self-entrepreneurs living in the northern region of Atacama (III region). Focusing on grassroots women's organisations provides situated knowledge on how trade policies and gender relations shape livelihoods, working conditions, agency and rights on the ground. In-depth individual interviews were held with those women leaders to corroborate and adjust the data collected. Data was triangulated and embedded in this paper, keeping names and identities

1 Echoing Hill Collins, McKinzie & Richards argue that context-driven intersectionality allows for a bottom-up approach to analysis while also being attentive to the systemic and structural power relations that structure daily life (2019: 4). This framework is particularly relevant for analysing how trade policies affect women and men from diverse territorial and economic realities.

2 Interview with senior university professor, and expert in trade liberalisation and impacts on women workers from the fruticulture industry in Chile.

of interviewees anonymous for safety purposes, unless they consented to certain details being mentioned.

The structure of the paper is as follows. Section 1 outlines the context of gender equality and trade policy. Section 2 examines key issues related to the inclusion of gender equality chapters in trade agreements and the policy context of the recently included gender chapter in the EU-Chile agreement. Section 3 maps the intersecting inequalities shaping Chile's trade architecture in connection with the policy narrative included in the gender chapter. This paper concludes with a set of policy recommendations (Section 4).

2. Chile's track record of gender chapters in trade agreements

Chile started to mainstream gender in trade policy in the early 2000s. Initially through preambles, and later through separated gender chapters in free trade agreements. This has also increased over the years at the bilateral level. These initiatives show political willingness (López et al. (n/d), but are often limited in scope, largely aspirational and structured around cooperation rather than enforceable obligations. Academic analyses of Chile's gender chapters commonly highlight two trends. Firstly, they point to template-based replication, whereby earlier gender chapters serve as models for later agreements, which results in highly similar language across agreements. López et al. (n/d) point to "an important imitation process," with the first agreement being used as template for the following ones. As a result, the legal texts look "identical in content in most parts," (p.15).

Secondly, they point to non-binding commitments, which restrict their ability to meaningfully advance gender equality in practice. In her analysis of Chile's FTAs with Canada and Argentina, Cohen (2021) concludes that these gender chapters

lack the basic elements needed to be truly effective in combating inequality. Others have argued that commitments in gender chapters appear to be just "promises" and "best endeavour commitments which are completely unenforceable (Bahri 2021; 2023). Lopez et al. contend that the provision of "non-application of dispute resolution" renders them non-enforceable, since they contain no "leverage mechanism to ensure parties' compliance" through implementation.

Table 1. Overview of Chile's inclusion of gender provisions in FTAs[3].

Table 1: Key information on participants

Entrepreneur (Entr) #	Country of origin (business)	Type of business	Business age (years)	Family status	Children	Product / Service	Export	Export Destinations	# min of recording
1	Mali (Mali)	Software Development	6	Married	Pregnant	Service	Not yet, but planning	Togo, Burkina Faso	23
2	Cameroon (Kenya)	E-commerce	10	Married	Yes	Product	Yes	US, Senegal, Cameroon	27
3	Uganda (Uganda)	Edtech	4	Married	Yes	Service	Yes	Ghana, Malawi, South Sudan	28
4	Kenya (Uganda)	Edtech	5	Single	No	Service	No		53
5	Benin (Benin)	Software Development	8	Married	Yes	Service	Yes	Mali, Ivory Coast	45
6	Kenya (Kenya)	Transport	5	Married	Yes	Service	No		58
7	Burundi (Burundi)	Education	2	Married	Yes	Service	Yes	Mali	20
8	Ghana (Ghana)	Agriculture	4	Single	No	Product	Yes	Togo, Benin, Nigeria, Kenya	46
9	Kenya (Kenya)	Tech Consultation	11	Married	Yes	Service & Product	Yes	Uganda, Sierra Leone	34
16	Uganda (Uganda)	E-commerce	7	Married	Yes	Service	Yes	Kenya, Tanzania	53
17	Cameroon (Cameroon)	Edtech	5	Married	Yes	Service	No		32
18	Kenya (Kenya)	E-commerce	9	Single	No	Product	Yes	Nigeria, Kenya	57
19	Kenya (Kenya)	E-commerce	12	Single	No	Product	Yes	US	46
20	Tanzania (Tanzania)	Software Development	3	Single	No	Product	Yes	Kenya, Nigeria, Uganda	35
21	Kenya (Kenya)	E-commerce	6	Single	No	Product	Yes	South Africa, DR Congo, US	45
22	Kenya (Kenya)	Digital Marketing Agency	15	Single	No	Service	No		53
23	Kenya (Kenya)	Jewelery	4	Married	Yes	Product	Yes	US	33
24	Nigeria (Nigeria)	Talent Marketplace	5	Single	No	Service	No		49
25	Kenya (Kenya)	Jewelery	5	Married	Yes	Product	Yes	US, Germany,	31

3 For official information on all FTAs signed by Chile see https://www.subrei.gob.cl/acuerdos-comerciales/acuerdos-comerciales-vigentes.

4 The AFA was ratified by the Chilean Parliament in 2024. The full agreement is waiting for ratification from EU member states. In the meantime, the Interim Trade Agreement (iTA) entered into force in 2025. Even though the AFA and the iTA are both legal instruments of the modernised agreement, it is worth distinguishing between them. The AFA is comprehensive, and includes three pillars, namely political dialogue (including on human rights and environmental sustainability), cooperation, and trade/investment (including investment protection). In contrast, the iTA covers those parts of the trade and investment pillar of the full agreement that are of exclusive competence of the European Union.

25	Kenya (Kenya)	Jewelery	3	Married	Yes	Product	Yes	Nigeria	31
26	Kenya (Kenya)	Job Profiling Platform	4	Divorced	Yes	Service	Yes	Zambia, Ivory Coast	51
27	Namibia (Namibia)	E-commerce	6	Widowed	Yes	Product	Yes	South Africa	51
28	Rwanda (Rwanda)	E-commerce	3	Married	Yes	Service	No		48
29	Senegal (Senegal)	Digital Services	6	Divorced	Yes	Service	Yes	Switzerland, Ivory Coast	54
30	Senegal (Senegal)	E-commerce	5	Married	Yes	Service	Yes	US	34
31	Nigeria (Nigeria)	Transport	6	Single	No	Service	Yes	Ivory Coast	59
32	Kenya (Kenya)	Fintech	7	Married	Yes	Service	Yes	Uganda	55

2

2.1. Commitments of the Gender Chapter of the EU-Chile Advanced Framework Agreement - AFA

The modernised EU-Chile trade agreement, officially known as "the Advanced Framework Agreement-AFA", was signed in Brussels (December 13th, 2023), after two decades of negotiations, and includes a dedicated gender chapter (Chapter 27). Several of the commitments it makes are relevant to women's rights and gender equality.

Although the Chile-EU gender chapter identifies gender-differentiated impacts of trade, reference to the intersecting grounds of inequality affecting women's participation in trade is missing, and women are assumed as a homogenous group. For example, in chapter 27, Art. 27.1:

> The Parties aim to:
> b) facilitate cooperation and dialogue with the aim of enhancing women´s capacity, conditions and access to opportunities created by trade.

The paragraph above implies that women all have equal access to and control over the resources required to parti-

cipate in international trade. This is far from being the case in Chile, and specifically for Indigenous, rural, migrant and poor women. This homogenising approach overlooks the intersecting grounds of discrimination at work in Chile's trade architecture, and their impact on the lives, rights and livelihoods of women, including those who experience intersectional discrimination.

Close analysis of the EU-Chile gender chapter shows that efforts were taken to include barriers affecting women's empowerment and agency in trade. For example, there is reference to the work-life balance, decent work, working conditions and the gender pay gap. These inclusions reflect the parties' awareness of the fact that trade policy is not gender neutral. However, reference to, and analysis of, the intersecting grounds of inequality affecting gender relations is missing.

2.2. The policy level: an overview of the commitments

A relevant question at this stage is what is genuinely innovative about the gender chapter of the Chile-EU FTA, apart from being a good example of gender mainstreaming in policy discourse which heavily relies on "aspirational and affirmative" gender provisions? (Kuhlmann, K. & Bahri A. 2023). Table 2 presents an overview of commitments related to gender and intersectional equality in the gender chapter under discussion.

Table 2: Overview of commitments related to gender and intersectional equality (non-exhaustive)

The policy narrative / specific sections of the gender chapter	*Actions and gaps (from a gender and intersectional perspective) - Policy analysis*
Overall assessment of the gender chapter Chile-EU	■ There is textual evidence of gender equality awareness. ■ Emphasis is on women's economic empowerment, low policy attention to women's agency (their capacity to shape trade policies and their roles in the implementation of the commitments). ■ Homogenizing language: women assumed as a homogenous category, whereas gender equality in the Chilean context is informed by a complex interplay of class, age, gender, ethnicity and geographical origin.
Art. 27.1;27.2; 27.3. Recognition of women's key role in international trade and the need to improve equality of opportunity and treatment for women and men.	■ Emphasis is on removing barriers in access to international trade & markets, but low policy attention to removing systemic barriers in domestic contexts or tackling their root causes (gender & sociocultural norms causing care burden, informality trap, inequalities in access to land and other productive assets & resources. ■ Inclusion of equal treatment contained in normative frameworks (ILO, CEDAW). ■ There is reference to the principle of non-discrimination and diversity but no reference to intersectionality.
Art 27. 4/27.2.1 Reference to international frameworks/ commitments	■ There is reference to SDG Goal 5 but reference to other SDGs relevant to women's rights in trade is missing (for example; SDG1 on poverty, which includes equal rights to economic resources, ownership and control over land and property, and financial services, SDG8 on decent work and economic growth, which includes decent work for all women, eradication of forced labour and equal pay for equal value and labour rights for women migrants, and SDG10 which includes income inequality and discrimination by gender. ■ There is reference to CEDAW but specific recommendations on women with disabilities (GR 18), migrant women workers (GR26), indigenous women (GR 39) and rural women (GR 34)are overlooked. CEDAW General recommendation No 40. on the equal and inclusive representation of women in decision-making system is also missing.
Art. 27. 6, 8,/ Art. 27.2.3/ Art.273.2. Reference to human rights and women's HHRR	■ Democratic principles, human rights instruments and fundamental freedoms are mentioned. ■ There is no reference to the specific rights of indigenous peoples and women (in particular, ILO C169). ■ Labour rights, as they relate to trade policies and activities are not mentioned.
Actors and their roles in ensuring application of non-discrimination and diversity policies in corporate operations. Art. 27.9	■ There is emphasis on voluntary corporate guidelines; but no reference to the role of the state (institutions) to ensure regulatory frameworks are respected to ensure *de facto* equality on the ground. The role of the private sector is emphasised as important in "fostering gender equality by applying non-discrimination and diversity policies in their corporate operations in line with international guidelines and standards endorsed or supported by the Parties." Evidence has shown that voluntary guidelines are ineffective in bringing about substantial improvements in gender and intersectionality equality on the ground.
Monitoring mechanisms for implementation of gender commitments Art.27.7.	■ It is stated that the "Parties agree on the importance of monitoring and assessing, jointly or individually, the impact of the implementation of this Agreement." However, no monitoring mechanism, including a set of indicators to assess progress (or lack thereof) is proposed and there is no stated commitment to develop them. ■ A monitoring framework, including intersectional indicators are strongly recommended to assess impact and prevent harmful effects/risks and unintended consequences.
There is no reference to gender equality in relation to social and environmental sustainability in trade policies and operations.	■ The link is made in the Sustainable Trade and Development (TSD) section of the general text (Chapter 26). There, it is stated that a Sub-Committee will facilitate, monitor and review the implementation of the TSD Chapter. The Committee will be composed of senior officials or other levels from the institutions responsible for trade, labour, environment and gender issues.

3. The gap between policy and practice: the reality of gender and intersectional inequality in Chile's trade architecture

Many of the commitments mentioned in the gender chapter of the EU-Chile modernised agreement are in line with Chile's robust normative and policy framework[5]. At the international level, Chile has ratified several commitments and policy frameworks and translated several of them into national legislation (e.g. CEDAW, Belem do Para, ILO Conventions).

Despite progress made by the current government in poverty reduction (INE, 2024) and the expansion of social programmes targeting low-income women workers, Chile remains one of the most unequal countries in Latin America (Lecaros et al. 2023). Extreme income concentration, limited redistribution, and structural gender norms shape who benefits from trade, who has access to and control of productive assets and who is pushed into precarious or informal work. Trade liberalisation may have contributed to the economic empowerment of some groups, but its gains have been unevenly distributed. As the testimonies of grassroots women show, the distributional effects of trade are not only gender-differentiated (Ramos Borges & Vallina (2024:45); they are also intersectionally determined. As shown in section three, empirical evidence shows that many of the jobs generated by trade liberalization are precarious and do not

5 For example: Law No. 20,609 against discrimination (Zamudio Law); Law 21.015 Promotes the inclusion of persons with disabilities in employment, prohibiting discrimination; Law 21,643 (Prevention of Harassment and Violence in the Workplace; known as Karin Law); Law 21,645 (Work-Life Balance). One of the interviewees stressed the government's efforts to strengthen the normative framework for better protection of women's rights. She added that the Karin Law was particularly important for protecting and preventing violence against women workers.

comply with the Fundamental ILO Conventions[6], particularly in the fruit export sector. Grassroots women workers and producers, and in particular indigenous, rural, elderly and young women working in export-driven sectors, have been left behind.

The empirical evidence collected from the ground corroborates the contention made by scholars, that trade liberalisation has not translated into improved livelihoods, labour rights or economic and social security for all women (Muñoz Cabrera 2025; Boell et al. 2019). Moreover, focus on macroeconomic growth has reduced "policy space" for implementing policies that promote women's rights, in line with their international human rights obligations (CONCORD/WIDE+ 2018).

Inequalities are intensified for women who face intersectional forms of discrimination and whose socioeconomic status is worse than national averages. For these groups, trade liberalisation often interacts with pre-existing inequalities, deepening rather than alleviating structural vulnerabilities. The testimony below by Indigenous and rural women producers illustrates this:

> We, indigenous women entrepreneurs work to survive, not to thrive. We have little access to information on trade opportunities, we have precarious jobs in export companies, we are often exposed to violence in the fields, we have difficulties to start a business due to legal constraints … Support from the Ministry is occasional, and short termed…. We did not know that our country had signed a modernised trade agreement with the European Union…. We are never consulted on trade policies or negotiations of trade agreements …. This is why we

6 ILO Declaration on Fundamental Principles and Rights at Work (1998), as amended in 2022.

> are now working on empowering businesses led by Indigenous women and setting up a bank to support Indigenous women in trade (Interview with two anonymous indigenous and rural women producers (In-person meeting with five anonymous women leaders; Copiapo, Chile, Nov. 11, 2025).

Structural barriers continue to hamper women's ability to participate in trade-related activities and in trade policy processes on equal terms with men (OECD 2015: 6-7). These barriers manifest in multiple forms: labour market segmentation, unequal distribution of care and unpaid care work, underrepresentation in policymaking and trade negotiations, among others. Before we dive deeper into these barriers, we first take a closer look at the diversity of women who operate in Chile's trade ecosystem.

3.1 A diversity of women in Chile's trade ecosystem

A relevant question when discussing issues of empowerment and agency in trade is: who are the women engaged in trade activities in Chile? An examination of Chile's trade ecosystem shows a very heterogenous picture, where women's empowerment and agency in trade are defined by intersecting grounds of social differentiation, including class, educational level, access to technological knowledge and tools, affiliation to business networks, family background, among others. In Chile's trade ecosystem, both the glass ceiling and sticky floor prevail, as the interviewed women explained. The glass-ceiling in trade jeopardises women's mobility to high levels of decision making including leading bigger export companies. The sticky floor prevents upward mobility of women workers at lower levels of value chains.

Women in businesses are overrepresented in small and medium-sized companies and underrepresented in senior positions in large companies. They face significant barriers because of the structural challenges to gender inequality, and these barriers become even more evident when they seek to internationalize their companies. Among these barriers are the lack of access to financing, technology and information networks (OECD 2025)[7]. The low presence of women in high-level business rounds and trade negotiations appears to corroborate this fact.

Despite the glass ceiling affecting women's agency at high levels of decision making in trade, official data on women exporters (INE 2025), shows a slight increase in women leaders of export companies (29.7% of the total) and increasing participation of women in exports (23.2% of the total export). It also shows that women owners of export companies hire twice as many women workers as male owners. However, there is no information as to whether the jobs created by women comply with decent work standards. The survey also indicates that even though the number of women-led export companies has increased during the period 2019-2024, men-led companies still more than double women's.

Chile's sticky floor in trade activities largely affects women micro-entrepreneurs and women engaged in seasonal work in export companies. Women make only 40% of the micro-entrepreneurs, and are more often self-employed. Notably, the cities with intensive export activity have the highest concentration of self-employed micro-entrepreneurs. 60,8% of women micro-entrepreneurs declared they started

7 The OECD study states that in Chile, women-led firms are roughly 10 percentage points more likely to report encountering challenges with business financing than their men-led counterparts (2025: 13).

out of necessity, and mostly work in commerce, service and manufacturing industries. A large majority earned less than the minimum wage (45.7%)[8]. Women MEs do the bulk of unpaid work which has a strong impact on the time they can devote to developing their microbusinesses (INE 2025).

Indigenous women entrepreneurs

Limited data is available on the economic status of rural Indigenous women in Chile. It is important to highlight this data gap, considering that 10% of the Chilean population is Indigenous. Rural and indigenous women engaged in trade activities tend to be at the bottom of value chains in economic activities, as confirmed by the interviews with rural and Indigenous women producers and seasonal workers. They shared that they struggle to maintain decent livelihoods in an economic context which limits their agency to the realm of service providers, producers of traditional products, or workers employed in low-skilled jobs in the fruit sector of Chile's export industry.

The interviewed women deplored the historical subordination they have endured, and which has translated into unequal access to productive assets and resources, lower access to education and training in trade activities and the generalised belief which confines them to traditional jobs, such as embroidering, cooking and handicrafts. They were also critical of the terms "businesswomen" and "entrepreneurs", as they define themselves as producers, farmers, peasants or micro-entrepreneurs engaged in economic models sustained by the values of solidarity, reciprocity and individual and collective well-being (interview with leader of RATMURI).

8 The net minimum wage corresponds to the gross minimum wage at the time of the survey (CH$529,000) minus legal deductions (18.7%) INE 2025.

To them, entrepreneurship represents far more than "doing business for economic empowerment"[9]. Rather, it is a space for claiming and galvanising their social, economic, cultural and political agency, and in particular, a strategy to claim individual and collective access to and control of productive resources, such as land, water and financial assets.

3.2 Gendered labour market segmentation

As in most countries in the world, including Europe, the labour market in Chile is characterised by persistent gender and intersectional segmentation. Gender intersects with income inequality, ethnicity, age, disability and geographical origin, all of which jointly influence women's participation in labour markets and trade activities in key sectors of the export industry. These intersecting inequalities impinge differently on women, perpetuating barriers that will ultimately determine unequal degrees of multidimensional empowerment and agency between women and men, and within diverse groups of women.

Chile's labour market shows a high prevalence of gender inequality. In the domain of formal employment, 57% of men manage to access formal employment, against 43% of women[10]. Gender wage gaps remain high, at -24,4% in 2024 in detriment of women workers. In informal employment it is even higher at 31.3%. Informality in the private sector is prevalent. 85.5% of informal female employees work in a company operating in the formal economy, showing a worrying trend (ChileMujeres, 2023; ChileMujeres 2025; INE 2024). The gender wage gap affecting women workers

9 Testimony from an interviewed woman producer.

10 https://ilostat.ilo.org/es/data/country-profiles/chl/

increases with age, placing women at a higher risk of poverty as they age[11]. The precariousness of women workers from the lower quintiles is compounded by the fact that they tend to work part time more often than men, due to gender roles and norms which impose an unequal share of care responsibilities on them.

Intersectional data highlights even deeper inequalities. Indigenous women participate less in the labour market than indigenous men (-21.3 percentage points); less than non-indigenous men (-23.3. pp.) and less than non-indigenous women (-2 pp.). Indigenous women tend to work more in informal employment segments (5 pp.) (INE 2022).

Inequalities also affect retirement for women and men in Chile. Due to gender norms and sociocultural factors affecting society and labour markets, women tend to retire with lower pension benefits and face greater financial insecurity in old age (Borges & Vallina, 2024:43). Labour participation of elderly is increasing, and more women (71%) than men (62%) are motivated by economic necessity. Their work is done under conditions of structural precariousness, with negative consequences for their overall wellbeing (Observatorio 2025).

3.3 Gender norms and unpaid (care) work

Gender norms and social prejudice remain major barriers to women's socioeconomic empowerment. Official data confirms that gender stereotypes still impinge on inequalities in care work. A 2025 national survey in Chile shows that women spend over two hours more than men in unpaid care work.

11 Respectively, figures are -18,5% for women aged between 25-39 years of age; -30.9% for women between 40-59 years of age; and -34.7% for women aged 60 and older.

This includes domestic work, caring for household members, voluntary work and helping other households or community members. It also shows that inequality in unpaid labour cuts across all age groups, even though the gap is greater in the case of women of 25 to 44 years of age (INE 2025).

Gender norms define women's agency primarily as care providers (INE 2022). When asked about the reason for not participating in the labour market, 35.9% of indigenous women (vs. 4% indigenous men) responded that it was due to domestic and care work at home; whereas 40% indigenous men responded that the reason was to study (vs. 26.3% indigenous women). For non-indigenous women figures were 34.8 % (vs 2.7% men); 38% (vs. 21.3% men) respectively. Barriers are particularly adverse for women heads of household of lower socioeconomic status, as they can neither rely on the limited availability of care services nor pay for care services in the private care market.

The Chile-EU gender chapter commits both parties to facilitating "cooperation and dialogue with the aim of enhancing women's capacity, conditions and access to opportunities created by trade," and "advancing care policies and programmes as well as work-life balance measures with a gender perspective" (Art. 27.1/10/b/p.2). Although these commitments correspond to the reality of gender inequality observed on the ground, they do not tackle the root causes of gender norms and stereotypes which impinge on women, and particularly on women workers at the bottom of value chains. An interviewee's testimony explains the harsh reality of elderly seasonal workers in the grape export industry :

> I could only finish elementary education. When I enrolled in a technical high school, I had to stop schooling to take care

> of my brother. After I got married and had children, poverty made me migrate to work in the fruit export industry. I worked there for 25 years; it was hard work; I had to support a large family..... in the vineyards, we had to run to fill in as many crates of grapes as possible, since we were paid by the number of kilos collected. I worked as a seasonal worker until I retired at 60. To increase my income, I became a small farmer in 2011, but I have never been able to earn enough income. Today, I am old, poor, indebted and sick (Interview with a woman farmer from RATMURI and president of the women's network "Women seasonal workers of the desert." (Online interview Jan. 16th, 2026)

Overlooking the underlying causes of gender norms and social stereotypes in trade reduces the potential of the gender provisions to bring about any transformative change in balancing productive and reproductive work to the advantage of all women. This also requires interventions in education, since gender norms and stereotypes are taught since early childhood (OECD 2021: 48).

3.4 Limited participation and representation of women in trade policy

Women's full and equal participation and representation in trade policy is essential to ensure trade promotes gender equality and improves women's rights and livelihoods. Several scholars and civil society organisations (CSOs) have critiqued the Chile-EU Agreement for the lack of mechanisms to ensure timely and meaningful consultation with citizens, especially indigenous and rural communities (Boell 2021; Muñoz Cabrera 2025). While Article 27.5 of the Gender chapter refers to Parties' commitment to "encourage the participation of organisations promoting equality between men and women" in the context of the civil society mechanism, this measure is non-binding and does not specify selection criteria or sec-

tor of representation. In practice, encouragement without accountability will not result in women, and especially those who are marginalised, to be present or heard in the implementation of the FTA.

The interviews corroborate this gap, as all interviewees indicated that they were unaware of the existence of the gender chapter. One leader explained that she had followed the previous Association agreement between Chile and the EU until 2010 and stated that: *"After this period, my organisation started to focus more strongly on the follow up of the overuse of pesticides by the export driven agribusiness: pesticides were poisoning our bodies, our territories and ecosystems";* (online interview with indigenous women leader, expert in international relations Jan. 12th, 2026).

The lack of information and engagement that these comments show is rather concerning, as these interviewees are part of an important country-wide women's organisation working to influence policies related to rural and indigenous women producers in agriculture. The contents of the FTA are not only disconnected from the daily lives of those who very directly experience the effects of this Agreement. This also contradicts the very principle of "inclusive trade policies," that the gender chapter reaffirms (Art. 27.1.8).

3.5 Trade liberalization and the impact on women's rights to sustainable livelihoods

Agriculture is the sector with the highest rate of informal employment in Chile, at 41.5% (Fundacion SOL 2025). It is also a highly strategic sector in the Chile-EU FTA, which suggests that trade liberalisation in agricultural goods will further increase in the coming years. Official data shows a

high inequality rate in the agricultural sector, where men tend to have greater access to stable jobs than women. According to the 2023 VIII National Agricultural and Forestry Census, 90.6% of jobs occupied by women in agriculture were temporary; for men, this figure was 49.2%. Furthermore, for every 100 permanent jobs occupied by men, only 5 were occupied by women (INE, 2022).

The combined empirical and official data highlight the importance of considering multidimensional poverty and intersectional inequality as interconnected and often related to mutually reinforcing factors of discrimination (gender, ethnicity, income, geographical origins, among others) and their consequences, one of them being precarious livelihoods.

In fruit producing regions such as O'Higgins and Maule, the Chilean agro-industry has continued to expand through a production model based on the use of low-skilled, cheap labour force, largely hired via subcontracting. These regions are sites of frequent labour rights abuses by subcontractors or company owners (Tonelli 2021; Caro 2022; 2023), and show levels of multidimensional poverty which are not commensurate with the wealth generated through expansion of trade in horticulture. A household survey by the government shows that despite progress in poverty reduction in these regions, poverty levels among women, indigenous and rural workers tend to be higher (Observatorio Social 2026).

The grassroots leaders interviewed echoed the experiences of the seasonal workers in the Central regions. They criticised the government for promoting women's economic empowerment while failing to fully implement legal obligations related to rural and indigenous women's rights (ILO 169) and binding treaties on environmental protection such as the Escazu

Treaty[12]. They stated that expansion of trade in agricultural goods and minerals continues to have a negative impact on their lives, their livelihoods and their ecosystems. They referred to the lack of access to water and resources needed for their productive activities. One retired women leader deplored the loss of livelihoods caused by privatisation of water and the resulting water grabbing by mining and grape producing companies. She explained that this forced her to stop her honey production and search for seasonal work in the grape industry. Another female grassroot leader stressed the high levels of environmental damage caused by export industries that lead to depleted local ecosystems.

The precarious livelihoods of seasonal workers in the horticulture sector demonstrate that the jobs created by trade liberalisation have not substantially contributed to gender equality on the ground and may not do so in the framework of new FTAs. One of the major reasons is the lack of enforcement of labour rights, and compliance by hiring firms and recruitment agencies with decent work standards, in line with ILO recommendations, as the interviewed grassroots women leaders expressed (Group interview Nov. 25th, 2025).

The Chilean horticulture market will continue to expand to satisfy international demand, notably, from European

12 Ministerio de Medio Ambiente (last accessed Jan. 15th, 2026), ¿Que es el acuerdo de Escazú? Available at https://escazu.mma.gob.cl/acuerdo-de-escazu/que-es-el-acuerdo-de-escazu/

and Chinese markets[13][14]. However, trade expansion will not necessarily guarantee decent work conditions, sustainable livelihoods and enjoyment of the fundamental rights for all women workers. Concrete and structural measures are required to create a rights-based enabling environment in the horticulture industry.

On a broader policy level, their experiences challenge the assumption underpinning trade policies, that trade liberalization *per se* has a positive impact on women's lives and livelihoods and that trade is a "catalyst for gender equality" (World Bank 2023). The critique made by Klimke & Tietje (2023) is relevant here, since the wealth created by the horticulture sector is not distributed equitably, and many legal norms and labour standards are not enforced by the middlemen and owners. In this context, a likely scenario in the framework of the EU-Chile FTA is that the creation of new job opportunities will continue to be on the surplus side of the economy; meaning that it will drive low-skilled and high-skilled unemployed workers of different age groups and geographical origins to compete for jobs with low levels of social protection. Another risk is that due to the insufficient level of inspection, the companies that employ seasonal women may further disregard labour standards as a strategy to lower production costs and be competitive in international markets (Bahri 2021).

13 "Exportaciones chilenas de fruta a Europa crecen 22% y superan las 500 mil toneladas", Online, October 2025, accessed Feb 26th 2026. Available at https://g5noticias.cl/2025/10/03/exportaciones-chilenas-de-fruta-a-europa-crecen-22-y-superan-las-500-mil-toneladas/ Gobierno de Chile (2022), "Chile el segundo mayor exportador de fruta fresca en China". (Online article, accessed Feb. 26th. 2026. Available at https://www.chile.gob.cl/chile/blog/china/beijing/chile-el-segundo-mayor-exportador-de-fruta-fresca-en-china

14 Gobierno de Chile (2022), "Chile el segundo mayor exportador de fruta fresca en China". (Online article, accessed Feb. 26th. 2026. Available at https://www.chile.gob.cl/chile/blog/china/beijing/chile-el-segundo-mayor-exportador-de-fruta-fresca-en-china

3.6 Social and environmental sustainability: the missing link

The connection between gender equality and environmental sustainability has received little to no policy attention in gender chapters and provisions. In its assessment of the likely impact of the EU-Chile AFA on sustainability, the Sustainability Impact Assessment commissioned by the European Commission recommends looking into the "possible cumulative negative impact on the right to a clean and healthy environment and the right to health in the sites of conflict (also called 'zones of sacrifice'") (SIAS 115). During the interviews, the grassroots women leaders of RATMURI confirmed this risk, explaining that their productive units, local ecosystems (including the soil, water beds, and air) have been negatively affected by the chemicals and pesticides used in mining and the fruit growing industry, with serious consequences for their livelihoods, health and their sexual and reproductive health rights[15]. Their testimonies clearly show a direct connection between their women's rights and the environment.

In the Gender Chapter under discussion, the link between environmental sustainability and gender equality in trade is missing. In contrast, sustainability is largely approached from an economic perspective (Art. 27/para. 3) and reference to the United Nations 2030 Agenda for Sustainable Development is limited to Goal 5 (Art. 27/para.3). There is brief reference to gender equality in the TSD chapter (Ch 26/Section 4/Art. 26.19/8), where gender equality is mentioned as a crosscutting issue, falling under the coordinating responsibilities of

15 Muñoz Cabrera et al. Forthcoming 2026, " Rural and indigenous women building caring local economies in Chile and India", will be available at https://www.femwiss.ch/fran%C3%A7ais-1/fem-f%C3%A9m-notre-revue/appel-%C3%A0-contributions/

Sub-Committees established under the Agreement. The link is made with the Gender chapter, especially Article 27.4, paragraphs 8 and 9, which corroborate the voluntary nature of the gender mainstreaming provision:

> 8. Through the TSD Sub-Committee, the Parties shall encourage efforts by the bodies established in this Agreement to integrate gender-related issues, considerations and activities in their work.
>
> 9. The Parties shall encourage inclusive participation of women in the implementation of the cooperation activities established under this article, as appropriate

This is a significant policy gap, especially considering the potential risk of escalating conflict pointed out in the SIA, and commitments by both signing parties to comply with the SDG call for gender equality in all Goals and not only Goal 5.

4. Conclusions and policy recommendations

This research shows that the gender chapter of the modernised EU–Chile Agreement, while signalling political recognition of gender-differentiated impacts of trade, remains insufficient to address the gendered inequalities that shape Chile's trade landscape. Using a contextualised intersectional approach grounded in empirical evidence from grassroots, rural and indigenous women, the analysis demonstrates disconnect between the chapter's policy narrative and the lived realities of the women who bear the costs of trade liberalisation. To mitigate these effects, domestic legal and policy frameworks guaranteeing women's economic, social and political rights need to be implemented in line with international commitments.

The findings corroborate the argument put forward by scholars based on policy discourse analysis: voluntary and cooperation-based gender provisions may create policy space and create awareness, but without enforceable commitments, monitoring mechanisms and the full participation and inclusion of diverse groups of women, they cannot generate meaningful impact. The EU–Chile gender chapter replicates common limitations of similar chapters worldwide by homogenising "women," omitting intersectional analysis, and failing to address systemic barriers such as care burdens, informality, unequal access to productive resources and the environmental pressures that disproportionately affect women in rural and indigenous communities. The absence of meaningful consultation processes further weakens its capacity to respond to the priorities and experiences of grassroots women.

Based on our findings, the following recommendations are addressed to trade policymakers, both at national and international levels:

> ***1. Gender chapters need to be based on intersectional gender assessments.*** Effective policy design begins with a robust understanding of reality on the ground. Gender chapters need to be based on thorough analyses of existing gendered and intersectional inequalities. This involves drawing from context-specific evidence, including gender-segregated micro data, and the lived experiences of heterogeneous groups of women, including grassroots, rural and indigenous women. Incorporating intersectional analysis into ex-ante and ex-post assessments enables policymakers to identify differentiated impacts and design

appropriate and targeted mitigation measures. In the Chilean context, where gender intersects with ethnicity, socioeconomic status, age and geography, such analysis is crucial for addressing inequalities linked to care burdens, land access, informality and environmental degradation.

2. Gender commitments require enforceable implementation and accountability mechanisms. Equally important is the need for enforceable implementation. Gender chapters require clear institutional responsibilities, indicators for tracking differentiated impacts, and coherence with domestic legal obligations on labour rights, non-discrimination, care and environmental protection. Without such mechanisms, gender commitments will continue to remain aspirational at best (Kuhlmann and Bahri 2023) or otherwise accentuate rather than transformative.

3. Meaningful consultation and engagement with a wide range of representative stakeholders including women's rights organisations. The absence of women's voices and perspectives in the negotiation of the EU–Chile gender chapter reflects a persistent democratic deficit in trade governance. Collecting data on the specific roles and needs of women and men in the economy and society (der Boghossian 2023), requires genuine processes of consultations with a wide range of representative stakeholders and women's organisations, rather than only businesswomen or women exporters. Sustained and inclusive consultation throughout the entire trade policy cycle, including negotiation, implementation

and monitoring, is essential for reflecting the priorities, knowledge and lived realities of those most affected by trade. Engaging a wide range of women's organisations, including from local communities, small-scale farmers, producers and traders will provide essential insights for preventing unintended consequences of trade liberalisation.

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Synergy among Human Rights, Trade, and Investment for the Enhancement of Women's Sexual, Reproductive and Maternal Health through Treaty-led Liberalization

La sinergia entre los derechos humanos, el comercio y la inversión para mejorar la salud sexual, reproductiva y materna de las mujeres mediante la liberalización basada en los tratados

Pia Acconci*

Abstract

The impact of treaty-led trade liberalization on cross-border economic transactions and investment related to women's health protection is questionable, as liberalization can expand economic opportunities through, for instance, business networks and innovative entrepreneurships, but not necessarily mitigate gender inequalities. Two sides of economic liberalization arising from international treaties are relevant: a) its enhancement of women's economic empowerment, job and entrepreneurship opportunities, as well as increase of imports/exports of pharmaceutical treatments, biomedical technology and cross-border delivery of innovative health services and b) its alleged critical impact on reproductive-related services like family planning, sexually transmitted disease diagnosis and treatments, such as up-to-date methods of contraception, anti-HIV essential drugs, infertility diagnosis tests and/or infertility services, that are likely to be managed and delivered by

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private actors either national or foreign. The interplay between the alleged predominant profit-orientation of international trade agreements and the effective protection of these aspects of women's health can be contentious, regardless of the level of a State's economic and social development. International investment law, as well as the connection between trade and investment typical of today international economic relations are also relevant. This article outlines how the protection of women's right to health, in terms of sexual, reproductive and maternal health, has been considered within international human rights law and technical assistance for sustainable development designed by international organizations. Then, it focuses on the impact of treaty-led liberalization on women's SRHR. Finally, the article provides for a few concluding remarks about main relevant comprehensive trends, approaches and responses which can be detected at the international level.

Keywords: Women's sexual, reproductive and maternal health – International law – International organizations – Trade and investment liberalization – Sustainable development.

Resumen

El impacto de la liberalización por medio de tratados en transacciones económicas transfronterizas e inversiones relacionadas con protección de la salud femenina es cuestionable, puesto que mientras la liberalización puede expandir las oportunidades económicas a través de, por ejemplo, redes de negocios y emprendimientos innovadores, no necesariamente mitigan desigualdades de género. Dos aspectos de la liberalización económica originada de acuerdos internacionales son relevantes: 1) su mejoramiento sobre el empoderamiento económico femenino, empleo, y oportunidades de emprendimiento así como el incremento de importaciones

e importaciones de tratamientos farmacéuticos, tecnología biomédica y reparto transfronterizo de servicios de salud innovadores, y 2) su supuesto impacto crítico sobre servicios relacionados con reproductividad como planificación familiar, diagnósticos de enfermedades de transmisión sexual y tratamientos como métodos modernos de anticoncepción, medicamentos esenciales para tratar el VIH, pruebas de diagnóstico de infertilidad y/o servicios de infertilidad que tienen mayores probabilidades de ser administrados y brindados por actores privados, sean estos nacionales o extranjeros. La sobreposición entre la supuesta orientación predominantemente inclinada a la generación de ingresos de los acuerdos comerciales internacionales y la protección efectiva de los aspectos de salud femenina recién mencionados pueden ser contenciosos, sin importar el nivel de desarrollo económico y social de los Estados. El Derecho de Inversiones Internacionales, al igual que el vínculo entre el comercio e inversión propio de las relaciones económicas internacionales actuales son de igual relevancia. Este artículo destaca cómo la protección de los derechos de las mujeres a la salud, en términos de salud sexual, maternal y reproductiva, ha sido considerada en el Derecho Internacional Humanitario y la asistencia técnica para el desarrollo sostenible diseñada por organismos internacionales. Luego, se enfoca en el impacto de la liberalización por medio de acuerdos internacionales sobre los mismos. Por último, el artículo provee conclusiones sobre tendencias de manera comprensiva, acercamientos y respuestas que se pueden detectar en el nivel internacional.

Palabras Clave: La salud sexual, reproductiva y materna de las mujeres – Derecho internacional – Organizaciones internacionales – Liberalización del comercio y la inversión – Desarrollo sostenible.

1.- Introduction

Women's sexual, reproductive and maternal health (hereafter, SRHR from 'sexual and reproductive health and rights') is a special determinant of women's equality and empowerment.

Cross-border economic transactions and investment can contribute to the effective realization of SRHR, as well as to the convergence of economic and non-economic interests. The realization of SRHR depends, among other factors, on the availability and affordability of relevant goods and services, including pharmaceutical treatments, diagnostic tests and education materials; biomedical technologies; and the provision of specialized healthcare services, including innovative and technologically advanced forms of care.

International responses to calls for the protection of women's health have been both regulatory and operational, including through technical assistance. These responses have taken into account, directly or indirectly, the specificities of women's SRHR. Two fields of international law are particularly relevant to identifying and assessing the regulatory measures that matter most: international human rights law, given that the right to health is an economic, social and cultural right, and international economic law, particularly the law on trade and investment, given that economic liberalization can expand economic opportunities through, for instance, business networks and innovative forms of entrepreneurship, but does not necessarily reduce gender inequalities.

International organizations have contributed to shaping transnational economic activities in ways that support SRHR by fostering positive synergies among trade, investment, and innovation, while promoting the integration of SRHR into

health policies, expanding access to healthcare services, and strengthening health systems at the domestic level.

Moreover, several international organizations have emphasized the potential of sustainable development to advance women's SRHR, insofar as it requires the reconciliation, or at least convergence, of various interests and objectives within an intergenerational framework, consistent with the objectives of the UN Agenda 2030[1]. In effect, sustainable development requires the integration of market-driven and human rights-based policies and rules to promote economic and social development, while safeguarding environmental protection.

This article will be based on an international law perspective. Hence, it a) will not address European Union Law and b) will not assess domestic policy and regulatory responses by single States, neither from a domestic perspective nor from a comparative one.

I will outline how the women's right to health in terms of sexual, reproductive and maternal health has been protected within international human rights law. I will also focus on how international organizations have used technical assistance for sustainable development as a means to encourage and guide member States in protecting women's SRHR. Then, I will deepen my investigation, by prospecting the potential impact of treaty-driven liberalization on women's SRHR.

Finally, I will consider main relevant comprehensive trends, approaches and responses which can be detected at the international level.

1 General Assembly, UN Doc. A/RES/70/1, 21 October 2015, Transforming Our World: the 2030 Agenda for Sustainable Development.

Overall my research objective is to examine how more detailed provisions related to SRHR in international trade and investment treaties could enhance the protection and promotion of sexual and reproductive health and rights, by leveraging the synergies between health objectives and treaty-driven trade and investment liberalization.

My reasoning will be grounded in official materials and specialized literature. I selected materials, treaties, and examples that provide specific provisions and references relevant to my research question.

2. A Human Rights Approach to Women's Sexual, Reproductive and Maternal Health. The international law perspective

The protection of women's health gained special attention at an international law level as human rights emerged as a distinct field of international law from the late 1960s through the mid-1970s. During this period, a number of international treaties were concluded under the auspices of the United Nations to protect human rights, encompassing, on the one hand, civil and political rights and, on the other, economic, social and cultural rights. These treaties aim at ensuring and developing the level of protection recommended by the Universal Declaration of Human Rights adopted by the UN General Assembly in 1948. The 1979 UN Convention on the Elimination of All Forms of Discrimination against Women was one of them.

Art. 25 of the 1948 Universal Declaration of Human Rights refers to the specificity of international protection of women's health, with regard to the need of protection of infant and maternal health, in terms of "special care and assistance"[2].

2 According to Art. 25, para. 2, "[m]otherhood and childhood are entitled to special care and assistance".

The idea of women's health, as a human right which implies the need of protection of infant and maternal health, in terms of "special care and assistance", has been at the root of many international legally non-binding instruments, particularly of UN declarations, guidelines and plans of action adopted following the end of the decolonization period between the late 1960s and the mid-1970s.

This idea of the right to women's health impacted on the negotiations of the 1979 Convention on the Elimination of All Forms of Discrimination against Women within the UN[3].

The 2000 General Comment on the Right to Health related to Art. 12 of the UN Covenant on Economic, Social and Cultural Rights recommends UN member States the resort to a gender approach to human rights[4] and underlines the importance of "sexual and reproductive health services" in relation to "women and the right to health", under a broad perspective connected, among others, with "access to health services, education and information"[5].

The connection between the protection of women and child is further at the root of Art. 18 of the African Charter on

3 Art. 12 of the 1979 UN Convention on the Elimination of All Forms of Discrimination against Women refers to the access to health care services as a basic requirement for the effectiveness of the right to health of women. Art. 14 of the same Convention provides for the right to health of women living in rural areas under a similar perspective.

4 UN Committee on Social, Economic and Cultural Rights. The Right to the Highest Attainable Standard of Health (Art. 12), General Comment, E/CN.4/2000/4, para. 20. See also its para. 12 (c), as to "all health facilities, goods and services".

5 UN Committee on Social, Economic and Cultural Rights. The Right to the Highest Attainable Standard of Health (Art. 12), General Comment, E/CN.4/2000/4, specifically para. 21.

Human and Peoples' Rights. This article is about family which is considered "the natural unit and basis of society"[6].

Art. 33 of the 2004 Arab Charter on Human Rights also considers "the family" as "the fundamental group unit of society" and provides that Contracting States "shall ensure the necessary protection and care for mothers, children".

International law not only addresses aspects of women's SRHR that require specific protection, but also regulates a number of related harmful practices, particularly violence against women and harmful cultural and traditional practices. This can be inferred from the UN conceptualization of "violence against women" which refers to "physical, sexual, or mental harm"[7]. The 1994 Inter-American Convention on the Prevention, Punishment and Eradication of Violence against Women (the 'Convention of Belém do Pará') and the 2011 Convention on preventing and combating violence against women and

6 Art. 18, para. 3, of the African Charter on Human and Peoples' Rights specifies that "[t]he State shall ensure the elimination of every discrimination against women and also ensure the protection of the rights of the woman and the child as stipulated in international declarations and conventions." As to the African Commission, see, for instance, *Egyptian Initiative for Personal Rights and Interights v. Egyp*t, report of 12.10.2013, as to the damaging impact of rape on women health.

7 According to the 1993 UN Declaration on the Elimination of Violence against Women, violence against women is "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life." See the UN Committee on the Elimination of Discrimination against Women (1992). General Recommendation No. 19: Violence against Women, which considers violence against women as a form of discrimination. The 1999 optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women and several related documents of the World Health Organization refer to a similar conceptualization. See, among others, WHO (2014). Global Status Report on Violence Prevention 2014, which assesses "national efforts to address interpersonal violence, namely child maltreatment, youth violence, intimate partner and sexual violence, and elder abuse".

domestic violence of the Council of Europe (the 'Instambul Convention') provide for a similar concept.

Conversely, the Inter-American Commission and the Inter-American Court of Human Rights have emphasized the need for special protection of women's health in the context of the voluntary termination of pregnancy, particularly as it relates to the effective protection of the physical and mental health of women, girls, and adolescents and to the exercise of reproductive rights[8].

Female genital mutilation has become another specific matter of concern[9]. The 2003 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa ('Maputo Protocol') refers to "harmful practices" in connection with women's health in the preamble and to their right to health in terms of "sexual and reproductive health" at Art. XIV, as well as to a development perspective of women's health at Art. XVIII which provides for the "right to a healthy and sustainable environment". According to a report from the African Union Commission and the United Nations High Commissioner for Human Rights, key issues at the root of the sexual and reproductive health are "safe and healthy pregnancy", "access to safe abortion", "forced sterilization of women living with HIV" and "sexual and gender-based violence"[10]. This report

8 See press release by the Inter-American Commission on Human Rights, 31 January 2023. As to the criminalization of abortion as a breach of the rights to life, health and personal integrity, see, in particular, the report of the Inter-American Commission of Human Rights on the Beatriz Y Otros v. El Salvador case, and the related judgment of the Inter-American Court of Human Rights, 22 November 2024, Series C No. 549.

9 Cf. Mbaku (2021).

10 The African Commission and the Court on Human and Peoples' Rights have dealt with a small number of specific cases concerning women's health, as such. See African Union Commission. UN Office of the High Commissioner for Human Rights (2017). *Women's Rights in Africa*.

includes "child marriage" and "female genital mutilation" within "harmful practices" which can affect women's health. The Member States of the African Union are expected to cooperate and adopt institutional, legislative and policy domestic measures to effectively implement the 'Maputo Protocol', with particular regard to the impact of marriage and family issues on women's health[11]. The 2004 Arab Charter on Human Rights imposes the "suppression of traditional practices which are harmful to the health of the individual" upon Member States, at Art. 39, 2, (c). However, the Charter does not include a specific reference to women in this regard. Following its publication, the UN High Commissioner for Human Rights Louise Arbour and a few scholars underlined that women's health, both physical and mental, needed appropriate consideration and protection in this connection[12].

3. Enhancing Women's Sexual, Reproductive and Maternal Health through Technical Assistance for Sustainable Development

The recognition that women's empowerment contributes to the advancement of economic and social development has underpinned international efforts to promote sustainable development. Principle 20 of the Final Declaration adopted at the end of the first UN Conference on Sustainable Development held in Rio de Janeiro in 1992 (the '1992 Rio Declaration') clarifies that "women have a fundamental role in environmental management and development. Therefore, their full participation is essential to achieve sustainable development".

11 Cf. Ssenyonjo (2007).

12 See the statement by Louise Arbour on 30 January 2008 (https://news.un.org/en/story/2008/01/247292). See, among others, Salehi & Others (2020). Cf. UNHCR (1992). *Declaration on the Protection of Refugees and Displaced Persons in the Arab World*, at Art. 10.

This assumption empowers women as relevant contributors to the establishment of a 'healthy environment', on account of the direct detrimental connection among environmental degradation, climate change, vulnerability and diseases[13], and of the great number of women and girls who are affected by environmental migration[14].

Moreover, a mutually reinforcing relationship can be identified between the Sustainable Development Goals (SDGs) set out in the UN Agenda 2030 and the advancement of health, particularly in relation to SRHR, insofar as international efforts to promote sustainable development can contribute to the enhancement of women's SRHR.

One specific target of SDG No. 3 related to 'Good health and well-being' aims at ensur[ing] "[b]y 2030, … universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes". The SDG No. 3 refers not only to women's SRHR, but also to the decrease of infant and maternal mortality, as a specific target[15].

Access to quality, age- and gender-responsive SRHR is essential to the achievement of SDG No. 3 on health and se-

13 See Borràs-Pentinat (2022).

14 Various documents and special reports of international organizations, such as the International Organization for Migration (IOM), UN High Commissioner on Refugee (UNHCR) and the UN Intergovernmental Panel on Climate Change (IPCC), are relevant as to a gender perspective over environmental migration. See, for instance, UHCR (2022). Gender, *Displacement and Climate Change*.

15 Specific targets of SDG No. 3 are "[b]y 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births" and "[b]y 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births".

veral other SDGs. In particular, SDG No. 4 on education and SDG No. 5 on gender equality and women's empowerment are closely interrelated with the effective realization of SRHR. These Goals demonstrate the close interdependence between the protection and realization of economic, social and cultural rights, including the right to health, and the achievement of sustainable development, particularly with regard to its social dimension.

Several international organizations have played a significant role in developing and designing targeted programmes and action plans for technical assistance in this area, notably through the publication of reports, studies, epidemiological data and statistics, and the issuance of recommendations to their Member States. These programmes and action plans are not legally binding under international law. Most of them address the relationship between the protection of maternal and infant health and the availability of, and timely access to, public services relating to women's SRHR.

The emphasis on access underscores the paramount importance of the national economic, social and political context for the effective enjoyment of women's right to health, as well as for the effective realization of economic, social and cultural rights.

The relevance of access for health protection was already underlined during the fourth world conference on women organized by the United Nations in Beijing in 1995[16]. The 'Beijing Declaration and the Platform for Action' focus on 'gender equality' for the broader objective of women's empowerment from both the economic and political perspective. 'Women and

16 The first special UN world conference on women took place in Mexico City in 1975. Before the conference in Beijing, other two conferences had been held respectively in Copenhagen in 1980 and Nairobi in 1985.

Health' are one of the twelve related 'critical areas of concern'. In this connection, the main reference points are the access to "appropriate, affordable and quality health care", the control and prevention of "sexually transmitted diseases", as well as of "sexual and reproductive health issues". The 'Beijing' action plan further underlines the negative impact of structural adjustment programmes-commonly designed by international financial organizations, particularly by the International Monetary Fund and the World Bank-on women health in least developed countries, because their implementation can result in the decrease in public health spending and the privatization of health-care services.

Since the 1995 Beijing Conference, UN specialized international organizations have emphasized the need for 'positive' action by their Member States to ensure the effective realization of women's SRHR within national health systems and through the provision of healthcare, especially by adopting appropriate policy and regulatory measures at the domestic level. 'Positive' action may take the form of programmes addressing women's specific health-protection needs at different stages of the life course, including birth, childhood, adolescence, the childbearing years, and menopause.

International organizations engaging with income inequality from various viewpoints, such as the World Bank, International Labour Organization (ILO) and Organization for Economic Cooperation and Development (OECD), have addressed the need for specialized and affordable healthcare-related goods and services through legally non-binding reports and recommendations supporting assistance programmes designed to reduce gender inequalities across various sectors and promote women's participation in transnational economic activities. Technical assistance is premised on the existence of a direct relationship between development gaps and the marginalization of women.

States are expected to adopt and implement these programmes through their domestic legal and policy systems, since enhancing women's participation requires appropriate institutional and legal frameworks capable of addressing existing structural inequalities, as domestic ones are expected to be[17].

Technical and financial assistance is intended to facilitate women's access to primary healthcare services, safe drinking water, education, and information, with the ultimate aim of promoting self-care and awareness of women's biological specificities from childhood, while also countering social exclusion and discrimination based on those specificities[18].

Effective access to incentives, particularly fiscal ones, employment opportunities, education, and information are regarded as interconnected objectives that contribute to the effective access to specialized healthcare services through a multistakeholder approach. Such an approach may serve as a means of advancing the 2030 Agenda on sustainable development in the field of women's SRHR, within the framework of universal health coverage[19].

17 Cf. Barajas-Sandoval & Others (2023).

18 Cf. Sepúlveda Carmona, Donald (2020) and Bennett, Davies (2019), as to the importance of orienting international actions toward gender health equity.

19 The effective realization of the 'right to health' depends on the achievement of several instrumental objectives. The achievement of universal health care has been one of these. Since 2008, social inclusion has become a challenging policy issue for many States due to the sharp rise in unemployment caused by global financial crises. Consequently, with regard to the realization of the right to health through universal health care, the focus has shifted from 'care' to 'coverage', linking the goal of universal health care more closely to the principle of equity. Universal health coverage (UHC) has emerged as a key instrument for promoting health equity and as an objective of international cooperation, particularly because some States have been unable or unwilling to guarantee universal health care within their domestic systems due to financial constraints. For further information, see the WHO website (www.who.int). Cf. WHO. Investing in Sexual and Reproductive Health and Rights: Essential Elements of Universal Health Coverage. Technical Brief, May 2023.

Some scholars have highlighted the potential of an integrated approach grounded in both human rights and sustainable development to advance the effective realization of SRHR[20].

Chronic diseases associated with women's biological characteristics, such as breast and ovarian cancers, have emerged as a specific concern within international policy frameworks regarding the promotion and design of technical assistance programmes[21]. Regional organizations have likewise contributed to these efforts, by promoting family planning and recognizing its crucial role as a means of advancing women's SRHR, particularly through access to contraception in Latin America, Africa, and Asia[22].

Several studies examining the gendered impact of the Covid-19 pandemic have highlighted how gaps in the response adversely affected women, particularly because the distinct gender-specific implications of health crises were not adequately taken into account, although "pandemics have been shown to result in decreased economic security, elevated health risks, and increased care burdens for women"[23].

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20 For a broad overview, see Beninger (2021) and Zampas, Nihlén (2025).

21 Cf. WHO (2004). Reproductive Health Strategy to Accelerate Progress towards the Attainment of International Development Goals and Targets.

22 See, among others, African Union Commission (2006). Continental Policy Framework on Sexual and Reproductive Health and Rights; African Union (2006). Revised Maputo Plan of Action 2016-2030; SADC (2024). The Strategy for Sexual and Reproductive Health and Rights in the SADC Region 2019-2030; UNICEF, UNAIDS, UNESCO, UNFPA (2021). My body Is My Body, My Life Is My Life, Sexual Reproductive Health and Rights of Young People in Asia and Pacific; Pan American Health Organization (2023). Status of Access to Sexual and Reproductive Health Services, CD60/INF/4. Cf. Khosla (2014).

23 See Smith (2022), p. 185. The author's research line of reasoning is that "pandemics are more than health crises; they are also gender equality crises" (p. 174). For instance, during pandemics maternal and neonatal mortality increase, because of quarantine measures, especially in developing countries as the 2014 Ebola emergency had already shown (p. 177, where the author refers to a 2020 prediction from the UN Population Fund about "a Covid-19 calamitous impact on women's health" and to the detrimental impact of restrictions concerning access to contraceptive and family planning services, as well as to contraception and safe abortion services). Cf. Sekalala (2017), especially 6-8, as to the specific impact of AIDS, malaria and tuberculosis on women.

4. Looking for a positive interplay among women sexual, reproductive and maternal health, development, trade and investment. A Comprehensive overview of the impact of treaty-driven trade liberalization.

The liberalization of cross-border trade and investment transactions may have complex and potentially contradictory effects on women's SRHR. The nature and extent of these effects depend on the specific national context, including the policies adopted by States, the gendered consequences of trade and investment liberalization, and the resulting effects on employment, access to healthcare and other essential services, and women's economic and decision-making autonomy[24].

Economic liberalization can positively affect women's access to specific goods and services relevant to the realization of their SRHR, both directly and indirectly. Its direct effects may arise from increased availability of SRHR-related pharmaceutical products and biomedical technologies through international trade, as well as from the cross-border provision of healthcare services. Its indirect effects may result from improved affordability and availability of SRHR-related products, increased funding for specialized healthcare services, and a more supportive regulatory environment for SRHR-related goods and services.

The process of trade and investment liberalization has been shaped by a wide range of international treaties, through which States undertake international obligations in specific

24 Generally speaking, economic liberalization can improve women's actual conditions by creating jobs and increasing incomes and expanding economic opportunities through, for instance, business networks and innovative entrepreneurships, but also be a potential stumbling block, by increasing gender inequality, and detrimental changes in regulatory frameworks. Specifically, such a liberalization might not bring about welfare for all. On the contrary, it can reproduce social disparities and poverty, without an appropriate legal and policy framework. Cf. Sen (1996).

areas. These treaties commonly reflect the outcome of political negotiations and compromises among the parties.

International treaties can facilitate an integrated approach that reconciles trade and investment liberalization objectives-such as fair competition, comparative advantage, and the reduction of trade barriers – with broader social objectives, including the equitable distribution of the benefits of international trade, improved access to qualified employment, credit, and education for women, and the reduction of women's healthcare burdens.

Two dimensions of trade liberalization arising from international treaties are particularly relevant to the protection and advancement of women's health. The first is related to the enhancement of women's economic empowerment, in line with the 2017 'Buenos Aires Declaration on Trade and Women's Economic Empowerment', job and entrepreneurship opportunities for women, as to the cross-border delivery of innovative healthcare services and the manufacturing and export of adequate pharmaceutical treatments which are increasingly based on high-level technology[25]. The second concerns the alleged critical impact of treaty-led trade liberalization on specialized services, including reproductive-related ones like family planning, sexually transmitted disease diagnosis and treatments, such as up-to-date methods of contraception, HIV vaccines, infertility diagnosis tests and/or infertility services, that are likely to be managed and delivered by private actors either national or foreign. From the latter perspective, the relationship between the predominantly profit-oriented objectives attributed to international trade agreements and the effective protection of these aspects of women's health might give rise

25 Cf. Der Boghossian (2019).

to tensions, irrespective of a State's level of economic and social development.

The WTO does not specifically address SRHR. Nevertheless, its rules on trade liberalization, intellectual property, and government procurement can indirectly affect the availability and provision of SRHR-related goods, services, and information.

The entry into force of the TRIPs Agreement in 1995, as an annex to the WTO Agreement, gave rise to considerable debate, as is well-known. The central issue was whether essential medicines should be treated as goods like any other for the purposes of the Agreement[26]. At that time, the epidemics of AIDS, malaria and tuberculosis in least developed countries highlighted the critical importance of access to essential medicines at affordable prices. Such access could significantly reduce the burden of healthcare systems and lower mortality rates, particularly in countries that lacked adequate local pharmaceutical manufacturing capacity. The HIV/AIDS epidemic also had a particular impact on women's reproductive health,

26 Before the entry into force of the TRIPs Agreement in 1995, the most common strategies used to circumvent pharmaceutical patents were four. First, States denied product patents, that is provided only for patents concerning process, but not products, within their national law systems. Second, provided for flexibility as regards protecting pharmaceutical patents, by allowing a Bolar exception. This means that a company is allowed to do tests and/or trials on patented drugs of another company, without the permission of the patent holder, in order to gain regulatory approval before the expiry of a patent and put its generic version on the market as soon as the patent expires. Third, States authorized importation of a patented drug without the permission of the patent holder. Under this strategy, parallel importers buy at a low price in one State and import (it) into another State whose home market has a higher price for the drug. This strategy is commonly known as parallel importation and it is based on the exploitation of the differences in prices fixed by a patent holder in the markets of different States. Such differences can be considerable. Parallel importation becomes a public issue if the importing State's patent law provides that the rights of the patent holder have been exhausted when its patent has been placed on the market in another State with its consent. Thus, the patent holder cannot exercise its rights in the importing State to prevent parallel importation. Fourth, a State public body or agency granted permission to copy a patented drug to meet local needs before the patent expired and without the authorization of the patent holder.

exacerbating existing inequalities in access to healthcare, treatment, and prevention services.

Before 1995, various strategies were employed by emerging countries, like India, as well as by industrialized States, such as Canada, to circumvent pharmaceutical patent protection and maintain the affordability of essential medicines. These strategies included the production of generic equivalents of patented drugs[27]. Compulsory licensing was one of these strategies[28]. Compulsory licensing differs from voluntary licensing in that it permits the use of a patented invention without the consent of the patent holder, subject to the conditions established by law. By contrast, under a voluntary licence, the patent holder authorizes another party to use the patented invention on mutually agreed terms[29]. Art. 31 of the TRIPs Agreement allows for compulsory licensing, but subject to a number of strict conditions. In particular, its para. f) provides that the use of a patent under a compulsory licence must be authorize predominantly for the supply of the domestic market of the WTO Member

27 Strategies numbers one and fourth, that are mentioned in the previous footnote, allowed companies, that wished to make a copy of a patented drug, to do it legally. Since 1995, the recourse to strategies numbers one and fourth has become more difficult. The TRIPs Agreement does not regulate the resort to a Bolar exception or to parallel importation. This implies that such practices are, in principle, permitted. Art. 6 of the TRIPs Agreement is relevant, as this provides that «[f]or the purposes of dispute settlement under this Agreement, subject to the provisions of Articles 3 and 4 nothing in this Agreement shall be used to address the issue of the exhaustion of intellectual property rights». Articles 3 and 4 deal with national and most-favoured-nation treatments.

28 Compulsory licensing can be defined as an 'authorization granted by a government to a party other than the holder of a patent on an invention to use that invention without the consent of the patent holder'. Voluntary licensing is often given though an arrangement between the patent holder and the generic producer. Usually, the conclusion of such an arrangement is promoted by a particular State or by a NGO. In theory, voluntary licensing is the simplest case. Sometimes, the application for the government's use of a patent, i.e. a compulsory licensing, can bring about an acceptance by the patent holder to grant a voluntary license.

29 Compulsory licensing is non-voluntary. It does not require the authorization from the owner of the patent for invention. See WIPO. (2004). Intellectual Property Handbook: Policy, Law and Use. WIPO Publication No. 489, 34-40.

granting the licence. Consequently, it originally restricted the ability of one WTO Member to import the generic medicines it needed from another WTO Members producing them under a compulsory licence[30]. As a result, States, such as Brazil and India, which were, and remain, major producers of generic versions of certain essential medicines, were unable to export such medicines to least developed countries under a compulsory licence granted for the purpose of supplying those countries[31].

There were several attempts to overcome the restrictions imposed by Art. 31 f) of the TRIPs Agreement. Following years of discussion both within and outside the WTO, the provision was eventually amended with the approval of Art. 31bis[32]. Open issues related to the implementation of Art. 31 f) of the TRIPs Agreement fall outside the scope of this article. I have mentioned a few of the relevant issues to illustrate how international and national responses to a humanitarian concern, such as ensuring access to essential medicines at affordable prices for people

30 Art. 31 f), provides that compulsory licensing must be granted 'predominantly for the supply of the domestic market of the Member authorizing such use', apart from national emergencies or compulsory licensing granted to react to anti-competitive practices.

31 Some attempts not to apply Art. 31, Para. f), of the TRIPs Agreement were successful, like that of the South Africa at the end of nineties of the last century. Its government attempted to promote generic production of drugs through law. In 1998, a coalition of multinational pharmaceutical companies went to the High Court of Pretoria to object to this attempt by the South Africa. However, the same coalition retired its claim under pressure from NGOs and international public outcry in 2001. WTO Members have agreed on a political and regulatory solution in order to also allow compulsory licensing for exportation from a Member specialized in the production of generic, that is affordable, essential drugs to a least developed Member in need to satisfy its people requests without having adequate domestic capacity. Cf. Vidigal, Pramiti (2024) and Li (2023).

32 The new text runs as follows 'the obligations of an exporting Member under Art. 31, Para. f), shall not apply with respect to the grant by it of a compulsory license to the extent necessary for the purposes of production of a pharmaceutical product(s) and its export to an eligible importing Member(s).' This amendment was adopted in 2005 and entered into force in 2017. This is not the best solution needed, but its existence along with other similar mechanisms are still bargaining tools for least developed countries, among others, to promote voluntary licensing.

in least developed countriees, can be shaped by international rules designed to protect economic interests, like those applicable to pharmaceutical patents. Not only international treaty rules on trade, but also those on investment might be relevant, as intellectual property rights are often included among the categories of assets that may qualify as protected investments under such rules[33].

The TRIPs Agreement encourages technology transfer[34]. In principle, this could improve the availability of health technologies in least developed countries[35].

The GATS Agreement, another annex to the WTO Agreement, may also have an impact on gender-based health disparities and contribute to the protection of women's health. This Agreement may have beneficial effects, both direct and indirect, by creating opportunities to improve health through greater access to and affordability of specialized healthcare services, as well as through enhanced interaction between preventive and curative health services, particularly, although not exclusively, in developing countries. On the other hand, the liberalization of social services under the GATS may affect women both as

33 Although there is no absolute definition of investment, a typical open-ended definition of investment runs as follows: '[t]he term "investment" means every kind of asset established or acquired by an investor of one Contracting Party in the territory of the other Contracting Party in accordance with the laws and regulations of the latter and shall include particularly, but not exclusively: a) movable and immovable property as well as any other rights in rem, such as mortgages, liens, and pledges; […]; c) claims to money which have been used to create an economic value or claims to any performance having an economic value; d) intellectual property rights, such as copyrights, patents, industrial designs or models, trade or service marks, trade names, technical processes, know-how and goodwill, as well as other similar rights recognized by the laws of the Contracting Parties' (1997 bilateral investment treaty between Italy and Lebanon).

34 See Art. 66.2.

35 See, among others, WHO (2021). Global Strategy and *Plan of Action on Public Health, Innovation and Intellectual Property.* Report by the Director-General. Cf. Fink, Maskus (2005).

workers and as consumers, particularly where privatization policies are introduced. The assessment of such an impact falls outside the scope of this article. Nevertheless, the relevance of the GATS Agreement and that of international investment treaties may overlap where the cross-border provision of services related to SRHR, such as family planning and privatized primary healthcare services, is at stake.

International investment law can have a significant impact on women's SRHR, both directly or indirectly, given the demand for reproductive and sexual health services and the close interrelationship between trade and investment that characterizes contemporary international economic relations.

Specifically, investment can contribute to the advancement of women's SRHR by supporting the provision of comprehensive healthcare services, strengthening political commitment, increasing resource allocation for family planning and maternal and newborn care, and fostering technological innovation. Moreover, investments directed towards SRHR can improve individual well-being by empowering individuals, reducing inequalities, and contributing to economic growth[36].

It is important to recognize that treaty-driven trade and investment liberalization has undergone significant changes over the past twenty years. The traditionally profit-oriented

36 International organizations, such as the World Health Organization, UN Development Programme, and UN Population Fund, have promoted investment in services that cover the full spectrum of needs, like contraception and family planning, maternal and newborn care (including safe pregnancy, childbirth, and postnatal care), treatment for sexually transmitted infections (STIs), including HIV, abortion services where legal, infertility services and comprehensive sexuality education. International organizations have also recommended the availability at the domestic level of services-based on the facilitation of self-care interventions, such as access to high-quality self-care options, such as self-administered injectable contraception, HIV self-testing, medical abortion services and self-sampling for HPV screening. Cf. Singh, Darroch, Vlassof, Naderau, (2024).

policy and regulatory frameworks have been tempered by the inclusion of special sustainable development-related exceptions, provisions, safeguards, and 'caveats'. 'New' international trade and investment agreements incorporate non-relaxation clauses in their preambles and/or substantive provisions, general exceptions to treaty obligations modelled on Art. XX of the GATT, exceptions to obligations prohibiting certain performance requirements, and specific provisions safeguarding States regulatory capacity to pursue legitimate public objectives at the domestic level[37].

Economically advanced States and the European Union have played a leading role in driving this innovative trend[38].

This change is significant in its own for the pursuit of sustainable development, while also being expected to have limited adverse effects on women's health, particularly on women's SRHR. These 'new agreements commonly recognize health as a 'legitimate public objective' that Contracting States may pursue and safeguard notwithstanding their treaty obligations to liberalize trade and investment. Several such agreements also include a specific chapter or provision addressing gender equality and women's empowerment. However, health and gender equality are rarely considered in an integrated manner. The language used in relevant provisions on health is often indeterminate. SRHR is not often mentioned explicitly. Similarly, provisions on 'gender equality' generally do not address health-related issues. Provisions or dedicated chapters on 'gender

37 See, among others, Acconci (2022) and De Brabandere (2024).

38 See, for instance, the 2016 Chile-Uruguay Free Trade Agreement; 2018 Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); 2018 Australia-Peru Free Trade Agreement; 2019 Netherlands Model Investment Agreement; 2020 USMCA Free Trade Agreement; 2021 Australia-UK Free Trade Agreement; 2021 Canada Model Investment Agreement; 2023 EU Model Investment Treaty; 2023 EU-Chile Interim Agreement on Trade.

equality' typically address issues such as the delivery of services, including financial services, digital trade, equal opportunities in employment, and/or the adoption of gender-responsive policies by multinational enterprises.

In short, the impact of trade and investment on women's SRHR deserves further attention and should be more specifically considered in international policy and law-making. Relevant 'new' treaty provisions on 'gender equality' could help strengthen SRHR protection if revised for this purpose and effectively translated into domestic measures.

The 2023 EU-ACP Samoa Agreement provides a valuable example of how provisions addressing SRHR could be formulated. In particular, its Art. 29 (5) concerning health protection refers to "universal access to sexual and reproductive health commodities and healthcare services, including for family planning, information and education". The 2026 EU-Mercosur Partnership Agreement likewise contains a relevant provision in Art. 8.14 (d), which is aimed at "promoting the protection of mothers and children as well as accessible and inclusive childcare facilities."

5. Concluding remarks

Exploring the protection of women's SRHR through treaty-led liberalization highlights that women's distinct health needs are recognized as collective concerns requiring international responses from both human rights and market-based perspectives.

The prominent role of international organizations is evident in international law efforts to enhance the benefits for women's SRHR, while mitigating related drawbacks.

Several international non-binding instruments have been adopted, offering useful recommendations, best practices, technical guidance, statistics, and standards on SRHR. Such non-binding regulation appears to have been the predominant response to addressing SRHR needs.

It is noteworthy that international organizations have considered the impact of trade and investment on SRHR. This consideration might be valuable in treaty negotiations to strengthen the positive effects of treaty-driven trade and investment liberalization positive while mitigating its negative effects.

Another positive trend is that 'new' international trade and investment treaties increasingly recognize 'gender equality' as a specific 'non-economic' interest, although it remains too early to assess the impact of this regulatory innovation on women's actual conditions. Given that these 'new' provisions do not explicitly address SRHR, empirical evidence on their potential contribution to women's SRHR will need to be collected and assessed in the future.

Further development and refinement of the international regulatory framework on trade and investment would be desirable for the enhancement of SRHR, as an essential dimension of women's equality and empowerment. This would enable treaty-driven economic liberalization to contribute more effectively, from a feminist perspective, to the welfare of local communities by ensuring the availability, accessibility, and affordability of medical goods and services essential to the realization of SRHR, thereby advancing the objective of 'universal health coverage' as an implementing tool for health equity.

Revisions aimed at incorporating strengthened provisions on 'gender equality', including SRHR, could contribute to

preventing conflicts of interest and legal disputes arising where domestic measures adopted to safeguard SRHR are perceived to conflict with, or impede compliance with, obligations under an international treaty.

However, policy-makers might encounter significant difficulties in negotiating such revisions. An alternative to treaty renegotiation could involve inter-State consultations conducted through international organizations, with a view to developing model clauses and/or interpretative guidelines addressing recurring issues and contributing to the prevention of normative conflicts. Interpretative guidelines could provide a feasible short-term solution at the regional level.

In the absence of express provisions to the contrary, arbitrators and judges may, within the limits of their applicable interpretative frameworks, exercise their discretionary powers to prevent international trade and investment agreements from taking precedence over domestic legislation aimed at protecting women's SRHR. To this end, arbitrators and judges could draw upon general principles, such as proportionality, and employ specific interpretative criteria and methods, including the standard of review approach, to reconcile competing legal obligations and interests. Arbitrators and judges could afford host States a certain degree of deference by relying on the margin of appreciation doctrine, particularly when assessing domestic measures adopted to pursue legitimate public policy objectives[39].

Conflicts and disputes might arise where an exporting State or a foreign investor considers a host State's domestic legislation concerning SRHR to adversely affect its interests and alleges that the measure constitutes a breach of the State's obligations

39 Cf. Acconci (2018).

under an international treaty, thereby initiating proceedings before a domestic court or a treaty-based arbitral tribunal and seeking compensation[40].

Alternatively, multinational enterprises could act as drivers of change by incorporating strengthened commitments to 'gender equality', including the protection and promotion of SRHR, into their business models and corporate governance frameworks[41]. Conversely, such an approach could enable multinational enterprises to strengthen their corporate social responsibility frameworks, enhance their credibility and positive social impact, and ultimately contribute to their long-term economic performance and profitability.

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40 As to the enforcement of international obligations undertaken by the contracting States of international investment treaties through 'direct arbitration', see, among the others, UNCTAD. (2010). Investor-State Disputes: Prevention and Alternatives to Arbitration. Geneva: UNCTAD. 'Direct arbitration' allows a foreign investor of one Contracting State to request directly the establishment of an arbitral tribunal, in accordance with the treaty under consideration, against another Contracting State acting as a host State for compensation, if the conduct of this State allegedly amounts to a breach of its obligations under the international investment treaty at stake, although such a treaty provides for interstate obligations only. The adjective 'direct' is used to stress that the treaty-including a 'direct' arbitration clause-allows the alleged affected investor of one Contracting State to bring an action against another Contracting State without having to obtain its specific consent in this regard.

41 Cf. Vargas Amaral, Daza Jaller (2023).

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India's Free Trade Agreements and disruptions to women's medicines: a descriptive case-study analysis

Los Tratados de Libre Comercio de ilusiones: disrupciones en precios, accesibilidad y disponibilidad de medicinas para mujeres en los TLC con India

Dr. Tania Sebastian*

Abstract

The significance of Free Trade Agreements (FTAs) between countries can be seen through its role as instruments of facilitating commercial ties and establishing a sense of regulatory governance. India has a long history of FTAs beginning from the late 1990's with an agreement with Sri Lanka. In the past two decades, India has entered into many FTAs, from which this study selects four FTAs with a specific mention of health in its for Articles/ Chapters for a descriptive case study analysis. This enables a study that connects the TRIPS Agreement, Free Trade Agreements (FTAs) with access to medicines specifically for women in India. This study posits that high prices for medicines for crucial illness, low availability and limited accessibility emerge from the convergence of TRIPS, FTAs and a disregard for the local patent regime in India.

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The paper is developed using the FTAs countries presence in India via its patent activity, pharmaceutical company presence and the price information of medicines. These are considered specifically in the context of diseases like cancer, diabetes, anti-epilepsy drugs, anemia treatments and bacterial vaginosis. This information is matched with the trajectory of the patent application at the Indian Patent Office filed by the FTA countries. The paper also tracks oppositions of the patent applications.

In short, the paper examines these trade policies in the background of the local patent structures, medicine unaffordability, and the Indian court decision on prices of crucial medicines. This brings together the public health dimension of affordability and accessibility of medicines in India, realities of the gendered nature of diseases in the Indian context, the role of the Indian judiciary and the compulsory licensing regime in India are also examined. The paper concludes by addressing the requirements of the global south and how a circumvention of the local laws is made possible through the FTAs, which needs careful consideration and negotiations.

Keywords: TRIPS – India – gender – generics – patents – medicines.

Resumen

La importancia de los Acuerdos de Libre Comercio (ALC) entre países se puede observar en su rol como instrumentos para la facilitación de lazos comerciales y una medida de gobernanza regulatoria. India tiene una larga historia de ALC que comenzó a finales de la década de 1990 mediante un Acuerdo con Sri Lanka. En las últimas dos décadas, India se ha incorporado a múltiples ALC, de los cuales este artí-

culo selecciona cuatro ALC con mención específica de salud en sus Capítulos y Artículos para un análisis de estudio de caso descriptivo. Esto permite desarrollar un estudio que conecta el Acuerdo sobre los Aspectos de los Derechos de Propiedad Intelectual relacionados con el Comercio (TRIPS) y Acuerdos de Libre Comercio (ALC) con acceso a medicinas específicamente para mujeres en India. Este artículo plantea que precios altos para medicina de enfermedades cruciales, baja disponibilidad y accesibilidad limitada emergen de la convergencia del TRIPS ALC y la despreocupación por el régimen de patentes local en India.

Este artículo se desarrolla utilizando la presencia de países en ALC en India por medio actividad de patentes, presencia de compañías farmacéuticas e información de precios de medicinas. Estas últimas se consideran específicamente en el contexto de enfermedades como cáncer, diabetes, medicamentos para la epilepsia, tratamientos para la anemia y vaginosis bacteriana. Esta información se une con la trayectoria de la aplicación de patente gestionada en la Oficina de Patentes de India por parte de los países de ALC. Este artículo también rastrea oposiciones a las aplicaciones de patentes. En suma, el artículo examina estas políticas comerciales en el contexto de estructuras de patentes locales, inaccesibilidad de medicamentos, y la decisión de la corte en India sobre los precios de medicamentos cruciales. Todo esto aúna la dimension de salud publica de accesibilidad y asequibilidad de medicamentos en India, realidades de la naturaleza diferenciada en género sobre enfermedades en el contexto de India, el papel de los jueces en India y el régimen de licenciamiento obligatorio. El artículo concluye desarrollando los requerimientos del Sur Global y como una circunvención de leyes locales es posible por medio de ALC, la que requiere cuidadosa consideración y negociaciones al respecto.

Palabras Clave: TRIPS – India – género – medicamentos genéricos – patentes – medicamentos.

1.- Introduction: placing India in the context of this study

In the past two years, India has entered into significant Free Trade Agreements (FTAs), for example, the India-UK Economic and Comprehensive Trade Agreement (2025), India-Oman Comprehensive Economic Partnership Agreement (2025), India- United States of America (USA) framework for an interim Agreement, India-New Zealand FTA (2025), and the India-The European Union (EU) FTA (2026)[1]. Entering into FTAs enables the participating countries to reduce or eliminate certain barriers to trade and investment and facilitate commercial ties. However, there is a diametrically opposite side to the FTAs because of its intersection between patent law and medicines, and the interference with affordability and accessibility of certain medicines.

With this background, this study looks at FTAs signed by India in the past two decades. This places the beginning year of this study in 2005, a landmark year for India's patent regime as a result of the Patents (Amendment) Act, 2005. The Patents (Amendment) Act, 2005, introduced the product patent regime in India, in compliance with the minimum standards of patent protection in TRIPs. This marked the shift in the Indian patent regulatory regime as it moved from process-only patents to product patents. The shift has been criticized by scholars of the Global South as it curtailed the freedom of manufacturers to

1 Key highlights of the Agreements signed or announced in 2025-26, https://www.commerce.gov.in/files/2026-03/FTAs%20achievement%20v6%205%20pm.pdf.

produce generic medicines as the patent law would now protect both the process and the outcome (product)[2].

Other criteria that were used to select the FTAs in this study include the linkages between India and the FTA countries in terms of: (i) the presence of a clause/ article/ chapter on pharmaceuticals/ medicines in the text of the agreement, (ii) publicly available information regarding Indian pharmaceutical companies entering into collaborations with the FTA countries after the FTAs came into force, (iii) patenting activity of the companies based in the FTA countries, and (iv) lastly, price comparisons using 'Pharma Sahi Daam from NPPA', an online government search tool for checking prices of medicines[3]. It lists both the patented and generic price information. Prices are latest as of March 2026.

All these criteria narrows down this study to four FTAs: Economic Integration and The India- Japan Comprehensive Economic Partnership Agreement, 2011; India Korea Comprehensive Economic Partnership Agreement, 2009; Australia-India Economic Cooperation and Trade Agreement, 2022 and India- United Kingdom Comprehensive Economic and Trade Agreement, 2024.

This makes this study a qualitative, descriptive case-design based study. The study uses extensive legal, institutional, and documentary sources to address the question of whether there is an impact on FTAs on women's health in terms of medicines availability and accessibility. The urgent attention regarding

2 For example, see, Shamnad Basheer, (2005) India's Tryst With Trips: The Patents (Amendment) Act, 2005, 1 (1) Indian Journal of Law and Technology. DOI: 10.55496/EPGU2741

3 Link used for this study is: https://www.nppaipdms.gov.in/NPPA/PharmaSahiDaam/searchMedicine

women's health is especially felt in the Indian context and can be understood if we look at diabetes. India is known as the diabetes capital of the world as it accounts for a quarter of the global diabetes cases, globally[4]. Diabetes affects nearly 75 million Indian adults[5]. This, in turn, puts an economic burden on the health system[6], and is irreversible and requires lifelong medication to be kept under control. The Lancet's Global Burden of Diseases analysis from 1990-2019 grades India as a mid-level performer in tackling diabetes[7]. Studies show that diabetes is a cause of concern for Indian women, with an increase in the numbers of cases, and as the top ten causes of death of Indian women[8]. In this study, we see the FTAs being entered into to have a presence of manufacturing and selling diabetes medicines.

The intersection between diseases, access to medicines and FTAs make the following three core areas that this paper looks at via a public health dimension:

- ***Public health dimension 1:*** affordability and

4 Maeve Cullinan, How India became the diabetes capital of the world, The Telegraph, 28 August, 2025, https://www.telegraph.co.uk/global-health/science-and-disease/how-india-became-the-diabetes-capital-of-the-world/

5 Dey S, "75m Indians above 60 Suffer from Chronic Disease: Survey" The Times of India (January 7, 2021) https://timesofindia.indiatimes.com/india/75m-indians-above-60-suffer-from-chronic-disease-survey/articleshow/80143113.cms, and Dutta D and Ghosh S, "Young-Onset Diabetes: An Indian Perspective" (2019) 149 (4) Indian Journal of Medical Research 441, doi:10.4103/ijmr.IJMR_1938_18.

6 Al-Maskari F, "Lifestyle Diseases: An Economic Burden on the Health Services" *(United Nations)* https://www.un.org/en/chronicle/article/lifestyle-diseases-economic-burden-health-services

7 Lozano R and others, "Measuring Universal Health Coverage Based on an Index of Effective Coverage of Health Services in 204 Countries and Territories, 1990–2019: A Systematic Analysis for the Global Burden of Disease Study 2019" (2020) 396 The Lancet 1250, https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2930750-9

8 Dr Manorama Bakshi, India's Diabetes Crisis: The Alarming Rise Among Women, IMPRI, December 16, 2025, https://www.impriindia.com/insights/indias-diabetes-crisis/

accessibility of medicines in India in a post-TRIPs world, through the lens of select FTAs.
- ***Public health dimension 2:*** realities of the gendered nature of diseases in the Indian context.
- ***Public health dimension 3:*** role of the Indian judiciary and the compulsory licensing regime in India.

II. Access to Medicines and the Gender dimension in Trade

The World Trade Organization (WTO) is the organization through which some of the most comprehensive trade agreements are negotiated globally. Within that, the Agreement of Trade Related Aspects of Intellectual Property Rights (TRIPs) is a multilateral treaty that prescribes minimum standards for the protection of Intellectual Property Rights (IPRs)[9]. TRIPs emerged from the Uruguay rounds of negotiations and as a signatory to WTO, India is also part of TRIPs. India was given a window period of ten years till January 1, 2005, to integrate the TRIPs minimum standards into its national legislation, because of its status as a developing country. TRIPS is an integral part of the 'take-it-or-leave-it' package finalised in the GATT Uruguay Round and the Draft Final Act signed in December 1993, and the official Marrakesh Agreement in 1994.

Minimum standards regarding protection, enforcement and other aspects relating to Patents are also incorporated in TRIPs. Within the TRIPs framework, patent protection ensures that the limited duration of monopoly rights to the patent holder are balanced with public disclosure of the invention, which provides for building blocks for future inventions.

9 Overview of the TRIPs Agreement, https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm

Prior to 2005, India had excluded medicines from patent protection with an aim to sustain generic medicines, and limiting patent activity to process patents only. This aligned with India's public health needs. However, this changed with the 2005 deadline to incorporate TRIPs into local legislation fast approaching. This resulted in the Patents (Amendment) Act, 2005, which brought about a shift from process to product patent. The distinction between product and process patent is relevant here: in the case of a product patent, the patent protects both specific ways to make the medicine and the final product itself. In the case of a process patent, the protection was limited to the patented way or method of making the medicine, providing levy way to generics to manufacture the medicine thereby creating a lower barrier when it comes to market competition. For India, it meant that product patents would curb the earlier freedom of generic manufacturing to produce generics.

However, certain flexibilities could be used by countries to optimize the patent regime to its health issues. The freedom to incorporate patent opposition procedures and address every greening of patents are examples of public health flexibilities provided under the TRIPS Agreement. In the global south, flexibilities have also been used optimally to ensure that the public health requirements are also met with the framework of patent, including the use of compulsory licensing for HIV/AIDS, resisting ever-greening of patents, etc[10].

Recognizing the public health necessities, the Doha Declaration of 2001 explicitly recognized the need for having in place an IP system that recognizes the needs of countries in terms of

10 See generally, Tania Sebastian, The India Twist to Patent Culture: Investigating Its History, in Patent Cultures, Graeme Gooday and Steven Wilf (eds), Cambridge University Press, 2020.

public health[11]. It proposes that countries will look to balance their national interests in terms of health. India has specifically used its patent regime for this purpose. For example, the opposition system has been used to ensure that only inventions that are patentable under the Indian Patents Act, 1970 are granted patents. This has resulted in the medicines being available at a much lower cost[12]. Another example is the use of section 3 (d), Patents Act, 1970 and its judicial interpretation dissuades evergreening and encourages enhanced therapeutic efficacy[13].

In the thirty years since TRIPs, scholars from the global south have consistently argued that efforts to make affordable access to medicines have been thwarted as a result of the stringent patenting requirements[14]. Much earlier too, during the period immediately following the Patents (Amendment Act) 2005, there were concerns raised by scholars from the global south about possible impact on access to medicine as a result of the changes to the patent regime[15].

Scholars have argued that international agreements including TRIPS have the "potential to jeopardize poor women's health and their ability to ensure good health for their families"[16]. The

11 See generally, The Doha Declaration explained, https://www.wto.org/english/tratop_e/dda_e/dohaexplained_e.htm

12 Rathod, S.K. (2022). Patent Oppositions in India. In: Correa, C.M., Hilty, R.M. (eds) Access to Medicines and Vaccines. Springer, Cham. https://doi.org/10.1007/978-3-030-83114-1_6

13 Novartis AG v. Union of India, (2013) 6 SCC 1.

14 Gopakumar 2025, TRIPS@30: Thirty years of widening inequities in access to medicines, Third World Network, https://twn.my/title2/resurgence/2025/363/cover01.htm

15 Shamnad Basheer, (2005) India's Tryst With Trips: The Patents (Amendment) Act, 2005, Indian Journal of Law and Technology: Vol. 1: Iss. 1, Article 2. DOI: 10.55496/EPGU2741

16 Irene van Staveren, Diane Elson, Caren Grown and Nilüfer Çaæatay (eds), The Feminist Economics of Trade, Routledge IAFFE Advances in Feminist Economics, 2007, chapter 1.

advantages that innovative medicines bring to the table are enormous and the opportunities of good health that it can bring will enable women to pursue other development goals[17]. Relationship between access to medicines and women has been seen through a human rights lens, with the use of patent law, the involvement of the pharmaceutical companies and the state as a mechanism to address these issues[18].

In general, gender inequalities and gaps can be seen across the board, with unequal representation of women in formal settings, lower wages than men, more housework than men, etc[19]. When it comes to trade, literature on feminist economics of trade brings forth the intersection between international trade and gender in terms of inequality and its complexities. The impact of trade on women occurs when they navigate their way as workers, consumers and entrepreneurs. Their treatment has been documented to be different from men, even in OECD countries[20].

Feminist economics places all economic policies as gendered either implicitly or explicitly, as a result of the way that they are implemented and formulated through a system of gendered power[21]. An example in this regard is when trade policies undermine the contributions of the unpaid economy and

17 Jennifer H M Mike, Access to essential medicines to guarantee women's rights to health: The pharmaceutical patents connection, The Journal of World Intellectual Property, 23 (3-4), https://onlinelibrary.wiley.com/doi/10.1111/jwip.12161

18 Id.

19 Caroline Criado Perez, Invisible Women, Vintage, 2019.

20 Jane Korinek, Evdokia Moïsé, Jakob Tange, Trade and Gender: A Framework of Analysis, OECD Trade Policy Paper, March 2021, https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/03/trade-and-gender_1d7b8052/6db59d80-en.pdf

21 Irene van Staveren, Diane Elson, Caren Grown and Nilüfer Çaæatay (eds), The Feminist Economics of Trade, Routledge IAFFE Advances in Feminist Economics, 2007, chapter 1.

consider only the paid economy, which causes bias as women contribute more to the unpaid economy and the social obligation of women is titled towards ensuring that they care for their families[22]. Considering this, there has been an argument in favor of a feminist economics of trade, as looking at trade policies comes with a need to prioritize issues that are either neglected or invisible. Feminist economists also point out that trade liberalization cannot be simplified into just what is good or bad for women as gender relations and trade practices are diverse with contradictory impacts[23]. A proposed solution for these issues calls for measures relating to trade expansion and reduction of gender inequality that can be combined, with the disclaimer that it will work only if trade and other economic policies are implemented[24]. The two way relationship between trade and gender is not new in WTO/ UNCTAD literature as well, with special focus on women at work, and as employees, entrepreneurs, consumers and taxpayers[25].

Even if the FTAs do not have an explicit gender discrimination aspect, the ground realities relating to the effects of FTAs must be catalogued in order to understand its differential impact on men and women. More so, as the prevalence of gender inequality may result in hindrance (or assistance, as some scholars argue) in trade functionalities like competitiveness, and gains from trade[26].

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22 Id.

23 Id.

24 Id.

25 UNCTAD, Looking at the trade and gender nexus from a development perspective A brief overview, 2022, Page 7, https://unctad.org/system/files/official-document/ditc2021d2_en.pdf

26 Irene van Staveren, Diane Elson, Caren Grown and Nilüfer Çaæatay (eds), The Feminist Economics of Trade, Routledge IAFFE Advances in Feminist Economics, 2007, chapter 1.

In the context of medicines, while challenges may exist, it becomes especially difficult for women as they face additional challenges that are cultural, social and economic[27]. Studies have traced the effect of illness, especially in the global south, with "their inabilities to access health treatments could also be traced to their subordinated social and economic situation, gender-related barriers, biological predispositions and vulnerabilities"[28].

The Indian judicial outlook to price matters in medicines is also relevant here. For example, in the case of pricing of Novartis Ribociclib (sold as Kisqali) for the treatment of a specific type of breast cancer, the HER2-negative breast cancer, and specific types of hormone receptor-positive (HR+). In this matter, the Kerala High Court observed that "As per the available statistics an alarming number of women succumb to Breast cancer by reason of their inability to afford expensive treatment and medication" and that the "right to life guaranteed under the Constitution, coupled with the State's duty to improve public health, call for emergent and effective action in the matter"[29]. Mention is made of the petitioner's reference to "Section 92 of the Patents Act, 1970 which provides for compulsory license and Section 100 which empowers the Government to requisition lifesaving medicines in cases of extreme necessity"[30]. As this litigation progressed, the patient passed away, and the categorization of the case was changed to a suo motu Public

27 See for example, Namasivayam, A., Osuorah, D. C., Syed, R., & Antai, D. (2012). The role of gender inequities in women's access to reproductive health care: a population-level study of Namibia, Kenya, Nepal, and India. International journal of women's health, 351-364.

28 Jennifer H M Mike, Access to essential medicines to guarantee women's rights to health: The pharmaceutical patents connection, The Journal of World Intellectual Property, 23 (3-4), https://onlinelibrary.wiley.com/doi/10.1111/jwip.12161

29 XXX (Resident of Ernakulam) v. Union of India and Ors, WP(C) No.18999/2022, page 2.

30 Id

Interest Litigation. This was followed by the Supreme Court of India (SCI) taking cognizance of the matter[31]. Previously too, the SCI has been involved with drug pricing policy, with an order pulling up the Government for failing to finalize the drug pricing policy that has been pending for over two decades[32].

III. India and Free Trade Agreements

Four FTAs form part of this study, all of which have a health dimension in its agreement, followed by engagement with collaborative efforts in the field of pharmaceuticals. The study places the India-Japan Comprehensive Economic Partnership Agreement, 2011 as the first case study as it shows direct collaborative efforts on many different levels: patent, medicines and trade, all having an impact on women's health/ medicines.

a. The India-Japan Comprehensive Economic Partnership Agreement, 2011

The India-Japan Comprehensive Economic Partnership Agreement (CEPA), 2011, specifically mentions pharmaceuticals as part of the Agreement. Relevant for this paper's discussion are explicit mention of co-operation on generic medicine and in health (Articles 54 and 129 (j)).

Collaborations between the two countries in the field of patents / IP, include joint academic collaborations, summits, parliamentary exchanges, including healthcare cooperation

31 PTI, Supreme Court takes suo motu cognizance of matters regarding access to life-saving medicines, July 17, 2026, https://www.thehindu.com/news/national/supreme-court-takes-suo-motu-cognisance-of-matter-regarding-access-to-life-saving-medicines/article71233786.ece

32 See, Kundan Pandey, Supreme Court to examine drug pricing policy, August 6, 2013, https://www.downtoearth.org.in/environment/supreme-court-to-examine-drug-pricing-policy-41866

between the two countries. An example in terms of health care cooperation is the synergization between India's AYUSHMAN Bharat Programme and Japan's AHWIN that resulted in cooperation in areas including those of health-care logistics, ICT for tertiary healthcare, and human resource development[33]. Another connection between India and Japan is the Patent Prosecution Highway (PPH) that began on December 5, 2019 for a period of three years[34]. The PPH was brought about to benefit both countries, including "expedited examinations in India through simplified procedures" so that "India can emerge as the favorite place of making investments as Japan would be making a lot of investments in India, especially in the field of IPR"[35] .

Japanese pharmaceutical manufactures that were identified include Eisai Co. Ltd. and Mitsubishi Tanabe Pharma Corporation. The first pharmaceutical company, Eisai Co. Ltd., discovered and developed the cancer drug Lenvatinib, a prescription medicine for the treatment of thyroid cancer and various types of cancer (differentiated thyroid cancer (DTC), unresectable or advanced hepatocellular carcinoma (HCC), advanced renal cell carcinoma (RCC), and advanced endometrial carcinoma)[36]. In India, thyroid cancer has shown a significant rise in incidence over recent decades, particularly among women in urban re-

33 India-Japan Bilateral Relations, https://www.mea.gov.in/Portal/ForeignRelation/India-Japan-May-2025.pdf.

34 Japan Patent Office, https://www.jpo.go.jp/e/system/patent/shinsa/soki/pph/japan_india_highway.html. Select technical fields were to be considered for application before the IPO like electrical, electronics, computer science, information technology, physics, civil, mechanical, textiles, automobiles and metallurgy, whereas the Japan Patent Office was to receive applications in all fields of technology.

35 Japan & India Vowing To Grow Together In The Field Of IP, Nov 6, 2018, https://www.khuranaandkhurana.com/2018/11/06/japan-india-vowing-to-grow-together-in-the-field-of-ip#:~:text=Identifying%20such%20co%2Doperation%20of,in%20the%20field%20of%20IPR.

36 Lenvatinib, https://www.ncbi.nlm.nih.gov/books/NBK567768/

gions[37]. If one looks at the pricing of this medicine, Eisai Co. Ltd. prices the drug at 12 times higher than its lowest price generic that is available today and 4.7 times higher from the highest priced medicine on the list.

Another example is Perampanel manufactured by Eisai Co. Ltd., an anti-epileptic drug[38]. Specific to women, women with epilepsy face additional challenges, including discrimination[39]. Other pertinent issues to women with epilepsy include breastfeeding as well as bone mineral health[40]. This has the highest listed price per unit for a 2 mg or a 4 mg tablet in the Indian market.

The next pharmaceutical company is the Mitsubishi Tanabe Pharma Corporation (MTPC). The patent application filed by MTPC for a Type 2 diabetes drug was rejected by the Indian Patent Office (IPO), a rejection subsequently upheld by the court[41]. The Teneligliptin market was soon flooded by generic manufacturers which resulted in the reduction of the drug to one-third of the original price[42]. Glenmark's *Zita Plus Zio* is

37 Yuvraj Kaushal, Rising Trends and Regional Disparities: A Review of Thyroid Cancer Statistics in India, (pre-print) https://www.researchsquare.com/article/rs-6667454/v1, Zhang, Brown, et al, Pembrolizumab plus lenvatinib in women with advanced or recurrent uterine carcinosarcoma, Journal of Clinical Oncology, 43 (16), 2025, https://ascopubs.org/doi/10.1200/JCO.2025.43.16_suppl.e17625

38 Information from Eisai Pharmaceuticals, https://www.eisai.com/news/2024/news202426.html

39 Nag, Devika. Gender and Epilepsy: A Clinician's Experience. Neurology India 48(2):p 99-104, Apr–Jun 2000.

40 Sunila E O'Connor and Mary L Zupanc, Women and Epilepsy, The Journal of Pediatric Pharmacology and Therapeutics, 14 (4), 212-220, 2009. https://pmc.ncbi.nlm.nih.gov/articles/PMC3460796/

41 Ghanjurde A, "Mitsubishi Takes Teneligliptin Patent Appeal to Indian Court" (Scrip October 31, 2016) https://scrip.pharmaintelligence.informa.com/SC097565/Mitsubishi-Takes-Teneligliptin-Patent-Appeal-To-Indian-Court

42 Das S, "Prices of Oral Diabetes Drugs Set to Fall as Patents near Expiry Date" (Business Standard July 22, 2021) https://www.business-standard.com/article/health/prices-of-oral-diabetes-drugs-set-to-fall-as-patents-near-expiry-date-121072200597_1.html

available for INR 140 for a strip of ten tablets, while the MTPC Canalia 20 mg is marketed at INR 6,500 for a strip of ten tablets.

In another patent application too, MTPC faced patent opposition, the first one by Glenmark for the grant of a patent on an invention that used a combination drug for type 2 diabetes for a supposed superior pharmaceutical invention for addressing type 2 diabetes under the National Phase filing of the Patent Cooperation Treaty (PCT)[43]. The invention included a diagnostic or therapeutic drug or combination of drugs that can assist in the diagnosis, prevention, treatment, or mitigation of abnormal conditions or symptoms. Unlike single-dose drugs, this invention was stipulated to be for a concomitant drug, which involves two or more drugs used or given at or almost at the same time (one after the other, on the same day, etc.). MTPC's patent application stated that the combination drug includes Teneligliptin or salt of it along with at least one other active drug. Such other active can be chosen from a laundry list as provided in the specification and can broadly be an antidiabetic drug, among other uses[44]. This, MTPC asserted, made the drug incorporate the trinity of patent protection in India: a novel drug, with an inventive step, containing industrial applicability. Glenmark's opposition was followed by other opponents and the First Examination Report (FER) objections based on a lack of inventive steps and lack of clarity, with the claim relating to an admixture of previously existing substances thereby rendering it non-patentable[45]. The FER states that the combination

43 Application number: 22/CHENP/2008.

44 The complete specification lists the specific use in type 2 diabetic on the date of filing as "single pharmaceutical agent is capable of sufficiently improving the complicated pathology of diabetes, and plural pharmaceutical agents are used in combination for diabetes treatment." See also, https://pubchem.ncbi.nlm.nih.gov/compound/66996784#section=Literature

45 Multiple aspects are relevant here: Section 25 (1) (e), Patents Act, 1970; and the claims are an admixture of a known compound and would attract section 3 (e) as it does result in the synergism of that substance.

of drugs would have been obvious to a person skilled in the art[46], that the subject matter is a method of treatment and is not patentable (claims 14-23)[47], and that the application contains multiple inventions thus the same has not met the requirement of a complete specification[48]. The result of the first opposition by Glenmark and the FER was that MTPC amended its first claim from a general to a specific claim, with a clear indication of the specific compound that is used[49]. After the first round of amended claims, Glenmark filed their second opposition that reiterated one ground for obviousness and lack of inventive step, as this opposition was not addressed by the applicant in previous rounds of amendments[50]. Other objections were raised by the other opponents as well. Subsequently, MTPC withdrew its application before the pre-grant hearing, even though an amended claim was presented to the IPO.

In another patent application, MTPC was successful in obtaining a patent on a chemical composition that could be used in the treatment, or for delaying the progression or onset of a group of diabetes and other associated complications that arise with diabetes like delayed wound healing, insulin resistance, hyperglycemia, etc. It includes a certain solid-state crystalline form that could be easily dried and readily filtered thereby ensuring better stability[51]. Two pre-grant oppositions were filed,

46 Under section 2(1)(ja) of the Patents Act,1970. The test of obviousness is set out in the case of *Hoffmann-La Roche Limited & Anr. v. Cipla Limited* [2008] (High Court of Delhi) (CS (OS) 89/2008].

47 Section 3(i) of the Patents Act, 1970

48 Section 10(5) of Patents Act, 1970.

49 From "thiazolidine, a salt of the compound with an organic or inorganic and monoor di-basic acid or a solvate thereof" to "thiazolidine 2.5 hydrobromide hydrate" of the Teneligliptin compound in combination with an antidiabetic drug, among other uses".

50 Supplementary representation as a result of the amended claims.

51 Application number: 3871/CHENP/2009.

the first one by Ranbaxy Labs Pvt. Ltd., a generic manufacturer of medicines in India that was acquired by Sun Pharmaceutical, the fourth largest generic manufacturer in the world. The second opposition was filed by Indian Pharmaceutical Alliance (IPA). Ranbaxy opposed the application for lack of novelty and lack of inventive step, lack of industrial applicability thereby making the non-patentable, evergreening, insufficient or unclear description of the invention in the specification, and failure to disclose the source of biological material used for the invention[52]. Other than the overlaps in opposition, the IPA also opposed the invention related to a mere admixture of substance and a process for any process for the medicinal, surgical, curative, prophylactic diagnostic, therapeutic, or other treatment of human beings or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products[53]. Both oppositions resulted in a substantial change in the claims of the specification, with MTPC dropping the aspect of a method of treatment of diabetes, and shifting gears from a product to a process patent. Most importantly, specific ratios of ethyl acetate-diethyl ether were spelled out as 1:4, an aspect missing from the initial claim. This narrowed down the scope of the invention substantially. Two pre-grant oppositions and the FER report later, the claims were amended, and the innovation changed from a product to a process patent. The Assistant Controller granted the patent as the claims were rewritten and moved away from asserting a prospective patent over the drug itself, to a process claim regarding the method of manufacturing the drug. This was different from the prior art as the present innovation was not a mere use of a known process but a novel process.

52 Section 25, Patents Act, 1970.

53 Section 3 (e) and (i), Patents Act, 1970.

b. India Korea Comprehensive Economic Partnership Agreement, 2009

The India Korea Comprehensive Economic Partnership Agreement (CEPA) between India and Korea was signed on August 7, 2009, and entered into force on January 1, 2010. The mutual cooperation regulations and measures to incorporate "each other's legitimate rights to adopt measures to protect human, animal and plant life or health"[54]. Article 10.16 mentions about health, safety and environmental measures[55], Article 13.9 about pharmaceuticals, with the "Parties, acknowledging the importance of human health, agree to facilitate cooperation in fields of pharmaceuticals", and Article 13.11 addresses healthcare[56].

54 "I. Section C: Technical Regulations and SPS Measures - ARTICLE 2.28: TECHNICAL REGULATIONS AND SPS MEASURES, and II. ARTICLE 5.2: RELEASE OF GOODS: ART5.2(4): The Parties recognize that, for certain goods or under certain circumstances, such as goods subject to quota or to health-related or public safety requirements, releasing the goods may require the submission of more extensive information, before or at the time of arrival of the goods so that the customs authority can examine the goods for release." "III. ARTICLE 6.14: GENERAL EXCEPTIONS: ART6.14(b): necessary to protect human, animal or plant life or health".

55 "1. Nothing in this Agreement shall be construed to prevent a Party from adopting, maintaining or enforcing any measure consistent with this Agreement that is in the public interest, such as measures to meet health, safety or environmental concerns. 2. The Parties recognize that it is inappropriate to encourage investment by 229 relaxing domestic health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from, or offer to waive or otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion or retention in its territory of an investment of an investor. If a Party considers that the other Party has offered such an encouragement, it may request consultations with the other Party and the Parties shall consult with a view to avoiding any such encouragement."

56 "XI. ARTICLE 13.11: HEALTH CARE: 1. The Parties, recognising the importance of human health and the capacity of the Parties in the field of modern and traditional health care, agree to promote cooperative activities in the fields of health care. 2. Such cooperative activities pursuant to paragraph 1 may include, but are not limited to the following: (a) organisation of conferences of health professionals; (b) exchange of programmes between medical educational institutions; (c) sharing of information and experience in modern and traditional health care system; and (d) collaborative research in the fields of preventive and curative medicine and health care."

There are few Korean pharmaceutical companies that have made their presence felt in India, for example, SK Biosciences, LG Life Sciences, Daewoong Pharmaceutical and Lab Genomics, Chong Kun Dang Pharmaceutical Corp[57]. Two pharmaceutical companies are used in this study as an example. The first one is Dong-A Socio Holdings, a pharmaceutical company that has developed therapies for treating female infertility[58]. If one is to look at patent applications filed by Dong-A Socio Holdings at the IPO, these are primarily based on diabetes and obesity[59] and cancer[60], from which there is variability in terms of its outcome: abandoned[61] and granted[62], and its use: not worked[63] and worked[64]. One of the medicines, Suganon, for type 2 diabetes, was listed with the MRP of Rs. 399/-[65]. Alkem

57 Narayanan Suresh, India-Korea biotech companies to form more strategic partnerships, July 16, 2021,

https://ableindia.in/news/details/india-korea-biotech-companies-to-form-more-strategic-partnerships

58 Dong-A Pharmaceutical Releases Infertility Treatment, Gonadopin, October 12, 2006, Whats New, https://www.donga-st.com/en/news_detail.php?bo_table=board_news&wr_id=131#:~:text=Dong%2DA%20Pharmaceutical%20Releases%20Infertility,asthma%20in%202007%20and%202008.

59 For example, 2146/MUMNP/2009, DPP-IV Inhibitor Including Beta-Amino Group, Preparation Method Thereof and Pharmaceutical Composition Containing the Same for Preventing and Treating a Diabetes or an Obesity

60 For example, 201817005753, Heteroaryl Compounds and Their Use as Therapeutic Drugs

61 For example, 11255/DELNP/2015, Anti VEGF Antibody and Pharmaceutical Composition for Preventing Diagnosing or Treating Cancer or Angiogenesis Related Diseases Containing Sam, abandoned under section 21 (1).

62 For example, 201817005753, Heteroaryl Compounds and Their Use as Therapeutic Drugs

63 For example, 201817005753, Heteroaryl Compounds and Their Use as Therapeutic Drugs

64 For example, in the case of pharmaceutical, 805/MUMNP/2011, Pharmaceutical Composition for Prevention and Treatment of Diabetes or Obesity Comprising a Compound That Inhibits Activity of Dipeptidyl Peptidase-Iv, And Other Antidiabetic or Antiobesity Agents as Active Ingredients.

65 Dong-A ST to market Suganon in India, https://www.koreabiomed.com/news/articleView.html?idxno=5358

Laboratories, an India-based pharmaceutical firm entered into exclusive rights to distribute and market the treatment medicine, also sold at the same price[66].

These kinds of licensing agreements are part of the pharmaceutical ecosystem and while they do address the availability in the market as a result of the local generic manufacture, they fail in the segment of reduction of price.

Another example is that of Hanmi Pharmaceutical, a major player in the prescription drug market with a focus on specialized therapeutic areas. Hanmi Pharmaceutical has signed a licensing agreement for Kinex Pharmaceuticals to develop its Orascovery pump inhibitor for gastrointestinal treatments in India[67]. When one looks at Patent Applicants filed by them in the post FTA period, the focus is seen to be mostly cancer-related[68], obesity[69], and diabetes[70]. The fields of invention are : biotechnology, chemical, bio-chemistry and pharmaceuticals. While most of the patent applications are awaiting examination, there are other outcomes that can be observed, including granted and abandoned under section 21(1), Patents Act, 1970.

66 Generic name is Evogliptin. Price information available from here also: https://www.indiamart.com/proddetail/evogliptin-valera-5mg-tablet-suganon-2855425718491.html?srsltid=AfmBOoqKiC2xvbWkTJOUfU5qAyFbo3W1GY1wPsoqegel3ps2lanBU9uY

67 EJ Lane, Korea's Hanmi in deal with Kinex Pharma for India sales of Orascovery pump, March 9, 2015, https://www.fiercepharma.com/m-a/korea-s-hanmi-deal-kinex-pharma-for-india-sales-of-orascovery-pump

68 For example, 202517082560, Combination Therapy of Interleukin-2 Analog or Conjugate Thereof and Immune Checkpoint Inhibitor for Prevention or Treatment of Cancer.

69 For example, 202527069269, Novel Triple Activator Having Activity on All of Glp 1 Gip and Glucagon Receptors and Pharmaceutical Composition for Preventing or Treating Obesity Comprising Same.

70 For example, 201637042680, Composition for Treating Diabetes Containing Long Acting Insulin Analog Conjugate and Long Acting Insulin Secretion Peptide Conjugate.

Interestingly, there are few refusals to grant the patent, some of which is the result of the applicant's actions[71], with issues regarding the plurality of inventions in patent claims resulting in the applicant not being willing to pursue the application for "an amide derivative or its pharmaceutically acceptable salt inhibiting the growth of cancer cells and a non-metallic salt lubricant", being hit by section 2 (1) (ja), lacking inventive step and being obvious to a person skilled in the art, and not patentable under section 3 (d), Patents Act, 1970[72]. There are two refusals that emerged as a result of opposition filed by a third party[73]. It shows the importance of the sustenance of these provisions in the patent regime, as can be seen in the previous FTA too.

c. Australia-India Economic Cooperation and Trade Agreement, 2022

The India and Australia FTA, entered into force on December 29, 2022 contains provisions that can be used when imposing an emergency for "protecting human, animal, or plant life or health, which may affect trade"[74]. The Agreement also compares between GATS in relation to sector specific commitments[75]. When it comes to health related, it is clubbed with

71 From the decision of the Assistant Controller of Patents & Designs, dated 31st Jan, 2023: "On 18th Jan, 2023 - Applicant's agent e-filed that "We write in respect to the Indian Application No. 201917033875 filed on August 22, 2019. We hereby submit that the Applicant is not interested to pursue the subject application. Accordingly, we will not attend the hearing scheduled on January 25, 2023". Application number: 201917033875.

72 Order of Assistant Controller of Patents and Designs dated : 27-09-2023, Application No. 201918023165, for " Pharmaceutical Composition Comprising Amide Derivative Inhibiting the Growth of Cancer Cells".

73 For example, 5304/DELNP/2009, Atorvastatin Strontium Salt and Pharmaceutical Composition Comprising Same(Chemical), And 1463/DELNP/2015, Bilayered Composite Tablet Formulation Comprising Atorvastatin Irbesartan And Magnesium Carbonate.

74 This is for a limited period of time, ie, 6 months.

75 See for example, Table 4.2: Australia: comparison between the GATS and the Agreement sector specific commitments.

social services[76] and compared with GATS[77]. Both countries' intent to collaborate on various aspects of health related services is visible through its Annex 7A on pharmaceuticals which "mandates collaboration between the Parties' Therapeutic Goods Regulators to enhance trade in human prescription medicines and medical devices between the Parties"[78], and a need to collaborate between parties in order "to enhance trade in human prescription medicines and medical devices between the Parties".

If we are to look at Australian pharmaceutical companies that engage with women related illness, few examples emerge. For example, CSL joined the Blood and Beyond Initiative to improve diagnosis and treatment for anemia is relevant here as it is a disease which disproportionately affects women[79]. Treatments for iron deficiency and iron deficiency anemia,

76 See, "8. Health related and social services: 4.60. With partial commitments limited to Mode 3 for hospital services, all other health and social services are unbound under the GATS. While other subsectors remain unbound, commitments in hospital services are improved under the Agreement. Market access through Mode 1 is granted for the provision of services on a provider-to-provider basis, with no conditions in Mode 2, and Mode 3 is opened except that commercial presence is subject to conditions requiring the latest technology for treatment. No limitations on national treatment are imposed for Modes 1-3".

77 For example: "4.4.1.2.8 Health related and Social Services : 4.37. Under the GATS, Australia has partial commitments in podiatry and chiropody services, leaving other subsectors unbound. Under the Agreement, while all the subsectors are covered, it has a national treatment reservation for human health services with regards to Commonwealth Serum Laboratories. Some horizontal reservations, particularly the public service carve-out, apply to any measure with respect to social services, health, and childcare".

78 For example, "4.4.1.5.8 Health related and social services :Notably, each Party's regulator shall utilize reports and inspection findings from regulatory authorities recognized as comparable in the other Party's territory for pre-market evaluation and quality assessment, adhering to, as appropriate, Good Manufacturing Practice (GMP) standards. Disputes arising from Annex 7A are not subject to resolution through the dispute settlement mechanism in Chapter 13".

79 CSL Joins Blood & Beyond, December 10, 2024, https://www.csl.com/we-are-csl/vita-original-stories/2024/csl-joins-blood-and-beyond-initiative#:~:-text=Blood%20&%20Beyond%20engages%20with%20policy,Policy%20&%20Medical%20Practice%20workstream%20lead.

conditions that affect over 57% of women of reproductive age in India as of 2023[80]. Another example is Starpharma PYT Ltd, a biotech firm manufacturing VivaGel® BV, a non-antibiotic treatment for bacterial vaginosis (BV)[81]. When one looks at patents filed by both these pharmaceutical companies, it is observed that there is a mix of stages that the patent applications are at currently, from granted to awaiting examination, to withdrawn or abandoned. However, none of the granted applications are worked, even though all are in force patents[82]. Not working of foreign patents in India has been identified as a problem as early as in the 1950's[83].

d. India- United Kingdom Comprehensive Economic and Trade Agreement, 2024

The India-United Kingdom Comprehensive Economic and Trade Agreement (CETA), a bilateral free-trade agreement, was signed on July 24, 2024[84]. Among other things, CETA has implications for India as there are ways in which pharmaceu-

80 Dalvi S, Pandey A, Pathak R, Pal S. Trends and Clinical Outcomes of Anemia in Women of Reproductive Age: A Retrospective Study Across India. Cureus. 2025 Oct 28;17(10):e95555. doi: 10.7759/cureus.95555. PMID: 41322816; PMCID: PMC12658406.

81 Starpharma announces it first regulatory approval in Asia for VivaGel BV, August 20, 2019, https://biotechdispatch.com.au/news/starpharma-announces-first-regulatory-approval-in-asia-for-vivag#:~:text=Starpharma%20and%20Mundipharma%20have%20submitted,through%20to%20commercialisation%20by%20Starpharma.&text=%E2%80%9CI%20am%20very%20delighted%20that,all%20territories%20under%20Mundipharma's%20licence.

82 For example, 11353/DELNP/2012, Humanized Anti-Interleukin 3 Receptor Alpha Chain Antibodies by CSL LIMITED.

83 See, Report on the Revision of the Patents Law by Shri Justice N. Rajagopala Ayyangar, September 1959.

84 Press Information Bureau, India–UK CETA, 99% Tariff Elimination, Stronger Bilateral Trade, Catalyst for Inclusive Growth, July 27, 2025, https://www.pib.gov.in/PressNoteDetails.aspx?ModuleId=3&NoteId=154945&reg=3&lang=1 mentions "unprecedented duty-free access to 99 per cent of India's exports to the UK, covering nearly 100% of the trade value."

ticals, generics, and medical devices form part of the India-UK trade dynamics[85]. It is also the first FTA that India is a part of to have a standalone chapter on gender[86].

However, if we were to look at the draft version of the FTA, it mentioned numerous provisions based on harmonization of application of IP law, reducing IP infringement and cooperation in IP enforcement[87], which shows the ease with which circumventing local Indian patent laws is possible. An example is expanding the scope of patentable subject matter as "each Party shall treat any new medical use for a known substance or composition as capable of being a patentable invention. Neither Party shall require that a new medical use or a new medical form for a known substance or composition must enhance the known efficacy of that substance or composition in order to be treated as a patentable invention"[88]. This goes against the Supreme Court of India decision in the case of Novartis AG vs Union of India & Ors which upheld section 3 (d) of the Indian Patents Act, 1970 that discourages evergreening of patents in pharmaceuticals.

Other challenges to the patent regime in India that reflect in the FTA include elimination of the process of pre-grant[89],

85 https://www.ibef.org/blogs/india-uk-comprehensive-economic-and-trade-agreement-ceta-a-historic-milestone

86 Chapter 23, Trade and Gender, https://assets.publishing.service.gov.uk/media/687e5e5492957f2ec567c61b/uk_india_ceta_chapter_23_trade_and_gender_equality.pdf

87 https://www.bilaterals.org/IMG/pdf/uk-india_fta_ip_chapter_dated_april_2022_68_.pdf, Article B.2.1.h, see also: https://msfaccess.org/sites/default/files/2022-11/IP_UK-India%20FTA_Factsheet_Final_ENG_2.11.2022.pdf

88 Article E. 2.2, https://www.bilaterals.org/IMG/pdf/uk-india_fta_ip_chapter_dated_april_2022_68_.pdf

89 Article E.10, https://www.bilaterals.org/IMG/pdf/uk-india_fta_ip_chapter_dated_april_2022_68_.pdf

possibilities of extending the patent term[90] and data exclusivity[91], all affecting the role of patent law in complimenting the generic industry[92]. After the release of the draft version, the Ministry of Commerce assured the Indian pharmaceutical industry that generic drugs will be protected[93]. The final version of the Agreement, however, looked different and changes were brought about from the draft version.

The provisions in the final CETA contains a separate chapter on Intellectual Property Rights (IPRs), which states that: "The Parties recognise the preferable and optimal route to promote and ensure access to medicines is through voluntary mechanisms, such as voluntary licensing which may include technology transfer on mutually agreed terms"[94] and that: "The Parties reaffirm the Declaration on TRIPS and Public Health. In particular, the Parties have reached the following understandings regarding this Chapter: (a) the Parties affirm the right to fully

90 Article E. 12.2, https://www.bilaterals.org/IMG/pdf/uk-india_fta_ip_chapter_dated_april_2022_68_.pdf

91 Article F. 2.1, https://www.bilaterals.org/IMG/pdf/uk-india_fta_ip_chapter_dated_april_2022_68_.pdf . Other instances are: Article 9.2 putting "Conditions on Patent Applicants" that do not align with Indian patent regime like "a failure to disclose such information shall not constitute grounds for opposition, revocation, or refusal to grant a patent" not being a problem, even though, "India would lose the ability to track and enforce a key transparency requirement, and therefore risk missing critical evidence in patent examination, opposition and revocation proceedings," https://msfaccess.org/sites/default/files/2022-11/IP_UK-India%20FTA_Factsheet_Final_ENG_2.11.2022.pdf (page 5), and an array of enforcement mechanisms that need more context to the Indian case law alignment with generics and medicines rather than uniformity and IP excesses.

92 Also identified as the 'leaked' version: https://www.thehindu.com/news/national/india-uk-fta-will-tighten-screws-on-generic-drugs-doctors-without-borders/article66086329.ece

93 Abhimanyu Sharma, India assures of protection to its pharma industry, generic drugs in all FTA talks, Feb 15, 2024, https://www.cnbctv18.com/india/india-assures-of-protection-to-its-pharma-industry-generic-drugs-in-all-fta-talks-19059781.htm

94 Article 16.5, Understandings Regarding TRIPS and Public Health Measures, Chapter 13 Intellectual Property Rights, https://www.commerce.gov.in/wp-content/uploads/2025/07/13-Intellectual-Property-Rights.pdf

use the flexibilities as duly recognised in the Declaration on TRIPS and Public Health; (b) the Parties agree that this Chapter does not and should not prevent a Party from taking measures to protect public health; and (c) the Parties affirm that this Chapter can and should be interpreted and implemented in a manner supportive of each Party's right to protect public health and, in particular, to promote access to medicines for all; Each Party has the right to determine what constitutes a national emergency or other circumstances of extreme urgency, it being understood that public health crises, including those relating to HIV/AIDS, tuberculosis, and other epidemics, can represent a national emergency or other circumstances of extreme urgency"[95]. This shows how explicit provisions can be incorporated into the FTA, even though it may still fall short when it comes to the specifics like IP technology transfer[96].

In summary, the past two decades of FTAs activity are dotted with examples of collaborative efforts between India and other countries: Japan, Korea, Australia and the UK. Japan and India saw a flurry of activities in terms of patenting, medicines, and academic collaborations. When we look at the select patent activity, it shows patent applications for important diseases like cancer, diabetes and anti-epilepsy. Not all the patent applications were granted patents because of oppositions from the IPO and the civil society, including individuals and generic manufactures. This helped in ensuring that the grant of patents was kept within the confines of the Indian patent regime under the Patents Act, 1970. When we compare the prices of the medicines manufactured by Japanese companies

95 Id.

96 Pratyush Nath Upreti and Virender Chandel, Promise, Progress, or Posturing? India and the Intellectual Property chapter in the United Kingdom-India Comprehensive Economic and Trade Agreement, 49 (3) Fordham International Law Journal, 1027.

and the prices of generic manufactures, it differs drastically, as is the case between patented medicines and generics. Generic manufacturers have brought down the price of the medicines considerably.

In the case of Korean pharmaceutical companies, once again diseases like cancer and diabetes were the focus. While patents were granted for these drugs, it is interesting to note that these patents are not worked in India, even with critical drugs that address bacterial vaginosis and anemia. Indian scholarly works have identified this issue of not locally working of pharmaceutical patents as being non-complaint of Patents Act, 1970[97]. Not working of pharmaceutical patents remains an issue with Australian pharmaceutical companies as well. Unlike the other FTAs, the focus on gender and trade makes the India-UK FTA stand out, however its draft provisions were lopsided against the local Indian patent regime. Though eventually routed to accommodate the true intent of the patent regime to incorporate the flexibilities in the TRIPs, it should serve as a cautionary tale on the extent to which FTAs circumvent local laws. These FTAs also must be read with caution as there has been a shift in how the negotiations of trade negotiations happen, and how the strategy has changed over the years[98].

These FTAs make a lasting impression on the public health dimension as it creates roadblocks to accessibility and availability to important women-related medicines, even with the local laws and courts advocating the exact opposite.

97 For example, Tania Sebastian and Nancy Sebastian, Local working of pharmaceutical patents in India: an empirical exploration into its determinants, 14(4) Queen Mary Journal of Intellectual Property, 2024.

98 Pratyush Nath Upreti and Virender Chandel, Promise, Progress, or Posturing? India and the Intellectual Property chapter in the United Kingdom-India Comprehensive Economic and Trade Agreement, 49 (3) Fordham International Law Journal, 1027.

IV. Conclusion

As India continues to negotiate new FTAs, these illustrative examples are relevant when addressing gender related dimensions in these agreements, considering India's role as a welfare state. It also provides us a glimpse of the need to prioritize patent safeguards to create a fully functional generic industry, once all the patent conditions are worn out. Anything more than that would promote a maximalist approach to patent protection.

This is relevant when we look at the many challenges that women in India face, with affordability of medicines being a major issue, even if a decline is seen with time[99]. Any increases in prices or disruptions in its accessibility for diseases via FTAs affects them. This is also apparent as barriers to access of medicines can result in abandonment of the medical treatment[100].

Even though this study provides a limited case-based analysis using select FTAs, pharmaceutical companies and few illnesses that affect women, findings from this study show that FTAs are used to circumvent local patent provisions, whether it is evading patent law principles like ever-greening of patents, sidetracking opposition systems that sustain the Indian patent

99 For a general perspective, see, Ocran Mattila P, Ahmad R, Hasan SS, Babar ZU. Availability, Affordability, Access, and Pricing of Anti-cancer Medicines in Low- and Middle-Income Countries: A Systematic Review of Literature. Front Public Health. 2021 Apr 30;9:628744. doi: 10.3389/fpubh.2021.628744. For a rural women perspective, see, Balla S, Kim R, Saunik S, Subramanian SV. Problems in accessing healthcare among women in India: a district-level change analysis, 2016-2021. BMC Public Health. 2026 Feb 6;26(1):544. doi: 10.1186/s12889-026-26392-7.

100 Swagata Yadavar, Lack of knowledge, agency and finances: Why women with cancer suffer more?, July 5, 2024, https://behanbox.com/2024/07/05/lack-of-knowledge-agency-finances-why-women-with-cancer-suffer-more/#:~:text=Upon%20following%20up%20with%20the,%25%20in%202022%2C%20Jatia%20said.

regime or refusing to work the patent after its grant. This also shows that there is an urgent need to conduct large-sample studies to understand the impact of trade on medicines that affect women. This will allow for trade policies to be centered around gender and medicines in a meaningful manner. On the other hand, the study also shows the use of statutory legal provisions can be used to mitigate the price, accessibility and availability issues.

Strategies must be put in place in a structured manner at various stages: stakeholder responses at the draft stages, reviews at periodical stages and post-assessment review after the conclusion of the FTAs. Future FTAs should engage with negotiations strategies that incorporate express clauses that retain the TRIPs flexibility. Ex-ante assessments of gender impact can also be used as a valuable tool to obtain an estimate before the implementation of the FTA. These assessments can be undertaken during the negotiations of a trade agreement. Another mechanism is institutionalization of post-implementation assessment that can test how effective the FTA was during the period of its implementation. Even though some kind of review process may be incorporated in the existing FTA, post-implementation assessment must periodically evaluate the consequences of aspects relating to gender in connection with public-health consequences. Specific to the pharmaceutical sector, these assessments should examine and prioritize flexibility and development-oriented outcomes, pre-grant opposition mechanisms, compulsory licensing, generic competition, and gender-sensitive health policies in future FTA negotiations, as identified in this paper. When assessments are carried out in this manner, it will enable identification of adverse consequences and when followed by a review mechanism, it will provide an opportunity to incorporate appropriate safeguards.

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Rethinking the participation of indigenous women in international trade through Naari Framework

Replanteando la participación de las mujeres indígenas en el comercio internacional a través del Marco Naari

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Abstract

The Thirteenth WTO Ministerial Conference concluded in Abu Dhabi reaffirmed commitments to gender-responsive trade but stopped short of establishing binding disciplines to address structural inequalities embedded within the multilateral trading system. While trade agreements increasingly reference gender inclusion, they remain formally neutral and largely inattentive to intersectional vulnerabilities. This neutrality obscures what this paper identifies as the Participation Paradox. Indigenous women frequently reside in jurisdictions that have ratified gender-equality instruments and endorsed trade-and-gender initiatives, yet remain structurally marginalised within global trade regimes. This paper argues that WTO law, particularly the General Agreement on Tariffs and Trade, the Agreement on Subsidies and Countervailing Measures and the Agreement on Technical Barriers to Trade,

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prioritises formal non-discrimination in ways that constrain targeted redistributive interventions. Through a clause-level doctrinal mapping of multilateral and regional trade agreements, the paper demonstrates that Indigenous recognition is either absent at the multilateral level or fragmented across soft-law and side-agreement mechanisms in preferential trade agreements. In response, the paper proposes a calibrated model termed Network Advocacy Agreements with Regional Integration. NAARI operates within existing legal constraints by combining voluntary certification standards, carefully designed support mechanisms and regional coordination consistent with WTO principles. The model seeks to reconcile trade liberalisation with intersectional justice without undermining the integrity of the rules-based trading system. The paper concludes that systemic recalibration is necessary to transform formal neutrality into substantive participation.

Keywords: Indigenous women – international trade law – gender and trade – multilateral trading system – non-discrimination.

Resumen

La Decimotercera Conferencia Ministerial de la OMC, celebrada en Abu Dabi, reafirmó compromisos en materia de comercio con perspectiva de género, pero no estableció disciplinas vinculantes para abordar las desigualdades estructurales presentes en el sistema multilateral de comercio. Si bien los acuerdos comerciales incorporan cada vez más referencias a la inclusión de género, continúan siendo formalmente neutrales y en gran medida ajenos a las vulnerabilidades interseccionales. Esta neutralidad encubre lo que este artículo denomina la Paradoja de la Participación. Las mujeres indígenas suelen residir en jurisdicciones que han

ratificado instrumentos de igualdad de género y respaldado iniciativas sobre comercio y género, pero permanecen estructuralmente marginadas dentro de los regímenes comerciales globales. El artículo sostiene que el derecho de la OMC, en particular el Acuerdo General sobre Aranceles Aduaneros y Comercio, el Acuerdo sobre Subvenciones y Medidas Compensatorias y el Acuerdo sobre Obstáculos Técnicos al Comercio, prioriza la no discriminación formal de manera que limita intervenciones redistributivas específicas. Mediante un análisis doctrinal a nivel de cláusulas de acuerdos comerciales multilaterales y regionales, se demuestra que el reconocimiento indígena está ausente en el plano multilateral o fragmentado en instrumentos de derecho blando y acuerdos complementarios en tratados preferenciales. En respuesta, se propone un modelo calibrado denominado Network Advocacy Agreements with Regional Integration. NAARI opera dentro de las restricciones jurídicas existentes mediante la combinación de estándares voluntarios de certificación, mecanismos de apoyo cuidadosamente diseñados y coordinación regional compatible con los principios de la OMC. El modelo busca conciliar la liberalización comercial con la justicia interseccional sin comprometer la integridad del sistema basado en normas. El artículo concluye que es necesaria una recalibración sistémica para transformar la neutralidad formal en participación sustantiva.

Keywords: mujeres indígenas – derecho comercial internacional – comercio y género – sistema multilateral de comercio, no discriminación.

1. Introduction

In international trade law, 'neutrality' is often heralded as a virtue. The multilateral trading system has always prided itself on non-discrimination, tariff bindings and complete rule-based reciprocity. Yet neutrality, can conceal hierarchy. What the General Agreement on Tariffs and Trade ('GATT') constructed as a discipline against protectionism has, in practice, also operated as a discipline against differentiation (Rodrik, D., 2011)[1]. The system that prohibits discrimination between "like products" has little vocabulary for communities whose histories are unlike any other (Horn & Mavroidis, 2004). This gender-blind trade liberalisation risks has become the new norm under contemporary architecture of the World Trade Organization, which rests on two premises: *first,* that liberalisation enhances aggregate welfare and; *second,* that distributive consequences are to be addressed domestically. This structural separation between trade efficiency and social justice is durable, however, it may become unstable when domestic capacity to absorb shocks is uneven. This is particularly for Indigenous women, who are situated at the intersection of gendered labour markets, informal production and historical dispossession.

Recent ministerial rhetoric acknowledges this dissonance. At the *Thirteenth Ministerial Conference* (MC 13) held in Abu Dhabi in February 2024, members reaffirmed commitments to women's economic empowerment within trade. These declarations, however, remain soft law and aspirational as it did not offer a substantial foundation for women's rights in

1 Rodrik, D. describes it through an analogy of winners and losers as a result of globalization, much like the dichotomy of haves and have-nots (or colonizers and colonized).

the context of national and international trade. The normative recognition of gender, thus, coexists with a legal regime which is structurally indifferent to intersectionality.

This paper identifies that tension as the system's *Participation Paradox*, i.e. where the WTO encourages integration into global markets, yet its legal disciplines constrain the policy space required to integrate historically marginalised producers on equitable terms. Indigenous women exemplify this paradox as the instruments through which participation could be meaningfully facilitated - targeted subsidies, preferential certification, regional protective frameworks — risk heavy scrutiny under the Agreement on Subsidies and Countervailing Measures ('SCM'), the Technical Barriers to Trade ('TBT') Agreement and GATT non-discrimination rules.

The question, therefore, is whether *WTO law can accommodate Indigenous-sensitive, gender-responsive economic design without collapsing into prohibited discrimination?*

To answer this, the paper pursues two related objectives - first, it maps the existing WTO disciplines relevant to Indigenous women's participation in trade, particularly the rules governing non-discrimination, technical standards and subsidies, and, second, building on the limitations identified through this analysis, it proposes the NAARI framework[2] ("Network Advocacy Agreements with Regional Integration") as a structured institutional model for strengthening Indigenous women's participation within existing WTO disciplines. NAARI explores how interpretive flexibility,

2 NAARI (which is used as an acronym for the proposal) actually means 'women' in Hindi language. It translates to Network Advocacy Agreements with Regional Integration. The primary aim of NAARI is to increase the participation of Indigenous women in international trade negotiations.

institutional design and calibrated subsidy architecture can create space for Indigenous women's economic agency without violating core commitments to Most-Favoured-Nation treatment and national treatment. Its central premise is that participation can be strengthened not by creating a parallel trade regime, but by coordinating these mechanisms within existing WTO disciplines and using regional cooperation to overcome the limitations of isolated national interventions.

Existing scholarship addresses these dimensions largely in parallel. Feminist trade scholarship (Kuhlmann, 2023), examines the gendered distributional effects of trade and increasingly considers how trade agreements can be designed to promote women's economic empowerment. Indigenous-rights scholarship, meanwhile, addresses autonomy, land, traditional knowledge, participation and economic self-determination (Boghossian, 2023), while scholarship on certification and fair-trade initiatives examines the use of market-based mechanisms to improve recognition and market access for Indigenous and marginalised producers (Bahri, 2025). Similarly, Aid for Trade[3] has increasingly incorporated women's economic empowerment through interventions addressing productive capacity, infrastructure, access to finance and trade-related adjustment. Yet these strands have not been sufficiently brought together with the specific WTO legal constraints governing technical standards, subsidies and non-discrimination, particularly from the perspective of Indigenous women as economic actors. NAARI is proposed to address this institutional and doctrinal gap by connecting market-access mechanisms, capacity-building and regional

3 WTO, 'Making Aid for Trade Work for Women'. Aid for Trade addresses trade policy and regulation, economic infrastructure, productive capacity and trade-related adjustment, and its gender-related programmes increasingly include access to finance, digitalisation, infrastructure and entrepreneurship.

coordination to the legal constraints identified in the WTO framework.

The need for a structured intervention becomes evident in countries with substantial Indigenous populations whose economic participation remains structurally peripheral to trade governance. For instance, in Latin America and the Caribbean, Indigenous peoples constitute roughly 8-10% of the regional population (approximately 58 million people) concentrated particularly in countries such as Chile, Bolivia, Guatemala, Peru and Mexico[4]. Across Asia, Indigenous peoples are estimated to number approximately 260 million individuals, representing nearly two-thirds of the world's Indigenous population[5]. In both contexts, Indigenous women are disproportionately represented in subsistence agriculture, forest-based production, handicrafts and informal trade networks. The absence of participation cannot be attributed to a lack of constitutional gender commitments or involvement in WTO gender initiatives. What they lack is a trade-embedded mechanism that enables Indigenous women to integrate into international markets on calibrated terms.

Trade concessions negotiated at the multilateral (or even bilateral level) formally bind the state as a single juridical actor. Yet internally, the distributive consequences of tariff reductions or import competition are uneven. Liberalization in agricultural or artisanal sectors may expose small-scale Indigenous producers to intensified competition without commensurate access to capital mobility, technological up-

4 Figures are approximate by authors analysis from Economic Commission for Latin America and the Caribbean [ECLAC] (2020) and World Bank (2015).

5 Figures are approximate by authors analysis from International Labour Organization [ILO], 2019; United Nations Permanent Forum on Indigenous Issues [UNPFII], 2021.

grading or export facilitation. As Rodrik (2018) observes, trade agreements discipline state policy space while presuming domestic adjustment capacity; where such capacity is asymmetrical, the burdens of integration are socially concentrated rather than diffuse.

The argument proceeds in four parts. Part II diagnoses the differential treatment of Indigenous women within WTO regime through a categorical analysis. Part III develops NAARI as a legally defensible intervention and assesses whether such calibrated differentiation can coexist with the integrity of the rules-based trading order. Part IV concluded the observations recorded.

2. Diferential recognition across trade regimes

The *International Labour Convention No. 169 describes indigenous communities as, "whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs, traditions, special laws or regulations"*. The world's indigenous people (476.6 million and counting) count as some of the most affected social groups on earth with respect to climate change[6]. Though they have done tremendously to safeguard the environment; their position in socio-economic systems is relatively lesser which includes international trades. Most indigenous communities still depend heavily on traditional industries where primary sectors like agriculture, forestry or fishing play a key role. Within this broader category, 'indigenous women' constitute a distinct group whose experiences of discrimination and vul-

6 International Labour Organization, Implementing the ILO Indigenous and Tribal Peoples Convention No. 169: Towards an Inclusive, Sustainable and Just Future (2019) 13.

nerability are shaped by both Indigenous status and gender. Accordingly, this study treats *self-identification as Indigenous and as women* as the principal criteria for examining Indigenous women as a distinct analytical category.

While WTO agreements incorporate development-oriented flexibilities, they are not structurally designed to safeguard identity-based vulnerable groups. Yet, criticisms note that such agreements have often overlooked the unique needs and rights of native communities. In his research, Sergio Puig points out that international economic law disregards indigenous peoples hence making them more susceptible to the forces of global exchange. The treatment of Indigenous peoples (and indigenous women, in particular) in global trade governance is neither uniform nor entirely absent. However, it exists along a spectrum of normative density.

For identifying this, a study is conducted in five levels: (i) multilateral trade agreements, (ii) regional trade agreements, (iii) bilateral/plurilateral agreements and (iv) Side Agreements & Cooperation Annexes and (v) Other international instruments. The purpose is not merely to catalogue references to Indigenous peoples, but to identify the legal form, enforceability and normative density of such recognition across different trade regimes.

2.1. Multilateral Trade Agreements

Firstly, the apex of global trade governance or WTO law and its covered agreements — including the GATT 1994, the SCM Agreement, and the TBT Agreement do not explicitly reference Indigenous peoples. The doctrinal architecture is predominantly state-centric and obligations are undertaken by Members as unitary sovereign actors.

Articles I and III of the GATT establish non-discrimination disciplines primarily through the treatment of products and competitive relationships. They therefore provide limited textual space for differentiation based specifically on Indigenous identity. Indigenous-sensitive policy measures may have been traditionally defended indirectly via three channels; (a) via Article XX GATT (i.e., protection of public morals, conservation of exhaustible natural resources etc.), (b) through non-specific development programs and, (c) via carefully designed non-actionable subsidies (not applicable anymore). Currently, only (a) and (b) apply. Article XX(g), for example, may be relevant where an Indigenous-sensitive measure is genuinely connected to the conservation of exhaustible natural resources and satisfies the conditions of the provision and its chapeau. Article XX(h) is potentially relevant in a much narrower circumstance - as it concerns measures undertaken in pursuance of obligations under an intergovernmental commodity agreement satisfying the provision's requirements. The provision should not, however, be treated as a general Indigenous or traditional-knowledge exception. WTO materials indicate that Article XX(h) has generated very limited jurisprudence and that no international commodity agreement has been approved under the provision's original GATT procedure. In *EC - Tariff Preferences*, the panel considered, *inter alia*, whether the Lomé Convention could qualify as a commodity agreement under Article XX(h), and concluded that the relevant criteria were not satisfied[7]. Thus, any argument that Indigenous traditional knowledge itself could constitute a "commodity" for purposes of Article

7 WTO materials record very limited practice concerning Article XX(h). The provision covers measures undertaken in pursuance of obligations under qualifying intergovernmental commodity agreements, and the WTO's historical materials note that no international commodity agreement had been submitted for approval under Article XX(h). See GATT/WTO, Analytical Index: GATT 1994, Article XX; EC - Tariff Preferences, Panel Report, discussion concerning Article XX(h).

XX(h) remains largely exploratory. Additionally, there exists no express textual authorization for identity-based economic differentiation grounded in Indigenous status, nor a mandatory obligation to conduct Indigenous impact assessments in trade negotiations. Ministerial initiatives on trade and gender remain political declarations without binding adjudicatory force and even in dispute settlement, the WTO panels apply covered agreements without enforcing external human rights instruments unless incorporated specifically domestically in a WTO-consistent manner.

The SCM Agreement can indirectly impact the trade rights of indigenous peoples by primarily focusing on subsidies for goods, not services. Accordingly, support directed towards services may fall outside the SCM Agreement's goods-specific disciplines, although its precise legal treatment depends on the measure and the sector concerned. This means that the government support for services relevant to indigenous trade, like cultural product certification or training programs, might not be directly regulated by the agreement and its expanse. Under the agreement, Prohibited Subsidies (considered the most 'trade-distorting' and generally banned) can manifest in the form of *export subsidies and import substitution subsidies*[8]. For the first category, 'direct discriminatory taxes on indigenous groups violate human rights treaties' but might not violate trade law if the impact on trade is - negligible (for instance, the indigenous group does not seem to export much). Additionally, export subsidies are typically structured to favour capital-intensive industries rather than small-scale Indigenous producers (Barsh, R. L. (2002)). *Actionable Subsidies* are allowed under

8 Export subsidies corresponds to providing monetary support to companies to export goods and import substitution subsidies relates to using methods to make imports more expensive to encourage buying domestic goods.

the SCM agreement but they can be challenged if they meet specific criteria[9]. However, these government subsidies to established industries could harm indigenous communities if they unfairly disadvantage indigenous producers in the same sector, for instance, subsidising large-scale agriculture could hurt indigenous farmers and can lead to environmental degradation of land or resources relied upon by indigenous communities. Subsidy design that avoids de jure or de facto specificity may fall outside the scope of actionable disciplines, thereby preserving limited policy space. Earlier, the agreement allowed for some subsidies considered 'non-actionable', which are now not a legal category anymore. These could have been relevant to indigenous communities. For example, government funding for a certification system for authentic Indigenous products might be permissible if - it's not a direct financial transfer (like fees for membership), it applies to a broad range of Indigenous producers, not specific groups and the system is financially self-sustaining (covers costs through fees). Article 5 of SCM Agreement deals with the "negative implications" of subsidies on the competitive interests of other members of the WTO. It does not prohibit subsidies per se, but renders specific subsidies actionable where they cause adverse effects to the interests of other Members. The practical implication is that Indigenous-support measures must be designed with attention to specificity, competitive effects and the applicable disciplines of the SCM Agreement rather than assumed either to be prohibited or automatically protected. Accordingly, Indigenous-support measures must be designed to minimise specificity and trade distortion risk rather than being assumed impermissible.

9 They must be - (i) specific (benefit a particular industry or company), (ii) cause adverse effects on any other WTO member's trade interests (like injuring domestic industries), or (iii) seriously prejudice the interests of another member

The TBT Agreement permits Members to adopt technical regulations in pursuit of legitimate objectives, including the protection of human health, safety and environment. However, it does not authorise preferential standards designed exclusively to advantage Indigenous producers, nor does it create an obligation to accommodate traditional production methods within global value chains. Instead, it requires that measures should not be more trade-restrictive than necessary and that imported products be accorded treatment no less favourable than like domestic products. A regulation aimed at privileging goods produced by Indigenous women, if framed in identity-specific terms, would risk scrutiny under national treatment and necessity analyses. Conversely, a neutral technical regulation that seeks to preserve traditional methods must still satisfy proportionality and non-discrimination requirements. The Agreement thus constrains regulatory space without furnishing affirmative instruments of inclusion.

2.2 Regional agreements

Secondly, Regional agreements sometimes introduce Indigenous-sensitive language, particularly within sustainable development chapters, environmental cooperation provisions or general human rights references. For example, the United States-Mexico-Canada Agreement includes an explicit Indigenous peoples exception permitting certain measures that would otherwise conflict with trade obligations. Article 32.5 of the USMCA expressly permits a Party to adopt or maintain a measure that it considers necessary to fulfil its legal obligations to Indigenous peoples, subject to the conditions set out in the provision. This represents a doctrinal innovation absent in WTO law. By contrast, arrangements such as Mercosur contain very limited Indigenous-specific provisions, focusing primarily on development cooperation rather than

rights articulation. RTAs thus show variation. Recognition may exist, but remains largely uneven and infact, aspirational, frequently embedded in soft-law cooperation mechanisms rather than enforceable market-access rules.

2.3. Bilateral and Plurilateral Trade Agreements

Thirdly, new-generation bilateral and plurilateral trade agreements increasingly incorporate Indigenous considerations directly into their architecture. However, the recognition varies across trade regimes. To substantiate this variation systematically, we studied eight contemporary trade agreements across four regional clusters and used a clause-level doctrinal coding to create a heatmap which demonstrate differential and scattered protection. The objective is not to provide a descriptive catalogue but to assess the normative density and enforceability of Indigenous-related provisions within binding trade instruments.

Agreements were selected based on four cumulative filters - (1) Post-2000 conclusion or substantial modernization, (2) at least one party constitutionally recognises Indigenous or Indigenous-equivalent communities, (3) Official English text publicly available and; (4) Comprehensive scope (covering goods, services, investment and/or intellectual property). The study set comprises of Latin America, Asia-Pacific, Europe and Nordic/EFTA[10]. The methodology is Clause-Level Doctrinal Coding to curate a heatmap where each agreement was examined chapter-by-chapter, including preambular

10 The agreements are - Latin America (United States-Mexico-Canada Agreement and European Union-Chile Advanced Framework Agreement); Asia-Pacific (Comprehensive and Progressive Agreement for Trans-Pacific Partnership and India–Australia Economic Cooperation and Trade Agreement); Europe (Comprehensive Economic and Trade Agreement and European Union–Mexico Global Agreement); Nordic / EFTA (United Kingdom–Iceland–Liechtenstein–Norway Free Trade Agreement and EFTA–Chile Free Trade Agreement).

language, general exceptions, indigenous-specific carve-outs, cultural cooperation provisions, environment chapters, government procurement and side letters and annexes. The coding therefore captures both express Indigenous references and provisions that create legally relevant policy space for Indigenous measures.

The coding framework employs five variables, each scored on a three-point ordinal scale:

1. Explicit Indigenous rights recognition
2. Cultural protection clauses
3. General exception flexibility
4. Consultation/participation mechanisms
5. Environment–Indigenous linkage

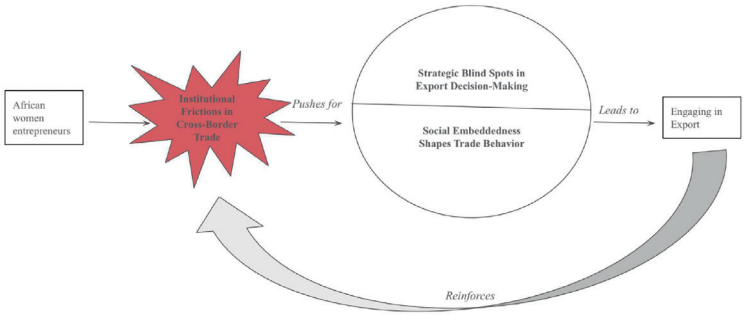
For each variable, a score of '0' indicates no identifiable Indigenous-related provision, '1' indicates an indirect, general, soft-law, interpretive or otherwise non-operational reference and '2' indicates an express Indigenous-specific provision that creates an identifiable legal right, exception, reservation, obligation or operational mechanism. The coding therefore measures the legal density of recognition rather than the overall "strength" of an agreement. Where a provision could plausibly fall within more than one category, it was coded according to its primary legal function and cross-referenced in the qualitative analysis[11]. The table below sets out the score.

11 Both authors independently coded the agreements and subsequently compared their classifications; disagreements were resolved through discussion and review of the relevant treaty text.

AGREEMENT	Explicit Indigenous Rights	Cultural Protection	General Exceptions	Consultation/ Participation	Environment–Indigenous Linkage	Total
USMCA	2	2	2	2	2	10
EU–CHILE AFA	2	2	2	2	2	10
CPTPP	2	2	2	1	2	9
EU–MEXICO (MODERNISED)	1	2	2	1	2	8
CETA	1	1	2	1	2	7
UK–ICELAND–LIECHTENSTEIN–NORWAY FTA	1	1	2	1	2	7
INDIA–AUSTRALIA ECTA	0	1	2	0	1	4
EFTA–CHILE FTA	0	1	2	0	1	4

The treaty clauses underlying each coding decision are set out in Annexure I. The Annex identifies the relevant provision(s), their legal character and the basis on which each provision was assigned a score of 0, 1 or 2.

Figure 2: Conceptual Framework



Source: Authors' own

12 The Coding scale is: 0 – No explicit reference; 1 – Indirect or soft reference and; 2 – Explicit and operational Indigenous reference. The resulting dataset is visualised in the heatmap (Figure X).

(i) High-Density Recognition

USMCA, CPTPP and EU-Chile AFA represent a comparatively high-density model of Indigenous integration within the agreements examined. USMCA contains an explicit Indigenous peoples exception preserving policy space for Indigenous measures that would otherwise contravene trade obligations. The CPTPP[13], similarly, expressly refers to Indigenous rights and traditional knowledge in its preamble and contains provisions addressing Maori treatment and traditional knowledge/traditional cultural expressions. The EU-Chile AFA, by contrast, places Indigenous considerations within its broader sustainable-development and cooperation architecture rather than replicating the USMCA model of a stand-alone exception.

(ii) Intermediate Integration

CETA, EU–Mexico (modernised) and the UK–Iceland–Liechtenstein–Norway FTA display moderate recognition. These agreements typically contain general exceptions capable of Indigenous-protective interpretation, cultural preservation language and sustainability chapters referencing traditional knowledge. However, Indigenous recognition remains structurally indirect and embedded within broader public policy frameworks.

(iii) Minimal or Exception-Reliant Recognition

India–Australia ECTA and EFTA present a more fragmented model. In EFTA-Chile, Indigenous protection appears

13 The CPTPP's official explanatory materials identify its recognition of Indigenous rights and traditional knowledge, while Article 29.6 concerns more favourable treatment for Maori and Article 29.8 concerns traditional knowledge and traditional cultural expressions.

through reservations and selected cooperation provisions rather than through a comprehensive Indigenous-specific framework. In India-Australia ECTA, by contrast, Indigenous-specific operative provisions are comparatively limited. The distinction is therefore not between complete recognition and complete absence, but between different forms and degrees of legal recognition.

The heatmap therefore does not simply distinguish agreements according to whether they "mention" Indigenous peoples. It distinguishes between symbolic recognition, interpretive flexibility and operative legal protection. This distinction is important because a reference in a preamble or cooperation chapter does not necessarily confer the same legal protection as an enforceable exception or reservation. The result is a multilevel governance lacuna where human rights law recognizes autonomy, modern FTAs experiment with carve-outs, the WTO enforces neutrality and no regime systematically integrates Indigenous economic participation into global trade governance.

2.4. Side Agreements & Cooperation Annexes

Fourthly, the most overlooked space remains Side Agreements & Cooperation Annexes. Indigenous-sensitive content frequently appears not in core market-access chapters but in labour side agreements, environmental cooperation instruments and development assistance annexes. Such mechanisms often reference consultation, sustainable livelihoods or traditional knowledge protection. However, these are typically non-binding or weakly enforceable compared to tariff or subsidy disciplines. This distinction is important for the proposed NAARI framework. If Indigenous-sensitive commitments remain confined to cooperation instruments,

their implementation may depend on political will, domestic institutions and available resources rather than on enforceable trade obligations. NAARI should therefore distinguish between (i) legally binding substantive obligations, (ii) procedural obligations such as consultation and participation, and (iii) cooperation commitments. Such differentiation would prevent soft-law references from being treated as equivalent to enforceable Indigenous protections.

2.5. Other International Instruments

Lastly, beyond trade agreements, Indigenous rights are recognized in the United Nations Declaration on the Rights of Indigenous Peoples ('UNDRIP') and indigenous and Tribal Peoples Convention No. 169 of the International Labour Organization. UNDRIP affirms self-determination, economic autonomy, and free, prior and informed consent. ILO 169 imposes binding obligations on ratifying states concerning land, livelihoods, and consultation. It is recognized that indigenous individuals have a right to enjoy their traditional way of life by accessing natural resources. However, neither instrument is structurally embedded within WTO adjudication and fails to include clear safeguards for native populations. Their enforcement depends on domestic incorporation or regional human rights mechanisms and they do not create automatic trade exceptions or affirmative trade entitlements. Thus, Indigenous peoples are recognized as rights-bearing communities in human rights law, but not as trade-relevant subjects within the multilateral economic regime.

This entire structure has created a hierarchy of enforceability where commercial obligations are binding and litigable and Indigenous-sensitive cooperation clauses are soft and programmatic. When classified comparatively, we unders-

tand that the deeper the trade integration at the multilateral level, the thinner is the explicit recognition of Indigenous economic identity. *Legally*, the lacuna lies at the multilateral core. The empirical mapping confirms that the stronger the enforcement architecture (WTO multilateral core), the thinner the Indigenous recognition. The stronger the Indigenous recognition (modern FTAs), the more fragmented the regime. For Indigenous women, this fragmentation produces uneven geography of economic protection. Their trade-embedded recognition depends not on universal rule, but on treaty coincidence. *Practically*, this produces uneven geography. Indigenous women in countries party to progressive FTAs may benefit from consultation mechanisms or procurement carve-outs. Indigenous women in states relying primarily on WTO disciplines remain dependent on domestic policy creativity constrained by non-discrimination rules.

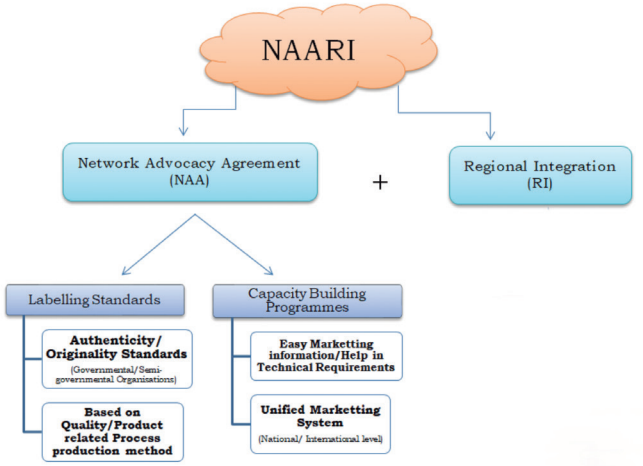
3. Naari in the international trade paradigm

As we have discussed, there is a dire need to address the issue of protecting vulnerable groups, especially Indigenous women, in relation to international trade agreements (Chimni, B. S. & Koninklijke, 2008). The framework proposed by authors is termed as NAARI.

This framework works on a two-pronged approach. The *first* approach would involve *National Advocacy Agreement* which addresses the labelling standards specific to indigenous products and capacity building programmes sponsored by the government. The *second* prong centres on regional integration which involves establishing a consortium of nations with indigenous populations to create a unified brand (genus) for existing indigenous products.

The NAARI approach will combat existing issues like land rights, access to markets for products involving traditional knowledge, or even recent issues like environmental degradation. The solutions already on the table include - promoting fair trade initiatives for traditional products, supporting community resource management projects, and fostering legal literacy on trade agreements (Zahonogo, 2017). The need for the right integration emphasized by the *UN Permanent Forum on Indigenous Issues*, is encapsulated in the solutions we are proposing.

Figure I. This figure explains the NAARI Framework created by authors.



3.1. Network Advocacy Agreement

As discussed above, the 'Network Advocacy Agreement' for women under NAARI would entail a twofold approach to building a network or foundation focused on the betterment of indigenous women and industries. The *first* step under this would be introducing a specific certifying and standardizing

tool for better identification as well as marketing purposes. The *second* step would be involving separate capacity-building programs for Indigenous women.

Standardizing labels will form the basis of what the authors refer to as 'authenticity or originality' standards. These labels, issued by authorities funded by the government in partnership with semi-government organizations, would help ensure the authenticity and originality of the products. At the same time, these standards would retain a consumer-centric appeal, encouraging the purchase of products made by indigenous women. The standardising agency would test the production based on the purity of extraction of materials and the raw materials used in producing the finished product, thereby making them a standard based upon the Product-Related Process Production Methods (PR-PPM) under the General Agreement on Trade and Tariffs (GATT). Further on, the next step would involve State-sponsored capacity-building programs. These programs, potentially run by government agencies or private agencies funded by the government, could offer marketing information and technical requirements for advertisements. The capacity-building programs could also include a unified window clearing system, featuring a website for direct selling of these products and providing free training to women on how to market their produce. The market potential for Indigenous women's productions remains enormous with trade crossing a substantial amount. This would help indigenous women market their products more effectively, enabling them to survive and prosper in the marketplace.

However, certain questions regarding such standards in terms of the WTO agreement and international trade regimes might be raised, which are discussed ahead.

3.1.1. Analysis of Network Advocacy vis-a-vis TBT principles

Questions about the applicability of the TBT or process-related barriers (PR-PPR) might be raised when a member state supports Indigenous industries with any "benefit" (Tai, K., McNees, J., & Smith, S. 2021). The TBT Agreement seeks to ensure that national regulations and standards do not pose unnecessary barriers to international trade (Ahuja, R., 2001). It promotes fairness and encourages the use of international standards, emphasising transparency and non-discrimination in trade practices.

As enunciated above, *'Network Advocacy'* vouches for standardising the labelling of indigenous products. These benefits can be either in the form of subsidies or labelling standardisation supported by the government to protect and promote the indigenous industry. For example, in the *Certain Softwood Lumber Products from Canada* case[14], a coalition of U.S. environmental organisations and Canadian indigenous nations filed a petition with the U.S. Department of Commerce, advocating for the imposition of countervailing duties on Canadian imports to offset the subsidies provided by the Canadian government, thereby ensuring fair competition and protection for indigenous industries. They alleged that Canada subsidised its forest products exporters by not protecting "aboriginal title" to forests in northern Quebec and British Columbia. The proceedings before the WTO panel suggested a potential concern regarding the fulfilment of the

14 See, Certain Softwood Lumber Products from Canada, 67 Fed. Reg. 15539 (Apr. 2, 2002) ("antidumping determination"); Certain Softwood Lumber Products from Canada, 67 Fed. Reg. 15545-46 (Apr. 2, 2002) ("countervailing duty determination"). See also, Notice of Final Affirmative Countervailing Duty Determination and Final Negative Critical Circumstances Determination: Certain Softwood Lumber Products From Canada. (2002, April 2). Federal Register. https://www.federalregister.gov/documents/2002/04/02/02-7849/notice-of-final-affirmative-countervailing-duty-determination-and-final-negative-critical

SCM agreement. Therefore, if this analogy is followed, there remains a possibility that countries might allege that such benefits directed toward Indigenous women and Indigenous industries could potentially violate the TBT Agreement.

However, the authors argue that such benefits accorded do not necessarily violate the TBT agreements. Taking beneficial labelling standards as a case study, *C.B. Graber and J.C. Lai* (2012) suggest using government-standardised labelling as a means to promote indigenous industries. According to them, such labelling would have a beneficial impact by providing standard and distinct recognition of Traditional Knowledge and Indigenous Cultural Heritage. Considering labelling as a form of "benefit" accorded to indigenous industries, examining such "benefits" or "standards" becomes essential. This examination is crucial to ensure that these measures prove to be supportive without violating international trade agreements and promote the equitable recognition of indigenous contributions.

The purpose of implementing Indigenous product labelling standards is twofold: first, to ensure the differential treatment for these products, and second, to categorise them under recognized standards to gain legitimacy under the TBT Agreement. Standards are defined as, "*Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method*". A genuinely voluntary labelling standard would ordinarily fall within the definition of a "standard" under Annex 1 of the TBT Agreement, rather than a "technical regu-

lation". Its legal assessment would therefore differ from that applicable to a mandatory technical regulation under Article 2. However, if government intervention makes compliance with the labelling requirements effectively mandatory, the measure may instead be characterised as a technical regulation and would have to be assessed under the obligations applicable to such regulations.

Hence, a certified labelling standard would serve two purposes: a) to provide standards through a specialised agency, and b) to offer flexibility to members who are unable to adhere to such standards due to their non-binding nature.

3.1.2. Analysis of Network Advocacy vis-a-vis SCM Agreement

The second problem is that categorizing all indigenous communities in the same manner might not address their diverse needs. A blanket or umbrella 'no support' approach could further marginalise them. UNDRIP explicitly emphasises the self-determination and governance over lands, territories and resources as contained in Articles 20 and Articles 26 respectively. However, UNDRIP's non-binding status makes it difficult for it to regulate international trading laws such as SCM agreements including strict subsidy regulations forcing above mentioned regimes into economic disarray rendering them incapable of benefiting from such opportunities whilst women who depend on these traditional sectors get further marginalised.

Hence, there is a need to develop a *'tiered system'* that is based on specific criteria like economic hardship, environmental threats, or geographic location which is emphasised by the *United Nations Permanent Forum on Indigenous Issues (UNPFII)*. Moreover, the top-down policies often overlook

the unique circumstances of indigenous communities. A '*community-based design*' that involves indigenous communities in designing and implementing policies which affect them will foster a sense of ownership and ensure culturally appropriate solutions. *The World Bank* (Gorjestani, N. & World Bank, 2000) stresses on the importance of indigenous participation in development projects. The International Labour Organization (ILO) Convention on *Indigenous and Tribal Peoples in Independent Countries* (No. 169) also recognises the right of indigenous peoples to participate in decision-making processes. With regards to the SCM agreement, rigid categories based on 'subsidies' or 'no support' might not achieve the desired outcomes for indigenous communities. To combat this instance, a shift in the focus from rigid categories to achieving specific goals like increased economic participation, improved healthcare, or environmental sustainability will allow for flexibility in the tools used like subsidies, training and market access initiatives.

The current WTO framework adequately does not consider the potential impact of trade policies on indigenous rights. Therefore, there is a pressing need to explore incorporating safeguards for indigenous rights into international trade agreements which could provide a stronger legal background for protecting their interests. To solidify this, the *Doha Declaration on the WTO Ministerial Conference* documents this need to take into account the special needs and interests of developing countries, which often include significant women indigenous populations[15]. The *UNDRIP* also points out the right of indigenous women to control their own development.

15 WTO, Doha Ministerial Declaration, WT/MIN(01)/DEC/1 (20 November 2001), para 44.

3.2. Regional Integration

This approach involves calling for a consensus i.e. regional integration of third world nations and the global south for forming an integrated policy for indigenous women. This group would then enable the countries to carve out a few 'primary commodities or product categories' to be selected under a genus chosen by the indigenous representatives. Further, the member states can formulate a domestic policy in accordance with such selected commodities, notwithstanding the barriers associated with WTO Agreements, subject to their existing WTO obligations. Such domestic policies would pursue the legitimate objective of protecting and promoting the rights and economic participation of Indigenous peoples, particularly Indigenous women.

It can further be argued by some members alleging that such measures would go against the existing WTO frameworks. The authors do not, however, contend that Article XX(h) automatically exempts the proposed regional component from those disciplines. Rather, Article XX(h) is identified as a potential legal avenue whose applicability would depend upon the precise institutional and legal design of the arrangement. Article XX (h) reads as: *"undertaken in pursuance of obligations under any intergovernmental commodity agreement which conforms to criteria submitted to the CONTRACTING PARTIES and not disapproved by them or which is itself so submitted and not so disapproved"*. Even if a measure were provisionally justified under one of the substantive paragraphs of Article XX, it would remain

necessary to examine its application under the chapeau[16]. That inquiry would concern, inter alia, whether the measure is applied in a manner that constitutes arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade. The existence of a legitimate objective or the voluntary character of the underlying regional arrangement would not, by itself, establish compliance with the chapeau.

Article XX(h) applies to intergovernmental commodity agreements conforming to criteria recognised by WTO Members. A newly constructed Indigenous commodity arrangement would not automatically fall within Article XX(h) merely because it concerns Indigenous products, traditional knowledge, or cultural heritage. Its applicability would depend on the legal character of the arrangement, the commodities covered, the obligations undertaken by participating states, and compliance with the requirements of Article XX(h). The authors therefore propose Article XX(h) as a possible legal avenue requiring further institutional development and multilateral recognition, rather than as an established exception for NAARI. The regional arrangement would nevertheless seek to facilitate the economic participation of Indigenous women by enabling participating states to

16 The essential requirement for the test under GATT remains the application of a two-tier test. The same was enunciated in (G.3.1.1 US - Gasoline, p. 22, DSR 1996:I, p. 3 at 20) (WT/DS2/AB/R) as, "In order that the justifying protection of Article XX may be extended to it, the measure at issue must not only come under one or another of the particular exceptions — paragraphs (a) to (j) — listed under Article XX; it must also satisfy the requirements imposed by the opening clauses of Article XX. The analysis is, in other words, two-tiered: first, provisional justification by reason of characterization of the measure under XX(g); second, further appraisal of the same measure under the introductory clauses of Article XX". Here, the requirement mentioned under the provisional clause will is called to be the chapue. See also, Leonelli, G. C. (2023). Anti-deforestation npr-PPMs and Carbon Border Measures: Thinking About the Chapeau of Article XX GATT in Times of Climate Crisis. Journal of International Economic Law, 26(3), 416–434. https://doi.org/10.1093/jiel/jgad016

coordinate domestic measures concerning selected Indigenous products and commodities. While the protection of traditional knowledge and cultural heritage may support the recognition, preservation and commercialisation of such products, it should not itself be equated with a 'primary commodity' for the purposes of Article XX(h). Participating states would retain discretion in designing domestic measures, subject to applicable WTO disciplines. Accordingly, NAARI's regional component should not be treated as presumptively exempt from GATT obligations. Its WTO compatibility would depend on the specific design, application and effects of the measures adopted, including satisfaction of any applicable exception and the requirements of the Article XX chapeau.

The regional integration component can also involve a coalition of indigenous groups that could potentially form a 'digital cooperative'. These cooperatives could provide various services, including credit to indigenous women-led industries, training and skill development programs focused on sustainable development, industrial support, and legal assistance for establishing these industries. Further, these intergovernmental agreements can also be construed as manifestations of UNDRIP whereby Article 11(2), Article 20 (2), Article 21(2), and Article 22 (2) specifically burden the state with the preservation of economic and social interests of indigenous people and indigenous women. UNDRIP does not constitute an intergovernmental commodity agreement within the meaning of Article XX(h) of the GATT. However, its recognition of Indigenous economic self-determination may inform the contextual interpretation of trade obligations under Article 31(3)(c) of the Vienna Convention on the Law of Treaties, which permits consideration of relevant rules of international law applicable between the parties.

Using digital platforms as a means to market indigenous communities' products and services can lessen reliance on conventional industries while also addressing negative effects of subsidy restrictions. By making indigenous businesses more competitive on both domestic and international markets, operational efficiency can be enhanced by digital cooperatives with fewer costs involved. To improve their economic condition, Indigenous communities can seek more favourable terms from buyers and suppliers through collective bargaining in the form of digital cooperatives. Online platforms as well as digital products are utilised by digital cooperatives to promote indigenous culture by supporting traditional knowledge and practices among others. For instance, in Peru, digital cooperatives have empowered indigenous women through the 'Women's Digital Inclusion Project' that trained them in e-commerce and linked them to international markets. Similarly, the '*Van Dhan*' program in India has been supporting self-help groups formed by indigenous women who market their handicrafts online thus improving their life standards while preserving culture too.

These digital cooperatives could serve as a unified entity effectively advocating for the issues facing indigenous women's industries. In a specific case study from Canada, Indigenous communities experience substantial difficulty finding consistent and less costly internet connection which creates a disparity that marginalises them from cyberspace existing in the society. Usually, attempts aimed at bridging this lacuna involve extending existing facilities from cities into rural regions whereby most of such attempts are futile and non-sustainable in remote locations. On the other hand, the '*First Mile*' approach provides a better alternative. By enabling user communities to establish and maintain their own network infrastructure, it enhances self-determination

as well as control over digital technologies. It also seeks to promote autonomy and sovereignty among indigenous people who have been oppressed through colonialism in the past and continue to suffer from it today.

The Northern Indigenous Community Satellite Network (NICSN) is one successful example of the First Mile approach. The three Indigenous organisations that founded the project were able to link more than 40 isolated communities spread across three Canadian provinces together. NICSN utilised governmental assistance and public benefit satellite bandwidth for building and managing its infrastructure which gave its members fair access to bandwidth internet services.

4. Conclusion

This paper has examined the position of Indigenous women within the regime of international trade law and identified a structural disjuncture between trade liberalization and distributive inclusion. The authors conclude that despite globalisation at its epitome, indigenous women are not at par with others. While multilateral trade disciplines under the GATT, the Agreement on Technical Barriers to Trade, and the Agreement on Subsidies and Countervailing Measures regulate state intervention with considerable precision, they remain largely indifferent to the differentiated socio-economic burdens borne by Indigenous communities. To solve the problem, the authors have given the NAARI framework, within which specific solutions regarding standardisation and labelling, providing subsidies, creating capacity building framework and maximising their potential via government aid is discussed, at the same time, analysing their legality via international trade principles. The analysis demonstrates that, although WTO law does not expressly accommodate Indi-

genous-specific measures, carefully structured interventions may be designed to operate within its normative boundaries. The analysis demonstrates that NAARI's WTO compatibility must be assessed measure by measure. Certification and labelling would need to comply with applicable TBT disciplines, while financial support would remain subject to the SCM Agreement and relevant GATT obligations. Accordingly, the paper does not claim that NAARI as a whole is automatically WTO-consistent; rather, its components can be designed to operate within existing WTO disciplines, depending on their precise design and implementation. The legality of such measures would depend upon adherence to principles of non-discrimination, proportionality, and transparency embedded within the multilateral trading system. NAARI should therefore be understood not as a departure from trade law orthodoxy, but as an attempt to reinterpret its margins in a manner that foregrounds participation and economic agency for Indigenous women. The authors suggest that the NAARI framework, if adopted, would prove to be pivotal in uplifting the communities and helping indigenous women live a better life with dignity. This conclusion is reached with the help of analysing different components of the NAARI framework with TBT agreement, SCM agreement and GATT framework. The immediate policy priority is consequently to test NAARI through voluntary, participatory and context-specific programmes, with measurable outcomes concerning market access, income, participation, community control and knowledge protection. NAARI thus offers a framework for moving from formal access to substantive economic participation, while leaving its precise legal and institutional design responsive to WTO disciplines and local Indigenous governance.

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ANNEXURE I
Treaty Provisions and Coding Basis for the Comparative Heatmap

Agreement	Relevant treaty provisions examined	Legal character	Coding basis
USMCA	Art. 32.5; Art. 32.6; Chapter 24; relevant procurement/environment provisions	Binding; Art. 32.5 is an operative Indigenous Peoples exception	Explicit Indigenous recognition + operative policy-space protection; cultural/environmental dimensions
EU–Chile AFA	Chapter 26 (TSD); Chapter 32 (Exceptions); relevant provisions on Indigenous knowledge/practices, environment and participation	Binding treaty framework, subject to differentiated implementation/enforcement	Express Indigenous knowledge/practice recognition integrated into TSD architecture
CPTPP	Preamble; Art. 29.6; Art. 29.8; Chapter 20; relevant cooperation provisions	Binding; Arts. 29.6 and 29.8 create specific legal mechanisms	Māori protection + traditional knowledge + environmental linkage
EU–Mexico (Modernised)	Article 36 as the relevant social-affairs/cooperation provision as the provision through which Indigenous peoples' rights are addressed.	The modernised agreement was only politically agreed in 2025 and the legal instruments have been progressing separately.	Indirect/sectoral recognition rather than stand-alone Indigenous exception
CETA	Art. 12.2.2; Annex 19-7; relevant Annex I/II Canadian reservations; Arts. 8.9, 22.1, 24.3 et seq.	Binding reservations/exceptions and substantive chapters	Aboriginal preferences and policy-space reservations
UK–Iceland–Liechtenstein–Norway FTA	Norwegian reservations in relevant Annexes; sustainability/environment provisions	Binding reservations	Indigenous-related policy space primarily through reservations
India–Australia ECTA	Chapters 7, 8 and 11; relevant general exceptions/cooperation provisions	Binding; no Indigenous-specific operative provision identified	General trade flexibility without express Indigenous recognition
EFTA–Chile FTA	Annex X, Appendix 1 (Chile), reservation concerning minorities and Indigenous peoples; relevant environmental/cooperation provisions	Binding reservation	Indigenous protection through reservation rather than stand-alone rights

Coding methodology: Each agreement was examined clause-by-clause against five variables: (1) explicit Indigenous rights recognition; (2) cultural protection; (3) general-exception flexibility; (4) consultation/participation; and (5) environment-Indigenous linkage. Each variable was assigned a score of 0, 1 or 2. **'0'** denotes no identifiable Indigenous-related provision, **'1'** denotes an indirect, general, soft-law, interpretive or otherwise non-operational reference and **'2'** denotes an express Indigenous-specific provision creating an identifiable legal right, exception, reservation, obligation or operational mechanism. The aggregate figure is the sum of the five variable scores and is used to illustrate provision density, not to rank the agreements as a whole.

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