ECONOMIC PULSE

Trade in Modern Services: The World's New Engine. Thailand: On the verge of greatness, or just falling behind?

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"Thailand is idling on the launchpad while the global modern services roar ahead. With sharper insight into their driving dynamics-and the courage to dismantle structural barriers-we can evolve the Land of Smiles, reshaping our traditional services economy into a lasting economic glow through modern services."

Abstract

Digitally deliverable or 'modern' services have emerged as a transformative force in international trade and a key engine of economic growth. This article provides a three-fold analysis of their growing importance. First, we analyse the growth dynamics of trade in global services, focusing on the accelerating role of modern services. Second, we assess the competitive positions of the ASEAN-6 countries, with particular attention to high-performing emerging economies. Finally, we examine the determinants of growth in export of modern services using a gravity model applied to 179 bilateral samples from 2005 to 2023. Our findings suggest that expanding exports of modern services depends on strengthening domestic supply-side capacities and deploying strategic policy interventions can act as catalysts. Comprehensive statecraft remains the essential prerequisite for unlocking competitiveness. While Thailand benefits from strong supply-side capabilities, translating these into a robust export ecosystem requires liberalising regulatory constraints and fostering an enabling environment.

1. Preface: From Goods Trade to Services Trade

For decades, the production and exchange of tangible goods have been regarded as the primary engine of economic growth and a fundamental driver of national wealth. Global trade in goods has undergone two major phases of acceleration that transformed production systems and established an interconnected global value chain (GVC). The first phase centred on the trade of finished goods, such as automobiles, while the second phase focused on intermediate manufacturing inputs, including semiconductors (Rodrik, 2016).

The Declining Role of Goods Trade

While developed economies in the Transatlantic community have long reaped the benefits of global goods trade, its contribution to value-added and employment in developing countries is projected to peak at significantly lower levels than those achieved by earlier industrialized nations. Technological advancements, including automation, have facilitated reshoring by reducing dependence on labour, while robotics and artificial intelligence have eroded the cost advantages traditionally associated with offshoring. Persistent reshoring could potentially reduce global goods trade by 18%, resulting in a long-term global GDP contraction of approximately 4.5% (Cerdeiro et al., 2024).

Moreover, economic backlash from dominant powers seeking to preserve their hegemonic position has accelerated the fragmentation of global value chains (GVCs). The traditional paradigm of just-in-time delivery and cost efficiency has shifted toward resilience and security in response to recurrent economic shocks. In this context, the strategic value of production increasingly lies in its capacity to withstand and recover from disruptions, even at the expense of some efficiency (Ahn & Tan, 2025). Consequently, geoeconomic fragmentation is eroding the viability of export-oriented manufacturing as a national development strategy.

The Rise of Services Trade

During periods of intensive industrialization, services were regarded as essential yet largely non-tradable for two principal reasons: the inseparability of production and consumption, which required the co-location of producer and consumer, and their non-storability as services are consumed instantaneously and cannot be stored or sold as tangible commodities. Nevertheless, the contemporary role of services is markedly different. Services today are highly heterogeneous, encompassing a wide range of activities delivered through four distinct modes: cross-border supply, consumption abroad, temporary movement of labour, and commercial presence[1].

[1] Source: General Agreement on Tariffs and Trade (GATT)

The Emergence of Modern Services

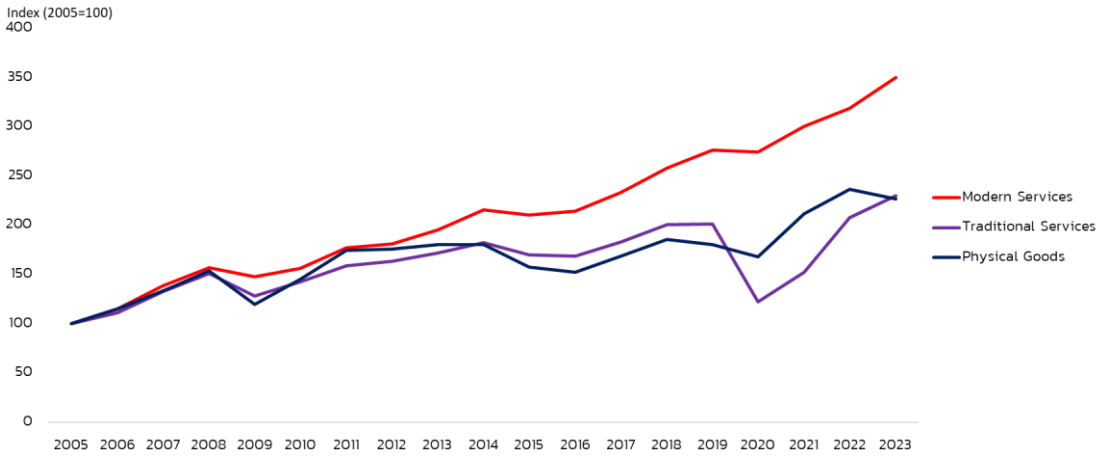
It is crucial to differentiate between 'modern' and 'traditional' services. **Modern services are predominantly delivered through digital channels and can be provided remotely**, thereby eliminating the need for physical proximity between producers and consumers. Conversely, traditional services generally incur higher costs as geographical distance increases. While logistical complexity is largely irrelevant for modern services, time zone differences may still constitute a potential trade barrier, although their significance remains contested within literatures (Christen, 2012).

Examples of traditional services include travel, transportation, and construction. In contrast, modern services encompass Other Business Services (OBS)—such as legal, management consulting, and accounting—as well as Telecommunications, Computer, and Information Services (ICT), which cover activities such as cloud computing and software architecture.

Why Modern Services Are Growing Rapidly

Digital convergence and new technological paradigms have facilitated the freer flow of services, particularly modern ones.

Figure 1 Export of Modern Services, Traditional Services and Physical Goods



Source: WTO-OECD BaTiS, IMTS (2025) and authors' calculations

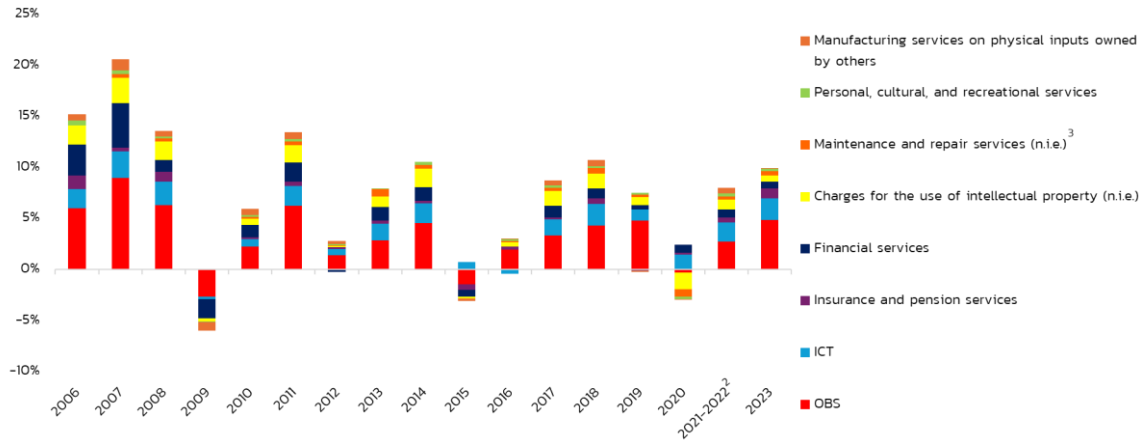
Exports of modern services have grown faster than both traditional services and physical goods trade. As shown in Figure 1, trade in modern services reached an index of 350 in 2023—representing 250% growth since 2005, while traditional services and goods trade stood at 230, reflecting growth of roughly 130%. This underscores the increasing dominance of modern services in global trade.

Modern services have also demonstrated strong resilience to economic shocks. During the COVID-19 pandemic, modern services declined only 1.7% between 2019 and 2020, compared

to much steeper drops in goods (-7.2%) and traditional services (-38.2%), which were severely affected by mobility restrictions. The widespread adoption of digital tools over the past two decades has lowered costs and reduced barriers to international trade, creating a solid foundation for continued growth (Baldwin et al., 2024).

On a global scale, growth in exports of modern services is mainly driven by three categories (Figure 2). On average, Other Business Services (OBS) accounts for about 30% of global growth, with peak contributions reaching up to 88%, making it the largest driver. ICT follows at around 25%, while financial services contribute more than 10%.

Figure 2 Compositions of Modern Services Export Growth



Source: WTO-OECD BaTiS and authors' calculations

2. Modern Services in ASEAN

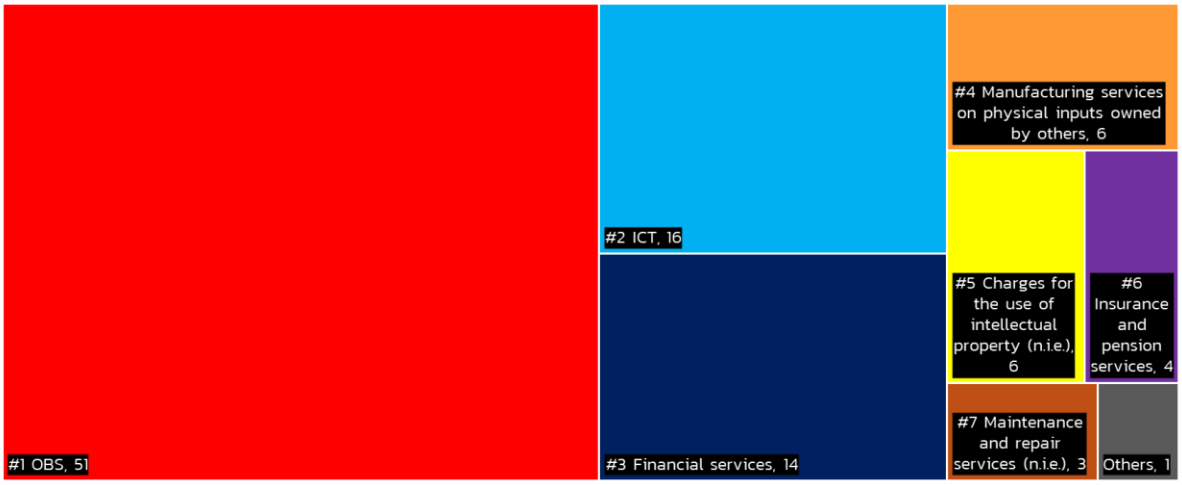
The ASEAN-6 (Indonesia, Singapore, Thailand, the Philippines, Malaysia, and Vietnam) have a modern services export structure that closely aligns with global trends. ASEAN's profile is heavily weighted toward Other Business Services (OBS), which account for 50% of total modern services export—about 7% higher than the global average. The shares of ICT and financial services (16% and 14%, respectively) are similar to global benchmarks of 18% and 13%. However, this regional picture is strongly influenced by Singapore, which consistently accounts for more than 70% of the ASEAN-6's total modern services export value in the 2020s—an increase of about 15 percentage points compared with 57% in 2005. Excluding Singapore, the export structure changes modestly: OBS and ICT remain dominant at 53% and 19%, respectively, while financial services exports decline sharply to 4% and are largely replaced by

[2] Combined estimates were used to mitigate the extreme data fluctuations caused by the COVID-19 pandemic.

[3] Note: n.i.e. (not included elsewhere) refers to residual transactions that do not fall under any other specific sub-category within a broader group.

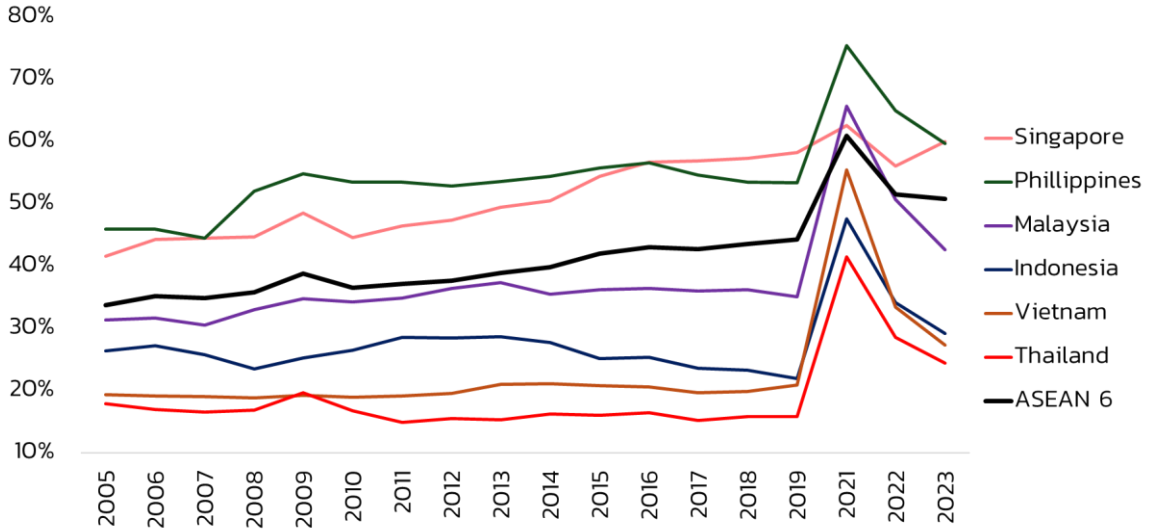
manufacturing services inputs owned by others at 16% share. This shift signifies Singapore's role as the region's primary financial hub.

Figure 3 Structure of ASEAN-6 Modern Services Export during 2021-23 (%)



Source: WTO-OECD BaTiS and authors' calculations

Figure 4 Composition of Modern Services Relative to Total Services Trade in ASEAN-6



Source: WTO-OECD BaTiS and authors' calculations

Apart from Singapore, the Philippines provides a strong example of success in modern services trade. Since 2008, Philippines' exports of modern services have consistently accounted for more than half of total services trade (Figure 4), even surpassing some advanced economies. Its Revealed Comparative Advantage (RCA)[4] scores in OBS and ICT are higher than Singapore's,

[4] RCA, introduced by Balassa (1965), is an economic metric used to indicate a country's export strengths. An RCA greater than 1 suggests a comparative advantage, while an RCA less than 1 indicates a disadvantage. In this article, we use service export data to compare the share of a modern service in world trade with its share in the country's total modern service exports.

averaging 1.32 and 1.38, respectively, between 2020–2023 (Table 1). This growth is largely driven by the Business Process Outsourcing (BPO) industry such as customer services and contact centres, which benefits from a cost-effective, English-speaking workforce. Importantly, although the sector emerged in the early 1990s, it expanded significantly after key legislation—such as the 1995 Special Economic Zone Act—aligned industry practices with global investment and data management standards. These combined advantages and policies boosted the BPO sector's share of GDP from just 0.075% in 2000 to over 8% by the 2020s (Magtibay-Ramos et al., 2007). **This trajectory shows how strengthening one service industry can drive growth in several categories of modern services exports.**

Table 1 Reveal Comparative Advantage (RCA) in ASEAN-6

		Singapore	Philippines	Malaysia	Thailand	Indonesia	Vietnam
OBS	2005-09	1.09	1.45	0.99	1.32	0.96	0.20
	2010-14	1.08	1.44	1.08	1.03	1.06	0.22
	2015-19	1.06	1.28	1.03	0.91	0.66	0.21
	2020-23	**1.18**	**1.32**	**1.03**	**0.97**	**0.56**	**0.29**
Financial Services	2005-09	1.35	0.14	0.16	0.25	0.28	0.14
	2010-14	1.45	0.12	0.17	0.32	0.19	0.09
	2015-19	1.48	0.16	0.25	0.30	0.19	0.07
	2020-23	**1.43**	**0.11**	**0.27**	**0.23**	**0.26**	**0.08**
ICT	2005-09	0.66	1.36	1.38	0.50	0.85	0.21
	2010-14	0.78	1.42	1.12	0.34	0.52	0.23
	2015-19	0.84	1.48	1.17	0.26	0.33	0.31
	2020-23	**0.79**	**1.38**	**1.19**	**0.20**	**0.37**	**0.59**

Source: WTO-OECD BaTiS and authors' calculations

Vietnam, as an emerging regional ICT powerhouse, displays a similar trend. Its RCA in ICT rose from 0.23 during 2010–2014 to 0.59 in 2020–2023 (Table 1). This growth is fuelled by a large pool of ICT talent—about 80,000 graduates annually—and government initiatives like 'Make in Vietnam'[5]. **The continued expansion of modern services export is therefore shaped by the synergistic interplay between natural comparative advantages and government-led regulatory catalysts**.

Thailand presents a notable countertrend, characterized by a substantial deceleration in modern services export growth, which fell from 9% in 2005 to 5% in 2023. Sectoral competitiveness further reflects a dual pattern of stagnation and decline. While OBS and financial services have remained largely static, the ICT sector has undergone a significant erosion of competitive advantage (Table 1). Intertemporal data shows the RCA for OBS softened from 1.32 in 2005–2009 to 0.97 in 2020–2023. This downward trajectory was likely attenuated by the

[5] Make in Vietnam refers to a government strategic policy initiative to shift from low-cost assembly to domestic design, innovation, and high-tech manufacturing

global impetus toward digitalisation and resilient cross-border investment, both of which help prevents against a sharper contraction. Furthermore, although Thailand's financial services outperform those of regional emerging peers, its global positioning remains marginal, with an RCA of only 0.23—particularly when contrast with Singapore's role as a dominant regional hub (1.43). The most acute vulnerability is observed in ICT, where competitiveness has fallen by more than 50% since 2005. This decline renders Thailand the least competitive member of the bloc, contrasting sharply with regional counterparts. Thailand's ICT RCA of 0.20 pales in comparison to the regional mean of 0.98 (2020–2023), underscoring a widening gap in digital service capabilities.

Thailand's services trade exhibits a notable divergence from that of competitive regional peers, most notably the Philippines. While the Philippines has cultivated a well-defined competitive advantage in sectors such as Information Technology and Business Process Outsourcing (IT-BPO), Thailand's growth in exports of modern services appears diffused—lacking sectoral concentration and a dominant champion industry. Instead, Thailand's modern services export expansion appears to be driven largely by broader macroeconomic transition rather than by targeted specialisation or strategic industrial development. The nation remains tethered to traditional economy reputation, perceived through the narrow lens of tourism.

BOX: Thailand's Exports of Modern Services

The Bank of Thailand (BOT) has obtained a more granular dataset[6] compared to the standard BaTiS classification, particularly in its detailed breakdown of Other Business Services (OBS)[7]. This enhanced dataset provides greater capability to analyse exports of modern services at a more refined level.

We observed a structural shift toward a digitally driven export economy following the COVID-19 pandemic. Modern services exports have gained significant prominence, now accounting for nearly 30% of total services exports—a substantial increase from the tourism-driven years of the 2010s, when the share was below 20%.

Between 2014 and 2024, modern services exports grew by 99.4%. Professional services were the main driver, contributing 42.4%, followed by technical, trade-related, and other business services at 34.9%. Operational leasing services accounted for 4.9%, while financial services contributed 3.6%. In contrast, Information and Communication Technology (ICT) exports remained largely stagnant, with a negative contribution of -0.1%.

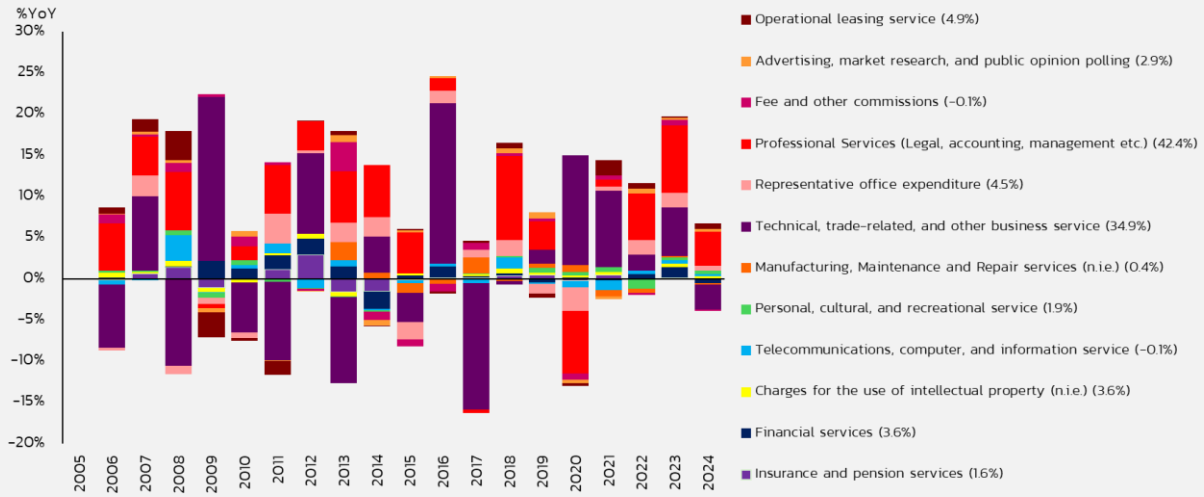
Thailand's modern services exports show a concentrated profile in terms of market share, with major markets including the United States (22.2%) and Japan (8.2%). Recently, an

[6] The dataset relies on integrating International Transaction Reporting System (ITRS) data and incorporation of other domestically relative statistics, money capturing, and transaction systems.

[7] This enhanced level of detail-specifically the seven subcategories within Other Business Services(OBS).

increasing share has been channelled through major financial hubs such as Singapore (13.8%), the United Kingdom (10.3%), and Hong Kong (6.8%). High-value professional services—such as legal, accounting, management consulting, and public relations—continue to dominate four out of top five destinations for Thailand's exports of modern services, with the United Kingdom being the sole exception.

Figure 5 Contribution to Growth of Thailand's Modern Services Exports by Subcategories[8]



Source: BOT

Thailand's exports of modern services also show strength in manufacturing-related services sector and the wholesale and retail sector with a market share of 10.2% and 9.2%, respectively. However, an emerging trend in 2023 and 2024 shows increasing contributions from finance-based firms, having market share of 7.3%, suggesting that financial services could become a significant driver of future modern services exports.[9]

3. Why Did Trade in Modern Services Grow the Way It Did?

We examine the potential factors driving the growth of services trade by estimating a gravity model using data from 179 economies over the period 2005–2023. Five discrete regression models were estimated (Figure 6): export values from Traditional, Modern, Business, Financial, and ICT services are treated as dependent variables (Further details of the model is in the appendix).

Technology and STEM Workforce as Drivers of Modern Services export

Technology plays a critical role in exports of modern services, with the technological elasticity of modern services trade estimated at 0.80—indicating greater responsiveness

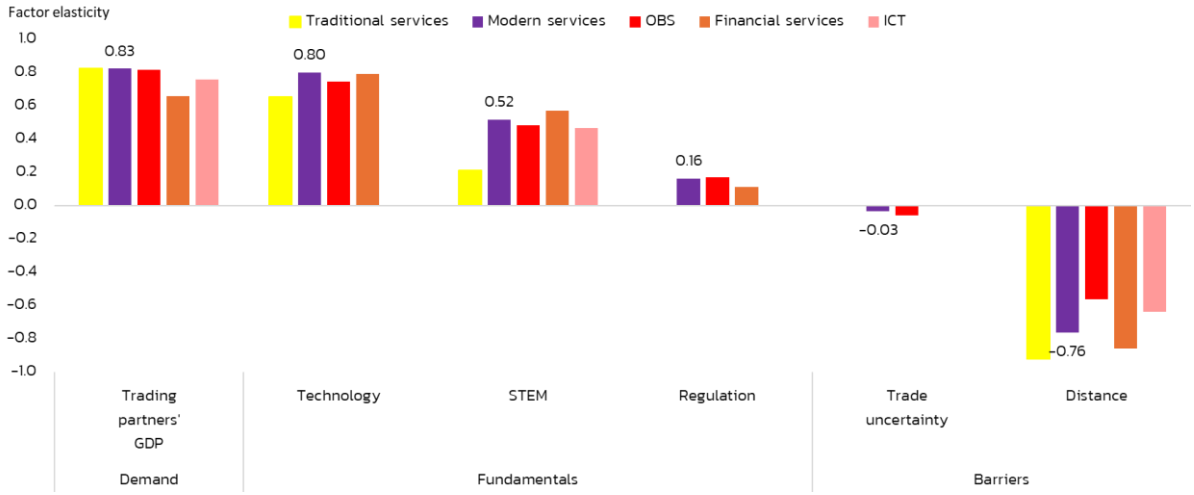
[8] Numbers in () denotes contribution to total modern services growth between 2014 and 2024.

[9] Due to inherent statistical challenges in tracking service activities, The BOT database provides 62% data coverage when broken down by granular industrial classifications.

compared to Traditional services (Figure 6). Our analysis shows that technological readiness has the strongest impact on financial services, followed by Other Business Services (OBS). Surprisingly, technology variable appears to have an insignificant impact on ICT export. We hypothesise that although robust infrastructure such as fibre-optic and broadband networks provides the necessary foundation for scalable ICT services, it constitutes only a baseline condition. The development of high-value ICT exports is likely to depend more on sophisticated technological ecosystems that extend far beyond basic connectivity.

Expanding the STEM (Science, Technology, Engineering, and Mathematics) workforce is essential for bolstering a nation's innovation capacity and technology adaptation. Beyond direct technical output, STEM professionals support a broad ecosystem of economic activities by taking on critical roles such as cybersecurity and cloud infrastructure. STEM's impact on modern services 0.50 exceeds its influence on traditional sectors and serves as a consistent and significant predictor across all modern service variables (Figure 6). The finding highlights that STEM expertise is not merely a localized asset for ICT, but a foundational requirement for the broader spectrum of modern services.

Figure 6 Elasticities of Factors Affecting Services Trade



Source: WEF (2025), OECD (2025), World Bank (2025) and authors' calculations

Regulations remain a Hurdle to expanding Modern Services Exports

Services trade faces multilateral barriers, both technological and regulatory. Unlike tariffs, regulatory restrictions are often embedded in domestic laws serving legitimate purposes. For instance, visa requirements for foreign professionals aim to protect domestic labour markets, yet they also limit the inflow of skilled talent. Enhancing regulatory quality and achieving a balanced trade-off between safeguarding domestic interests and promoting international development should demonstrable positive impact on modern services exports;

Our model primarily shows concentration in OBS and financial services, with no exposure to ICT (Figure 6).

Modern Services are Less Sensitive to Distance and Shocks

Modern services exports are less constrained by geographic distance. Traditional gravity models estimate a distance elasticity of approximately -1 for goods (Brei & von Peter, 2018), whereas our model finds an elasticity of -0.76 for modern services (Figure 6). This suggests a shift toward a less distance-sensitive economy, enabled by digital platforms and cloud computing particularly for OBS and ICT services. Notably, financial services exhibit the highest elasticity with respect to distance. As a form of essential infrastructure underpinning commercial transactions, these services remain subject to the same cross-border friction that impedes trade and broader economic activity.

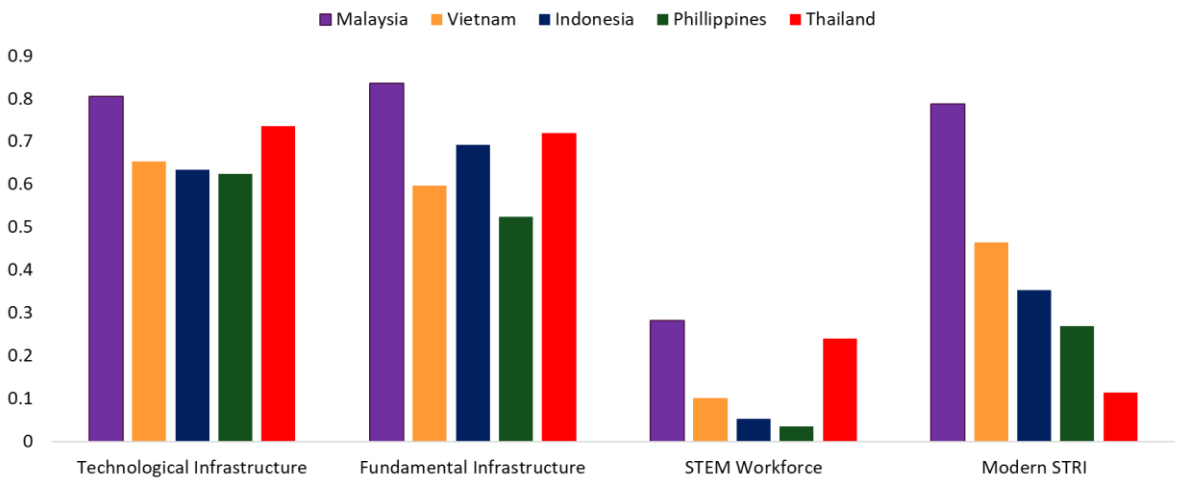
Modern services exports demonstrate greater resilience during periods of global economic uncertainty and shocks. Their intangible nature limits exposure to traditional trade barriers such as tariffs and customs duties. Digital delivery enables firms to bypass physical supply chains and, when combined with diversified delivery modes, allows services to pivot toward specialized demands and adapt quickly to disruptions. Our model estimates that modern services exports exhibit very low elasticity (-0.03) to trade uncertainty (Figure 6), in stark contrast to the 4.5% decline in bilateral goods trade associated with a one standard deviation increase in uncertainty (Nana et al., 2024). Modern services exports can therefore be considered a critical economic stabilizer during episodes of uncertainty. However, while these characteristics make modern services less cyclical, they also pose challenges for monitoring and taxation, potentially introducing new rigidities through unconventional regulatory measures targeting services trade.

4. Encapsulating Thailand's Position amidst ASEAN Emerging Economies Competition

Thailand holds a quantitative advantage in supply-side production factors for services trade, particularly in technological and basic infrastructures, as well as STEM workforce availability (Figure 7). In principle, further advancements in these areas should translate into higher exports of modern services.

However, transforming robust foundational infrastructure into commensurate gains in export growth of modern services remains a challenge for Thailand. The constraint lies on the qualitative side—most notably in the regulatory environment and workforce. Liberalising modern services trade is inherently complex, as many domestic regulations, though designed to achieve legitimate policy objectives, simultaneously act as barriers to trade.

Figure 7 Modern Services Trade Readiness for ASEAN 5 Emerging Economies



Source: WEF (2025), OECD (2025), World Bank (2025) and authors' calculations

Note: Higher scores indicate greater institutional alignment with open, developed economies

Thailand ranks last among the ASEAN-5 countries in terms of the de jure restrictiveness of laws and regulations governing modern services trade (Modern STRI) (OECD, 2025). Thailand's regulatory framework reflects limited openness. Enhancing service exports in Thailand therefore requires navigating a complex web of behind-the-border barriers. Although the scope for regulatory liberalization remains challenging, the success of the Philippines in BPO and Vietnam's rise in ICT suggests that regulatory frameworks are as critical to national competitiveness as supply-side capacity.

One strategic recommendation involves reducing bureaucratic hurdles and fostering policies that promote talent mobility and 'brain circulation' (IMF, 2021). Adapting foreign expertise to local conditions can strengthen workforce capabilities and stimulate the development of new industries. Such initiatives may help address the dilemma posed by advancing quantitative factors alone—namely, the trade-off between promoting high-value modern services and their relatively low capacity to generate large-scale employment for unskilled labour (Barrett et al., 2021), a longstanding challenge for governments in developing economies.

While a larger STEM workforce significantly supports the development and maintenance of complex technologies, its effectiveness depends on targeted development in strategically important industries. Broad, untargeted expansion may deliver only temporary gains, whereas focused investment in key sectors can generate sustained growth. Enhancing human capital must go beyond increasing workforce size to emphasize quality. In this regard, Thailand continues to exhibit low scores in the Labor Skills dimension of the Knowledge Economy

Infrastructure (KEI) (Lathapipat et al., 2023). Future modern services growth and resilience should rely on prioritising the quality of human capital, particularly specialised and globally relevant skills, rather than sheer numbers.

Conclusion

The development of modern services export could offer Thailand a critical buffer against global economic downturns, providing a resilient alternative to the volatility inherent in tourism and manufacturing. While Thailand possesses adequate supply-side foundations—particularly robust infrastructure and a growing STEM pool—unlocking their full potential requires qualitative reform alongside quantitative expansion. Liberalising restrictive regulations, fostering talent mobility, and moving toward sectoral specialisation could propel Thailand toward a more sophisticated and resilient export ecosystem.

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Appendix

The gravity model estimated in this article is as equation (1). Additionally, all continuous variables are expressed in logarithmic terms.

$$\ln (Sert)_{ijt} = \alpha_0 + \alpha_1 \ln (GDP)_{it} + \alpha_2 \ln (GDP)_{jt} + \alpha_3 \ln (Dist)_{ij} + \alpha_4 \ln (Tech)_{it} + \alpha_5 STEM_{it} + \alpha_6 \ln (Reg)_{it} + \alpha_7 \ln (Unc)_{it} + \sum_{n=1}^{m} \alpha_n \ln (Tcost)_{nit} \quad (1)$$

The dependent variable, *Sert*, represents exports of services from country i to country j at time t. The WTO-OECD BaTiS dataset, which covers service trade flows among 179 countries since 2005, is used for this analysis.

For the explanatory variables, we aim to determine the impact of fundamental factors of the exporter country, in particular: (1) Technology ($Tech_i$), measured using the Technological Readiness Index from the World Economic Forum. (2) Quality of workers ($STEM_i$), measured by the proportion of STEM workers to the population, sourced from the World Bank. And (3) regulation (Reg_i), measured using the Regulatory Quality dimension of World Governance Index from the World Bank.

In addition, we control for traditional gravity model variables, including importer income (GDP_j) and the size of the exporter country (GDP_i). Moreover, the distance between trade partners ($Dist_{ij}$) and trade uncertainty (Unc_i) are included as control variables, both of which are continuous variables.

For trade cost variables (*Tcost*), which represent trade barriers, we use dummy variables from the CEPII dataset. These data include factors such as time zone differences, language differences, and colonial relationships.

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