MAY 2026

RESEARCH PAPER

EGYPT'S SERVICES-LED DEVELOPMENT

Navigating the Knowledge Gap and the Suez Paradox

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RP - 08/26

INTRODUCTORY SYNOPSIS

The Divergent Paths of Services-led Development in North Africa

Conventional development economics has long treated the services sector as a residual absorber of labor displaced from agriculture and manufacturing. Recent advances in technology such as robotization and artificial intelligence (AI), however, have made manufacturing more skill- and capital-intensive, eroding its capacity to absorb labor at scale and forcing developing countries to consider services-led development strategies more seriously.

But which services could lead economic growth and structural transformation? Our research shows that services are internally heterogeneous in ways that existing aggregate analyses systematically obscure. The analytical framework underpinning this series classifies services into three categories—Knowledge Services (KS), Enabling Services (ES), and Local Services (LS). This classification was grounded in the empirical roles of services in production, trade, and structural transformation but also correspond closely to observable and systematic differences across multiple structural dimensions in the developed economies.

In a series of country and comparative studies on services as drivers of economic growth and structural transformation in the Global South, we look at three North African countries: Egypt, Morocco, and Tunisia. All three are middle-income economies facing the challenge of escaping the middle-income trap and sustaining convergence toward high-income status. All are geographically and institutionally positioned for deep integration with the European single market through the EU–Mediterranean partnership architecture. All already have large services sectors, accounting for 55–61 percent of GDP, so the central policy question is not whether to develop services but which services to develop and how.

Egypt, Morocco, and Tunisia have followed strikingly different structural trajectories over the past decade, despite sharing broadly similar starting conditions. That they have diverged—with Morocco deepening its integration into global value chains, Egypt engaging those chains asymmetrically, and Tunisia retreating from an initially strong position—shows both the potential and the fragility of services-led development.

Despite their high reliance on services, the three countries share a common structural weakness: a relatively thin base of knowledge services. These sectors—ICT, professional, and business services—are the primary engines of productivity and convergence in advanced economies. In the advanced countries of European Union, knowledge services account for roughly 15% to 17% of GDP. By contrast, Egypt's knowledge-services sector

remains particularly underdeveloped, at around 6% of GDP. Morocco and Tunisia reach only about 10%.

Instead of expanding these high-value activities, much of the growth in all three economies has been absorbed by local services, including retail and public administration, which are largely non-tradable and generate limited productivity gains. Consequently, none of the three countries is on a clear trajectory that would lead to closing the gap with advanced economies.

Within this shared constraint, however, the three countries exhibit sharply different structural patterns. Morocco is the most advanced case, having achieved what can be described as 'dual integration' into global value chains (GVCs). Its leading service sectors import specialized foreign inputs, while exporting high-value outputs, creating a two-way flow of knowledge and value.

This bilateral embeddedness is evident in both Morocco's professional services and business-support sectors, which have successfully internationalized while maintaining strong domestic linkages. The country's IT and software sector shows a degree of forward integration into foreign final demand — at 88–93% of sectoral value added — that far exceeds the EU15 average, reflecting deep and sustained export orientation that few North African peers have matched. Meanwhile, Morocco's logistics system—anchored by the Tanger Med port—functions not merely as a transit corridor, but is an integral part of global industrial supply chains. Yet Morocco's challenge lies in scale: these high-performing sectors remain too small to generate the economy-wide spillovers needed for sustained convergence.

Egypt presents a very different configuration, characterized by what may be termed 'autarky with upstream reach'. Its services participate in GVCs primarily as domestically self-contained input suppliers. On the output side, Egypt has a strong upstream presence, with its services embedded in foreign production at levels comparable to advanced economies. However, on the input side, Egypt imports very little specialized foreign knowledge or technology.

This asymmetry allows Egypt to engage in global markets but limits the learning and technological upgrading that such engagement typically facilitates. Internally, this is reinforced by a split within the knowledge-services sector. Professional services are largely domestically oriented with limited international reach, while business-support services operate as export enclaves with weak connections to the local economy. Egypt's central challenge is therefore to bridge these two disconnected pathways, and to ensure that the rents generated by strategic assets such as the Suez Canal do not crowd out investment in knowledge-intensive activities.

Tunisia is a case of interrupted transformation. At the beginning of the period, it possessed a strong foundation in knowledge services, with firms deeply integrated into European networks, and actively engaged in learning through imported expertise. Over time, however, this advantage has eroded. Political instability and macroeconomic pressures have made it harder for firms to access foreign inputs, leading to a form of involuntary domestic containment. At the same time, Tunisia's export orientation has weakened, and the expansion of its services sector has been driven largely by public administration. This

growing weight of the state has absorbed resources and talent that might otherwise have supported the knowledge economy, creating a persistent structural drag. Tunisia's path forward therefore requires, first, restoring macroeconomic stability, and then rebuilding its international integration in key sectors such as professional services and ICT.

These three cases highlight distinct structural 'fingerprints' of services-led development. Morocco demonstrates a pattern of balanced, two-way integration that aligns most closely with the trajectory of advanced economies, though at insufficient scale. Egypt exhibits a one-sided form of participation that connects it to global markets without enabling meaningful learning or upgrading. Tunisia, finally, illustrates how an initially favorable position can be eroded by macroeconomic and institutional instability, leading to a gradual retreat from global integration.

The broader lesson is that services-led development is neither automatic nor self-sustaining. It requires deliberate and coordinated policies, tailored to each country's specific constraints. For Morocco, the priority is to scale up its high-performing sectors so that they can reshape the broader economy. For Egypt, the focus must be on integrating domestic and export-oriented activities, while deepening engagement with global knowledge flows. For Tunisia, stabilization is the necessary first step, followed by a renewed effort to rebuild its position in international service markets.

By expanding those service sectors that are both tradable and deeply embedded in GVCs, these economies can recreate—within a new structural context—the productivity growth and employment opportunities once associated with the manufacturing-led model of development.

SYNOPSIS

Drawing on OECD databases covering 2012–2022, this paper assesses the performance of Egypt's services-led transformation through a framework that distinguishes among three types of services. Knowledge Services—such as ICT, professional, and business services—function as the core engines of growth, given their tradability, high productivity, and capacity to generate knowledge spillovers. Enabling Services, including transport, storage, and finance, play a facilitating role by providing the infrastructure necessary for production and trade. Local Services, such as retail, hospitality, and public services, serve primarily as absorbers of labor, typically with lower productivity and limited exposure to international markets.

Within this structure, Egypt exhibits a pronounced structural fault line. The Knowledge Services sector remains thin, accounting for only about 6 percent of GDP, while Enabling Services are disproportionately large at around 14 percent. This imbalance is closely linked to what may be termed the "Suez paradox." In advanced economies, Enabling Services tend to reflect deep integration into global value chains, supported by private logistics networks and internationally connected finance. In Egypt, however, the sector is inflated by the presence of the Suez Canal, a domestically operated geographic chokepoint that generates substantial rent. While this rent is economically significant, it does not foster the technological spillovers or industrial linkages associated with high-productivity service sectors elsewhere. As a result, Egypt faces a structural knowledge-services gap in which geographic rent outweighs the development of knowledge-intensive capabilities.

Egypt's position in global value chains is similarly paradoxical. On the one hand, the country shows a form of upstream presence in international production networks, with its domestic value added embedded in foreign exports at levels that match or exceed those of more advanced economies across several Knowledge Services sectors. On the other hand, this participation remains shallow. The foreign value-added content of Egyptian exports is both low and declining, indicating a retreat from global technological integration. The sharp fall in foreign inputs within the ICT sector, for example, suggests a move toward self-sufficiency that ultimately limits learning and upgrading. Egypt thus participates in global production without fully benefiting from the knowledge flows that such participation typically generates.

Internally, the Knowledge Services sector is fragmented into two disconnected pathways. Professional services, such as engineering and legal activities, are deeply embedded in the domestic economy but remain weakly oriented toward international markets. Their international reach, while gradually improving, falls well below EU15 levels and far behind Morocco's rapidly internationalizing professional services. In contrast, administrative and support services—particularly business process outsourcing—are strongly oriented toward foreign demand and achieve high export shares. Yet this segment operates as an enclave, with limited connections to domestic industries and minimal spillovers. Unlike countries such as Morocco, where domestic and export-oriented functions are increasingly synchronized, Egypt's service economy remains bifurcated between inward-focused domestic providers and outward-oriented but isolated export enclaves.

This structural fragmentation is mirrored in the relationship between productivity and employment. High-productivity sectors such as finance and ICT generate substantial value added but employ only a small fraction of the workforce. Conversely, sectors that absorb labor, including administrative services and tourism-related activities, exhibit weaker productivity performance. In particular, the expansion of administrative services appears to be occurring at declining productivity levels, suggesting a lock-in to low-value segments of global outsourcing. Meanwhile, the heavy reliance of tourism-related employment on foreign demand exposes a large share of the labor force to external shocks, making the overall employment structure highly vulnerable.

The central challenge for Egypt, therefore, is not a lack of potential but a failure to integrate its various economic components into a coherent system. A successful development strategy requires a coordinated "big push" that connects the currently disjointed elements of the service economy. This entails strengthening the domestic linkages of export-oriented service enclaves so that they contribute to broader industrial development, while simultaneously enhancing the global competitiveness of domestically oriented professional services. It also requires careful management of Suez-related rents to prevent them from crowding out investment in knowledge-intensive sectors, and a deliberate effort to deepen engagement with global value chains through the strategic use of foreign inputs and technology transfer. If these elements can be synchronized, Egypt's large domestic market and labor force could become a source of sustained productivity growth and economic convergence rather than a constraint.

POLICY CENTER FOR THE NEW SOUTH

MOROCCO'S SERVICES-LED DEVELOPMENT: SCALING QUALITY INTO ECONOMIC MOMENTUM

This paper, the fourth in a research series on services-led growth in the Global South, examines Egypt's potential for growth and economic transformation through the integration of services into Global Value Chains (GVCs). It employs a new taxonomy that classifies services into Knowledge Services (KS), Enabling Services (ES), and Local Services (LS) and applies OECD 2025 Trade in Value-Added (TiVA), Trade in Employment (TiM), and input-output databases to benchmark Egypt against Morocco, Tunisia, and the EU15. The analysis shows that while services account for roughly 55 percent of Egypt's GDP, KS remain thin at about 6 percent of GDP and 3.5 percent of employment—well below EU15 benchmarks of 15–17 percent of GDP and 12–15 percent of employment—while ES reach 12–14 percent and LS 34–37 percent of GDP.

The paper identifies a structural imbalance between a large, geography-driven ES sector and a fragmented KS base. Egypt's ES are dominated by transport and logistics linked to the Suez Canal, which generate high domestic value-added in exports but function mainly as geographic rent rather than GVC-embedded logistics, with limited private supply-chain integration or knowledge spillovers. Within LS, wholesale and retail trade is the central node in the domestic distribution network, and accommodation and food services remain a major, foreign-demand-dependent employer whose fortunes closely follow the tourism cycle. The data confirm that structural change over 2012–2022 has been services-led rather than manufacturing-led, with agriculture losing employment shares while business services and LS absorb most new workers. The data also show that its services are present upstream in other countries' production networks at levels that match or exceed EU15 benchmarks, yet they source almost no specialized foreign inputs in return — a configuration of autarky with upstream reach that defines the ceiling on Egypt's current GVC trajectory.

Within KS, the study documents two divergent development pathways that contrast with the "dual orientation" pattern observed in the EU15 and, increasingly, in Morocco. Professional, scientific, and technical services (M) follow a domestication pathway characterized by exceptionally high forward linkages to the local economy but a lack of international competitiveness. Administrative and support services (N), including Business Process Outsourcing, follow an export-enclave pathway, successfully reaching foreign final demand but remaining structurally disconnected from domestic industries. While Egypt possesses the essential "building blocks" for a knowledge economy—including a massive labor force and a large domestic market—it has not yet synchronized these disconnected pathways The central policy priority appears therefore not to build KS capability from scratch but to connect these domestication and enclave pathways while preventing Suez-driven ES expansion from crowding out investment in KS, through a coordinated "big-push" strategy that deepens N's domestic embedding and raises the international orientation and productivity of M.

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1. INTRODUCTION AND OVERVIEW

The series context

This paper is part of a series of country and comparative studies on services as drivers of economic growth and structural transformation in the Global South. The series applies a common analytical framework and a shared set of empirical indicators derived from the 2025 OECD Trade in Value Added (TiVA), Trade in Employment (TiM), and input–output databases to a group of developing and middle-income economies. Its objective is to identify which specific service sub-sectors possess the structural characteristics needed to drive productivity growth, earn foreign-exchange, and sustain convergence toward high-income status.

The series is anchored in a framework paper entitled "*A Framework to Assess Services as a Driver for Economic Growth and Structural Transformation*" (PCNS Research Paper RP-02/26, March 2026—hereafter the Framework Paper). That paper provides the conceptual and empirical foundation for the entire research program. Conventional development economics has long treated the services sector as a residual absorber of labor displaced from agriculture and manufacturing. Recent advances in technology such as robotization and artificial intelligence (AI), however, have made manufacturing more skill- and capital-intensive, eroding its capacity to absorb labor at scale and forcing developing countries to consider services-led development strategies more seriously. The Framework Paper sheds light on this challenge by demonstrating that services are internally heterogeneous in ways that existing aggregate analyses systematically obscure.

The analytical framework underpinning this series classifies services into three categories—Knowledge Services (KS), Enabling Services (ES), and Local Services (LS). The initial motivation for this classification was grounded in conventional economic reasoning about the heterogeneous roles of services in production, trade, and structural transformation. In particular, differences in tradability, knowledge intensity, and potential for scale and spillovers suggested that not all service activities contribute equally to growth and convergence.

Subsequent empirical analysis using EU15[1] data, however, shows that these intuitive distinctions correspond closely to observable and systematic differences across multiple structural dimensions. When evaluated using a comprehensive set of sixteen indicators derived from OECD TiVA, TiM, and input–output data, the three groups of services exhibit clearly differentiated profiles in terms of global value chain integration, domestic production linkages, employment linkages, and productivity.

This empirical validation is critical. It demonstrates that the KS–ES–LS taxonomy is not an arbitrary or purely conceptual classification, but one that reflects underlying economic regularities observed in high-income economies. The EU15 thus serves as a benchmark not only for levels of development but also for identifying the structural characteristics associated with successful services-led growth. To operationalize this framework, the analysis employs a unified set of sixteen quantitative indicators derived from OECD databases. These indicators capture four key dimensions of structural transformation: global value chain participation (EXGR_DVA, EXGR_FVA, FFD_DVA, and FEXGR_

1. OECD TiVA's EU15 is the historically-defined group of 15 EU member states prior to the 2004 enlargement — which is today's EU14 plus the UK. The UK is included throughout the entire time series, including post-Brexit years, precisely to maintain analytical consistency. The OECD deliberately retains this composition rather than switching to a current-membership definition.

DVA), domestic production linkages (shares in GDP, Hirschman–Rasmussen backward and forward indices), employment structure and external demand linkages (employment shares for broad sectors and for detailed services, EXGR_DEM, and FFD_DEM), and productivity and employment impact (value added per worker and Leontief employment multipliers). Taken together, they provide a comprehensive and internally consistent system for evaluating how different service sub-sectors contribute to growth, employment, and structural transformation. A summary of these indicators is provided in Annex 1.

Within this framework, Knowledge Services (KS) comprise ICT (J58–J63) and professional and business services (M and N). These sectors exhibit "manufacturing-like" characteristics: they are tradable, generate foreign exchange, participate actively in global value chains, and display strong productivity dynamics and knowledge spillovers. Enabling Services (ES), including transport and storage (H) and finance (K), function as critical facilitators of production and trade, with strong domestic linkages but more limited independent value creation. Local Services (LS), including distribution, hospitality, real estate, and public and social services (G, I, L, O, P, Q, R, S, T), absorb the bulk of employment but remain largely non-tradable and weakly integrated into global value chains. This tripartite structure reflects empirically observed differences in how services contribute to growth and structural transformation. It also brings out a key feature of the services economy that did not exist in the traditional manufacturing-led growth models: the trade-off between productivity and employment generation.

The Country Studies: North Africa

Egypt, Morocco, and Tunisia were selected for analytically specific reasons. All three are middle-income economies facing the challenge of escaping the middle-income trap and sustaining convergence toward high-income status. All are geographically and institutionally positioned for deep integration with the European single market through the EU–Mediterranean partnership architecture. All already have large services sectors, accounting for 55–61 percent of GDP, so the central policy question is not whether to develop services but which services to develop and how. Egypt additionally brings two distinctive features to the analysis: the Suez Canal, whose implications for the KS–ES–LS framework are discussed in this paper, and the availability of TiM employment data, which allow the analysis to go beyond value-added shares and GVC ratios to examine where Egyptian workers are located, how productively they are employed across service categories, and how employment is embodied in domestic and foreign demand.

Expectations and Analytical Focus

The Framework Paper generates a set of testable expectations for middle-income economies with large services sectors. In general, it predicts that Knowledge Services will remain below the levels observed in high-income benchmarks such as the EU15, both in terms of GDP and employment shares, and that their integration into global value chains—particularly forward integration into foreign final demand—will be limited. At the same time, Enabling Services are expected to be relatively well developed as facilitators of trade and production, while Local Services are likely to dominate employment and domestic demand without contributing significantly to export-led growth.

The empirical analysis that follows examines the extent to which these patterns are observed in the country under study and identifies deviations that may signal either emerging strengths or

structural constraints. Particular attention is given to the internal composition of Knowledge Services, the balance between domestic embedding and international orientation, and the interaction between services sectors and broader macroeconomic and structural conditions.

By combining value-added, input–output, and employment-based indicators within a unified framework, the analysis provides a multidimensional assessment of the role of services in the country's development trajectory and identifies the policy priorities required to support a transition toward a more productive, export-oriented, and employment-generating services economy.

2. THE FOUR ASSESSMENT INDICATOR GROUPS

This section provides an overview of Egypt's structure of services based on four analytical dimensions: global value chain participation, domestic production, employment and labor-market linkages, and productivity and employment impact. Exact figures and sub-sector breakdowns are presented in the indicator sections that follow.

A persistent theme in the development literature is that manufacturing and services respond differently to growth policy. In the early stages of industrialization, manufacturing tends to reconcile the tension between productivity growth and employment generation endogenously: factory-scale expansion raises output per worker through technology, learning-by-doing and scale economies while simultaneously absorbing large numbers of workers. Services do not generally possess this dual property. The sectors with the highest productivity tend to employ very few workers, while those that absorb the most labor tend to show flat or declining productivity as they scale. This is not a policy failure but a structural characteristic of service production, and it is precisely the constraint that makes services-led development a second-best response to structural transformation rather than an independently preferred strategy. Egypt's data illustrate this tension with unusual sharpness.

On global value chain participation, Egypt's services exports are almost entirely composed of domestic value, with very limited reliance on imported intermediate inputs. This high domestic-content profile applies across knowledge, enabling, and local services alike. The benchmark comparison, however, introduces an important qualification: high domestic content in knowledge-intensive services is also characteristic of advanced economies, and therefore does not, by itself, signal GVC weakness. The genuinely anomalous finding is in transport, where Egypt's domestic content far exceeds the EU15 reference level — a pattern that reflects the Suez Canal's role as a domestically operated geographic endowment rather than a signal of productive GVC integration. On the output side, Egypt's direct integration into foreign final demand is uneven. Most services sectors reach foreign consumers at rates well below EU15 benchmarks, but administrative and support services stand out as the clear exception, with forward integration into foreign demand that actually exceeds the advanced-economy reference. Computer programming and IT services present a more troubling picture: a forward-integration advantage relative to the EU15 that existed at the start of the decade has been progressively eroded as the EU15 advanced while Egypt stagnated. These patterns, taken together, suggest an economy that participates in global markets primarily through a narrow set of channels rather than through broad-based GVC embedding.

The two remaining GVC indicators — the foreign input content of exports (EXGR_FVA) and the share of Egypt's domestic value added embedded as intermediate inputs in other countries' production chains (FEXGR_DVA) — reveal a structural paradox that distinguishes Egypt from its North African peers. On the input side, Egypt's service sectors source very little from abroad when they export, and this already-low foreign input content has declined further over the decade, moving in the opposite direction from the

EU15 benchmark. On the upstream side, however, Egypt's services are present in global production networks as intermediate inputs to a degree that compares favorably with advanced economies, driven by the Suez Canal's structural role and by the scale of Egypt's cost-competitive business services. Egypt participates in global value chains, but asymmetrically — supplying outputs into others' production chains without the reciprocal import of specialized foreign inputs that generates learning, technology transfer, and dynamic productivity gains. This configuration, which may be termed autarky with upstream reach, defines the ceiling on Egypt's current GVC trajectory more precisely than either indicator alone.

On domestic production structure, Egypt's knowledge services are thin relative to GDP and have remained so throughout the decade, leaving a structural composition in which enabling and local services dominate. The enabling services base is larger than its EU15 equivalent, but this reflects the transport sector's geographic endowment rather than the GVC-embedded private logistics and internationally integrated finance that characterize high-income enabling-services development. Within knowledge services, the input-output evidence reveals a structural split. Professional, scientific, and technical services have become increasingly embedded as intermediate suppliers to the rest of the domestic economy — a domestication pathway that is directionally encouraging, even if the depth of that embedding remains far below what advanced-economy benchmarks suggest is achievable. Administrative and support services, by contrast, remain weakly connected to domestic production networks despite their strong export orientation, functioning as an enclave that delivers value abroad without generating commensurate linkages at home. Wholesale and retail trade dominates forward linkages across the entire economy, confirming its role as the central node of the domestic distribution network.

On employment and labor-market linkages, Egypt's knowledge services sector accounts for a small and largely stagnant share of total employment — a fraction of the EU15 reference — while the sectors absorbing the bulk of labor are transport, wholesale and retail trade, and accommodation and food services. Structural transformation over the decade has been services-led rather than knowledge-led, with agriculture ceding employment shares to local and enabling services rather than to KS. The employment-in-demand data add a dimension that value-added indicators alone cannot capture. Administrative and support services sustain a remarkably high proportion of their workforce through foreign demand — a ratio that far exceeds the EU15 benchmark and confirms that this sector functions as a foreign-demand-linked employer at a scale with few parallels in the comparison group. Accommodation and food services exhibit an even more extreme dependence on external demand, making its employment base acutely sensitive to tourism cycles, political disruptions, and external shocks in a way that has no close analogue in the advanced-economy benchmarks. Professional services show a more encouraging trajectory, with the share of employment supported by foreign demand gradually converging toward EU15 levels over the decade.

On productivity and employment impact, the data surface the fundamental tension identified above with particular clarity. Egypt's highest-productivity services sectors employ very few workers. Its most dynamic employment generators — administrative and support services, accommodation and food services — show either flat or declining productivity per worker even as they expand. The sharpest instance of this tension involves administrative and support services, which combines the strongest export-integration profile in knowledge services, rising employment multipliers, and a growing share of jobs financed by foreign demand with a decline in value added per worker over the same period. Whether this trajectory reflects a transitional phase toward higher-value activities or a structural lock-in to the cost-competitive end of the outsourcing market is one of the central

open questions this paper raises and cannot fully resolve. Employment multipliers — the economy-wide job creation induced by a unit of final demand in each sector — are generally above advanced-economy benchmarks in Egypt's most labor-intensive sectors, which is consistent with a developing-economy production structure and represents a genuine policy asset for employment-oriented strategy, even as the productivity picture counsels caution about the quality of that employment growth.

Taken together, these four dimensions define Egypt's structural challenge: a knowledge-services base that is thin in size, split in orientation, and constrained by a productivity-employment trade-off that resists easy resolution; an enabling-services sector inflated by geographic rent rather than productive GVC integration; and a local-services and hospitality economy that absorbs labor at scale but with high external vulnerability and limited productivity dynamics. The detailed evidence for each of these findings is developed in the indicator sections that follow, and the policy implications are drawn together in the concluding synthesis.

3. SECTORAL COMPOSITION OF GDP: KNOWLEDGE SERVICES

This section asks whether Egypt's KS sector has begun to converge toward EU15 and regional benchmarks in terms of size and composition, or whether it remains thin and structurally weak. Table 1 of Annex 2 shows that KS account for 6.15 percent of GDP in 2012 — the lowest KS share among the three North African countries — and rise only to 6.36 percent by 2022, with a temporary spike to 6.93 percent in the 2017 devaluation year that reflects nominal revaluation rather than a genuine structural break. Abstracting from the 2017 outlier, the underlying KS share improves only marginally, distinguishing Egypt modestly from Morocco (broadly flat with a slight downward drift) and Tunisia (consistently declining), but leaving the 2022 level far below the EU15 benchmark of 15–17 percent and insufficient to constitute meaningful structural transformation.

To complement the EXGR_DVA evidence, Table 12 of Annex 2 reports EXGR_FVA (foreign value added embodied in exports). The EXGR_FVA results reinforce that foreign content is minimal, confirming weak input-side GVC integration— a pattern explored in full in Section 9, which also documents the surprising upstream-positioning counterpart.

Within KS, the three components exhibit distinct trajectories. The ICT aggregate (J) moves from 2.74 percent of GDP in 2012 to 2.79 percent in 2022, again with a 2017 spike to 3.01 percent. Telecommunications (J61) dominates J at 1.83–2.02 percent but declines in structural weight, as in all three countries. The most analytically significant within-J movement is in J62–63 (computer programming and information services), which rises from 0.30 percent of GDP in 2012 to 0.41 percent in 2022 — a 37 percent proportional increase that, though still small in absolute terms, signals genuine growth in software and IT services. Even so, at 0.41 percent of GDP, Egypt's J62–63 remains the smallest of the three North African countries, below Tunisia's 1.38 percent and Morocco's 0.55 percent.

Professional, scientific, and technical services (M) increase from 2.04 percent of GDP in 2012 to 2.21 percent in 2022, with the 2017 spike to 2.52 percent again distorting the trend. Excluding that year, M displays a genuine upward drift, a positive structural development corroborated by the forward-linkage evidence in Section 8. Administrative and support services (N), by contrast, remain almost flat at 1.34–1.41 percent of GDP throughout the period, with no discernible trend. At roughly 1.37 percent of GDP, Egypt's N sector is the smallest in the regional group, well below Morocco's 3.56–3.92 percent,

and its stagnation is arguably the most concerning single feature of Egypt's KS composition. This is particularly problematic because N combines strong employment-generation potential with relatively high international market orientation (as shown by the employment-in-demand data in Tables 7 and 8), and because it encompasses the Business Process Outsourcing activities that many developing countries have leveraged as KS growth poles.

The EU15 comparison is unambiguous. Egypt's KS share of roughly 6 percent is less than 40 percent of the EU15 lower bound of 15 percent, and the net 2012–2022 increase of about 0.21 percentage points (excluding 2017) is too small to narrow this gap within any reasonable policy horizon. At the observed pace, Egypt would require several decades to approach the EU15 KS threshold absent a deliberate, coordinated structural transformation strategy. This is precisely the situation for which the Framework's "big-push" logic is designed: incrementalism cannot generate the scale economies, ecosystem depth, and productivity dynamics necessary for self-sustaining KS-led convergence.

4. SECTORAL COMPOSITION OF GDP: ENABLING SERVICES

The central question for Enabling Services is whether Egypt's ES structure reflects GVC-embedded logistics and finance or geography-driven rents with limited spillovers. ES account for 12.29 percent of GDP in 2012, rising to 14.41 percent in 2018 and stabilizing at about 14.06 percent by 2022. This places Egypt's ES share above Morocco's (8–9 percent) and broadly in line with Tunisia's (12–13 percent). The main driver is transport and storage (H), which increases from 8.31 percent of GDP in 2012 to 10.16 percent in 2018 before settling at 9.78 percent in 2022. Financial and insurance activities (K) rise from 3.97 to 4.29 percent of GDP over the same period.

Disaggregating H is essential to interpret its structural significance. Land transport (H49) expands from 2.24 to 3.20 percent of GDP between 2012 and 2022, reflecting the growth of road freight as domestic trade volumes rise and Cairo consolidates its logistics-hub role. Warehousing and support activities (H52), at 3.29–3.94 percent of GDP, form the second-largest H component and are driven by storage and logistics services supporting both Suez Canal transit cargo and domestic distribution. Water transport (H50), at 1.72–2.43 percent of GDP, captures the direct Suez Canal contribution: transit fees, pilotage, and canal authority operations that constitute Egypt's most distinctive services endowment.

The key structural insight is that Egypt's large H sector signals geographic rent extraction rather than GVC-embedded logistics development. The Suez Canal generates transit-fee revenue with very high domestic content (as confirmed by EXGR_DVA in Section 6) but without the private supply-chain embedding, FDI-linked manufacturing connections, or professional-services spillovers that would tie logistics to broader KS development. Morocco's smaller transport sector displays more GVC integration, while Egypt's larger transport sector reflects greater geographic rent. This distinction is fundamental for interpreting ES data and assessing Egypt's longer-term development prospects.

Financial and insurance activities (K) remain in the 3.86–4.44 percent of GDP range, with a modest upward trend to 4.29 percent by 2022. Egypt's financial sector is thus smaller, relative to GDP, than the ES aggregate might imply. This reflects the concentration of financial value added in a limited

number of large state-owned banks and a formal financial system that, despite gradual deepening, still excludes large segments of the population. As Section 8 shows, K's forward linkage is above average, but still weaker than in Morocco's more developed and internationally integrated financial system.

5. SECTORAL COMPOSITION OF GDP: LOCAL SERVICES

This section examines whether LS function mainly as domestic absorbers of labor and income or as complementary channels of foreign demand. LS account for 36.53 percent of GDP in 2012 and decline modestly to 34.18 percent by 2022, a mild contraction driven in part by the expansion of ES rather than by a substantial reallocation away from LS. Within LS, wholesale and retail trade (G) remains roughly 12 percent of GDP, real estate (L) 6.9–7.4 percent, and accommodation and food services (I) 2.0–2.8 percent. Wholesale and retail trade (G), at 11.77–12.04 percent of GDP, is the largest individual services sub-sector in the Egyptian economy, larger than public administration and education combined. This dominance reflects a large informal and semi-formal distribution system in which millions of small traders serve a domestic market of over 100 million people. Forward-linkage evidence in Section 8 confirms G's role as the central node in the domestic input–output network. Real estate (L), at 6.9–7.4 percent of GDP, reflects the scale of housing and property-related services in an economy undergoing rapid urbanization, although its share declines somewhat over the period.

To complement the FFD_DVA evidence, Table 13 reports FEXGR_DVA (domestic value added embodied in foreign exports). FEXGR_DVA shows limited upstream participation for Local Services specifically, consistent with their non-tradable character. The broader GVC picture — which reveals Egypt's structurally asymmetric participation as an upstream supplier without reciprocal input integration — is developed in Section 9.

Accommodation and food services (I), the main tourism proxy, decline from 2.78 percent of GDP in 2012 to 2.03 percent in 2020, reflecting sustained disruptions to international tourism associated with the 2011–2013 political transition, subsequent security concerns, and the COVID shock. Public administration (O) falls from 4.81 percent of GDP in 2012 to 4.31 percent in 2022 — the mirror image of Tunisia's expanding public sector — indicating a relative containment of the fiscal footprint of public administration, though the 2016 devaluation also affects nominal GDP shares. Education (P) declines from 4.53 to 3.74 percent of GDP, a shift that is partly real and partly a dollar-denomination artifact following devaluation. Overall, LS continue to dominate employment and domestic demand but, with the partial exception of tourism, largely confirm their role as non-tradable or weakly tradable absorbers rather than engines of export-led growth.

6. OVERALL SERVICES COMPOSITION: STRUCTURAL ASSESSMENT AND EU15 COMPARISON

Combining KS, ES, and LS allows a concise assessment of Egypt's overall services structure. Total services account for about 55 percent of GDP in 2012, rise to 55–57 percent in 2017–2019, and return to around 55 percent by 2022. These are substantial services shares, though slightly lower than the 65–75 percent observed in many lower-middle-income economies with smaller manufacturing sectors. The internal composition — KS at roughly 6 percent, ES at 12–14 percent, and LS at 34–37 percent — reveals a services economy in which enabling and local categories dominate, while the knowledge-intensive tier remains thin.

The structural composition ratio — KS to ES to LS — for Egypt in 2022 is approximately 6:14:34, compared to Morocco's 10:8:38 and Tunisia's 10:13:38. Egypt's ES-to-KS ratio of about 2.3:1 is the highest in the study, reflecting the Suez Canal endowment. Morocco's ES-to-KS ratio is below 1:1, consistent with a more diversified and KS-oriented services economy. This ratio provides a useful summary of Egypt's structural challenge: ES infrastructure is more than twice the size of KS, the opposite of the pattern observed in high-income convergence economies, where KS systematically exceed ES in GDP share.

Relative to the EU15, Egypt's main gap lies in KS, not in total services or ES. The EU15's KS share of 15–17 percent versus Egypt's 6 percent defines the structural target. The EU15 ES share, at roughly 10–12 percent of GDP, is broadly comparable to Egypt's 12–14 percent, but the composition differs: EU15 ES are dominated by GVC-embedded private logistics and internationally integrated finance, while a significant portion of Egypt's ES reflects Suez Canal–related geographic rent. The policy implication is clear. The issue is not to shrink ES but to prevent Egypt's geographic endowment from crowding out KS investment through Dutch-disease-type effects on wages, fiscal priorities, and political attention.

7. BACKWARD GVC INTEGRATION: EXGR_DVA ANALYSIS

The EXGR_DVA evidence addresses how Egypt's services participate in GVCs on the input side: do they rely on internationally specialized intermediate inputs or mainly on domestic content? Table 5 shows that Egypt exhibits near-universal high domestic content across services, with EXGR_DVA values ranging from roughly 88 to 99 percent in all sectors and years. These values are uniformly higher than Morocco's and generally higher than Tunisia's, and they trend upward for most sectors in 2020–2022. Structurally, this points to a services economy characterized by minimal input-side GVC participation: Egypt's services exports are assembled almost entirely from domestic value, not from globally networked production chains.

KS EXGR_DVA values lie in the 88–96 percent range throughout. The ICT aggregate (J) rises from 90.1 percent in 2012 to 93.6 percent in 2022, with a shallow trough around 2014 before a sustained increase. J62–63 (computer programming) starts at 94.1 percent in 2012, dips briefly to 89.7 percent in 2017, then recovers to 93.6 percent in 2022. Professional services (M) remain at 94.0–96.1 percent across the period — among the highest M values in the three-country dataset — and N records similarly high 93.5–96.7 percent. These very high and rising domestic-content figures confirm that Egypt's KS sectors are not drawing on internationally specialized intermediate inputs. An important benchmark qualification tempers this reading, however. EU15 KS sectors record similarly high EXGR_DVA — professional services at 89–93 percent, administrative and support services at 90–92 percent, and ICT at 83–88 percent — indicating that high domestic content in knowledge-intensive production is structurally expected in advanced and developing economies alike. The more diagnostic signal for Egypt is therefore not the level of KS EXGR_DVA but its rising trend relative to Morocco's declining domestic content, and the limited forward reach into foreign final demand examined in Section 7. In Morocco, by contrast, KS EXGR_DVA has been edging downward, arguably signaling deeper integration into international input networks. Egypt's rising domestic content is more consistent with increasing self-sufficiency than with upgrading into global knowledge-production chains.

ES show similarly high EXGR_DVA, which is the most distinctive feature of the Egyptian dataset. The transport aggregate (H) has EXGR_DVA of 92.6 percent in 2012, rising to 94.1 percent in 2022 — 13 to 15 percentage points above the EU15 transport benchmark of 77.5–82.1 percent —. Water transport (H50), capturing Suez Canal operations, records 83.2–93.8 percent, dramatically higher than Morocco's equivalent of 10.2–42.6 percent. This reflects the nature of the Suez Canal as a domestically operated geographic chokepoint: the canal authority charges transit fees to foreign shipping lines while relying predominantly on Egyptian labor and capital for pilots, maintenance, and administration. The resulting high domestic content is thus structurally accurate but misleading as a development signal — it reflects rent extraction rather than the kind of input-side GVC participation that matters for knowledge-economy upgrading.

Financial services (K) also record some of the highest EXGR_DVA values in the dataset: 96.7 percent in 2012, rising to 98.4 percent by 2022. Egypt's banking exports are almost entirely composed of domestic value, reflecting a domestically oriented, state-bank-dominated financial system with limited international input integration, in contrast to Morocco's more internationalized financial sector. Together, these EXGR_DVA patterns underscore a central theme of the paper: Egypt's services, including KS and ES, are heavily domestically sourced and thus weakly integrated into global input networks, a profile that complements but also constrains the export- and employment-led development potential analyzed in subsequent sections.

The interpretation of these high EXGR_DVA values is reinforced when viewed through their direct counterpart, EXGR_FVA (foreign value added embodied in exports) presented in Table 12. Because EXGR_DVA and EXGR_FVA jointly exhaust the value-added composition of exports, Egypt's near-universal EXGR_DVA levels of 88–99 percent imply correspondingly low EXGR_FVA shares typically in the 1–12 percent range. This confirms that Egyptian services exports incorporate minimal foreign intermediate inputs, placing Egypt at the lower end of input-side GVC participation even among middle-income comparators. In structurally advanced GVC participants, rising EXGR_FVA often reflects deeper integration into international production networks through the use of specialized foreign inputs. Egypt's persistently low EXGR_FVA therefore reinforces the conclusion that its services exports are domestically assembled rather than globally co-produced, limiting opportunities for technology transfer, learning-by-importing, and upgrading through international supplier linkages.

8. FORWARD GVC INTEGRATION: FFD_DVA ANALYSIS

This section examines how far Egypt's services sectors reach foreign final demand and whether any sub-sectors approximate the dual orientation observed in Morocco and the EU15. Table 6 shows that, overall, Egyptian services are among the least internationally forward-integrated in the three-country study: most output is absorbed by domestic final demand rather than foreign consumers. This aggregate mask, however, conceals important heterogeneity. Two sub-sectors — administrative and support services (N) and accommodation and food services (I) — record FFD_DVA levels that are not only high by Egyptian standards but competitive regionally.

The ICT aggregate (J) records FFD_DVA of 13.6 percent in 2012, remains in the 11–13 percent range through 2019, falls to 8.2 percent under COVID in 2020, and recovers only to 12.2 percent by 2022. This 8–14 percent band is the lowest J range among the three North African countries and confirms that Egypt's ICT sector is primarily domestically oriented. Telecommunications (J61) records 10.4 percent FFD_DVA in 2012, declining to 5.1 percent by 2022, a sharp deterioration. Computer programming and information services (J62–63) perform better, with FFD_DVA of 27.5 percent in 2012 falling to 21.0 percent by 2022,

but remain far below Morocco's exceptional 90.5 percent and Tunisia's 33.5 percent. Computer programming and information services (J62–63) perform better, with FFD_DVA of 27.5 percent in 2012 falling to 21.0 percent by 2022, a trajectory that reveals an eroded benchmark advantage: Egypt's J62–63 FFD_DVA of 27.5 percent in 2012 exceeded the EU15 reference of 20.4 percent at the time — a genuine competitive strength — but has since declined while the EU15 benchmark rose to 25.8 percent by 2022. Egypt's software and IT services thus entered the decade ahead of the advanced-economy reference and ended it behind, now falling below Morocco's exceptional 90.5 percent and Tunisia's 33.5 percent, underscoring not only Egypt's limited international reach but a decade-long erosion of a once-genuine export-orientation advantage.

Professional services (M) show a modest but genuine upward trend in forward integration. FFD_DVA rises from 12.8 percent in 2012 to 17.9 percent in 2017, dips during COVID, and stands at 16.2 percent in 2022. This improvement is consistent with the rising domestic forward linkage documented in Section 9, but even at 16.2 percent M remains well below Morocco's 68.1 percent and Tunisia's 38.9 percent, and has narrowed only marginally on the EU15 M benchmark of 23–27 percent — a gap that remains substantial despite the upward trend.

While FFD_DVA captures the extent to which domestic value-added reaches foreign final consumers, a complementary perspective is provided by FEXGR_DVA (domestic value added embodied in other countries' exports) presented in Table 13. This indicator measures Egypt's participation upstream in global production chains, identifying whether Egyptian services are used as intermediate inputs by foreign producers. Together, FFD_DVA and FEXGR_DVA distinguish two distinct forms of forward integration: direct access to foreign final demand versus indirect participation through global supply chains.

Administrative and support services (N) are Egypt's most internationally forward-integrated KS subsector. N's FFD_DVA is 35.5 percent in 2012, broadly stable through 2016, surges to 46.5 percent in 2017, declines to 42.1 percent in 2019, collapses to 21.0 percent during COVID, and recovers to 32.4 percent by 2022. The 2017 peak is consistent with the postdevaluation cost competitiveness of Egyptian BPO services. Even at 32.4 percent, N remains Egypt's strongest KS export performer—and the only KS sub-sector where Egypt's FFD_DVA consistently exceeds the EU15 N benchmark of 22–27 percent, confirming that N's export orientation is genuinely competitive in international terms rather than merely strong by regional standards —, and when combined with its rising employment multiplier and high shares of employment sustained by foreign demand, it stands out as the most promising KS sector for exportlinked job creation.

Even in N, where FFD_DVA is relatively high, FEXGR_DVA appears more limited (Table 13), suggesting that Egypt's BPO sector primarily serves final demand abroad rather than acting as an intermediate service provider embedded in foreign production networks. This further supports the characterization of N as an export enclave rather than a fully integrated GVC node.

Forward integration in ES is weaker and, in several cases, declining. The transport aggregate (H) records FFD_DVA of 33.2 percent in 2012, falling to 26.9 percent by 2022. Air transport (H51) ranges between 33.4 and 50.1 percent, broadly tracking the path of international aviation and tourism. Warehousing (H52) shows the most volatility, with FFD_DVA between roughly 32 and 51 percent over 2012–2019 and a peak of 50.5 percent in 2017, again coinciding with devaluationdriven competitiveness effects. The two components (H50 and H52) related to Suez Canal activities, while still exhibiting a stronger dependence on foreign demand compared to other services, have shown

a downward trend over the 10-year period. Financial services (K) move from 7.7 percent FFD_DVA in 2012 to 17.0 percent in 2017 and then settle at 11.8 percent by 2022, the lowest K value among the three countries, consistent with a financial system still oriented primarily toward domestic clients.

Among LS, accommodation and food services (I) stands out as a large employer with high foreign-demand dependence. FFD_DVA is 40.1 percent in 2012 — Egypt's highest LS forward integration — drops to 23.2 percent in 2020, and recovers to 31.9 percent in 2022. The trajectory closely follows the international tourism cycle: a decline during the 2012–2015 political and security disruptions, a recovery to 38.5–43.7 percent in 2017–2019, a COVID collapse, and partial normalization. This pattern, combined with the employment-in-demand evidence in Section 10, identifies I as a critical but vulnerable foreign demand–linked employer. The EU15 accommodation benchmark of 13–15 percent FFD_DVA places Egypt's I sector in a different structural category: Egypt's tourism-linked forward integration is two to three times the advanced-economy reference, a ratio that signals structural asymmetry — the near-absence of a domestic-demand anchor to buffer external shocks — rather than simply exceptional international competitiveness.

9. INPUT-SIDE INTEGRATION AND UPSTREAM POSITIONING

Tables 12 and 13 add the two remaining dimensions of GVC participation to the structural diagnosis: the foreign input content of exports (EXGR_FVA) and the share of domestic value added embedded as intermediate inputs in other countries' gross exports (FEXGR_DVA). Taken together they answer two questions that EXGR_DVA and FFD_DVA leave open: whether Egypt's services are sourcing the specialized foreign intermediates associated with deep production network membership, and whether Egypt's service outputs are being used upstream in other economies' production chains. The answers are structurally asymmetric and analytically important.

Table 12 shows that Egypt's EXGR_FVA is low, declining, and moving in the opposite direction from the EU15 benchmark across virtually every service sector. The aggregate ICT indicator (J) falls from 9.9 percent in 2012 to 6.4 percent in 2022, while the EU15 equivalent rises from 12.2 to 17.5 percent. Telecommunications (J61), which began the period at 11.1 percent — above the EU15 level of 8.3 percent — collapses to 4.5 percent by 2022, reaching only 0.40 times the EU15 level of 11.3 percent. Computer programming (J62-63) is essentially flat at 5.9 to 6.4 percent against an EU15 trajectory that rises from 15.4 to 20.3 percent, leaving Egypt at 0.31 times EU15 in 2022. Professional services (M) declines from 5.3 to 4.3 percent against an EU15 rise from 6.5 to 10.4 percent (0.41 times EU15). Administrative services (N) falls from 5.0 to 4.4 percent against an EU15 level that rose from 7.9 percent to 9.6 percent (0.46 times EU15). Financial services (K) halves from 3.3 to 1.6 percent while EU15 rises from 9.4 to 14.6 percent — the largest relative divergence in the dataset. Transport (H), reflecting the Suez Canal's geography-driven model, records only 5.9 percent in 2022 against EU15's 21.0 percent. The picture is consistent and systematic: Egypt's service exports are becoming more domestically self-contained over time, not less, and this retreat from input-side GVC integration is uniform across Knowledge and Enabling Services alike.

Table 13 tells a structurally different and, on first reading, surprising story. Egypt's FEXGR_DVA for Knowledge Services sectors exceeds the EU15 benchmark across the board. The ICT aggregate (J) reaches 0.886 percent of GDP in 2022 against EU15's 0.711 percent (1.25 times EU15); J62-63 reaches 0.537 against EU15's 0.465 (1.15 times EU15); professional services (M) reaches 0.562 against EU15's 0.434 (1.29 times EU15); administrative services (N) reaches 0.392 against EU15's 0.208 (1.88 times EU15).

Transport (H) stands at 6.275 percent of GDP — 3.4 times the EU15 level of 1.845 percent — driven by the Suez Canal's outsized role as an intermediate input in global shipping chains. Wholesale trade (G) at 1.940 percent also exceeds EU15's 1.188 percent (1.63 times EU15). Egypt's service outputs, in other words, are present in global production networks as upstream inputs to a degree that compares favourably with advanced European economies.

The conjunction of very low and declining EXGR_FVA alongside above-EU15 FEXGR_DVA defines Egypt's specific and structurally significant GVC position: its service outputs are being used as intermediate inputs in other countries' production chains, but without Egypt sourcing specialized foreign inputs in return. This is arm's-length, cost-competitive service export — participation in global supply chains as a domestically self-contained input supplier — rather than the mutual embeddedness that characterises deep GVC integration. Morocco and the EU15 exhibit the opposite pattern: rising EXGR_FVA alongside rising FEXGR_DVA, because deep bilateral integration involves intensive sourcing of foreign inputs and supply of domestic outputs into others' exports simultaneously. Egypt participates in the output side of this relationship without the input side. The consequence is a structurally lower rung of GVC positioning than the FEXGR_DVA numbers alone would suggest: high upstream presence without the technology transfer, learning-by-importing, and network embeddedness that bilateral integration generates. This configuration may be described as autarky with upstream reach — a model that sustains participation in global value chains without accumulating the dynamic productivity gains associated with full bilateral integration.

10. DOMESTIC ECONOMY STRUCTURE: HR BACKWARD LINKAGES

Table 9's Hirschman–Rasmussen backward linkage indices indicate how intensively each sector draws on inputs from the wider domestic economy to generate a unit of value added. An index above 1.0 signals stronger-than-average upstream pull, whereas an index below 1.0 signals weaker-than-average pull. As discussed in the Framework Paper, computing these indices requires a country-specific input–output table (the Leontief inverse matrix), so we cannot use the EU15 as a benchmark and rely instead on U.S. data.

Table 9 shows that Egypt's Hirschman–Rasmussen backward linkage indices reveal a clear structural pattern: KS sectors and most Local Services are consistently below the economy average, while air transport and land transport start above average. This mirrors the pattern found in Morocco, Tunisia, and the U.S. benchmark. Across all services sectors and years, values span from 0.690 (T, household services) to 1.188 (H51 air transport in 2012) — a meaningful range that reflects genuine structural differences in input sourcing across sector types. KS sectors cluster in the 0.787–0.942 range, confirming the knowledge-intensive character of their production structure: they draw below-average domestic intermediate inputs because their primary inputs are human capital and professional frameworks rather than domestically purchased goods and services. This is entirely consistent with the corrected U.S. benchmark, where KS sectors similarly show below-average backward linkages in the 0.73–0.97 range.

Within KS, backward indices range from roughly 0.787 to 0.942 across all sub-sectors and years. J62–63 holds in the 0.787–0.857 range; M in the 0.823–0.904 range; N in the 0.839–0.942 range; K in the 0.762–0.795 range. These consistently below-average values confirm that Egypt's KS sectors source fewer domestic intermediates per unit of output than the economy average — the expected

signature of knowledge-intensive production. The observation that M, N, and J62–63 follow broadly similar backward trajectories simply reflects that all KS sub-sectors share this structural characteristic, not that the domestic supply base is undifferentiated.

The main above-average backward linkages are found in Enabling Services. Air transport (H51) records the highest backward index in Egypt's services dataset: 1.188 in 2012, remaining elevated in the 1.108–1.188 range throughout the period. This persistently above-average value reflects the aviation sector's intensive and ongoing use of domestic support services — catering, ground handling, airport operations, and fuel supply. Land transport (H49) starts above average at 1.079 in 2012 but declines to the 0.937–0.960 range from 2017 onward, indicating that road freight's domestic input intensity has decreased as commercial vehicles, fuel, and logistics technology are increasingly sourced from abroad. Overall, backward-linkage patterns confirm a structurally coherent picture: Egypt's KS sectors display the below-average backward linkages expected for knowledge-intensive production, while logistics sectors show the above-average backward linkages expected for operations with heavy domestic input requirements.

11. DOMESTIC ECONOMY STRUCTURE: HR FORWARD LINKAGES

Forward linkage indices, using the Ghosh methodology, measure how extensively sectors supply intermediate inputs to the rest of the economy. In contrast to backward linkages, Egypt's forward linkage distribution in Table 10 is moderate — from about 0.682 to 1.281 — and reveals meaningful structural differentiation. The leading forward linkers are warehousing (H52) and professional services (M).

M's forward index stands at 1.187 in 2012, eases in 2014 before rising to 1.326 in 2017, and stabilizes around 1.229–1.267 over 2018–2022. A forward index in the 1.2–1.3 range — consistently above the economy average — is notable for a KS sector and has no close parallel in Morocco, where M's index declines from 0.92 in 2012 to below average at 0.815 by 2022, or in Tunisia, where M's index is broadly stable at 1.16–1.17. In substantive terms, Egypt's professional services have become embedded as intermediate suppliers to other sectors — engineering services into construction and energy, management consultancies into the public and corporate sectors, and legal and accounting services across the formal economy. This pattern documents a domestication pathway for M: increasing domestic forward linkage with much weaker progress in international orientation, in contrast to Morocco's more internationally oriented M. Against the United States benchmark, where M's forward linkage ranges from 2.98 to 3.25 across the same period, Egypt's M is embedded in the domestic economy at less than half the depth of its advanced-economy counterpart. The directional improvement is real and policy-relevant; the level reveals how far the domestication pathway remains from full maturity, and counsels a big-push ambition rather than incremental adjustment.

Administrative and support services (N) display the opposite configuration. N's forward index moves from 0.877 in 2012 to 0.855 in 2022, remaining below the economy average and trending downward. Combined with N's aboveaverage FFD_DVA, this profile is characteristic of an export enclave: BPO and related activities deliver value mainly to foreign final demand rather than to the domestic production network. In Morocco, by contrast, N's forward indices of 1.16–1.22 sit alongside rising FFD_DVA, producing a dual-orientation structure that anchors both domestic and international activity. For Egypt, this contrast implies that scaling N would increase foreign exchange and employment but would do relatively little for domestic knowledge-economy deepening until forward linkages into the domestic economy are strengthened.

Among ES, water transport (H50) records an above-average forward index at 1.322 in 2012, declining to 1.031–1.059 over 2018–2022. The downward trend suggests that the Suez Canal's role as an intermediate input supplier to the broader economy is diminishing over time, consistent with a structure in which canal revenues accrue to the state but are less extensively recycled through domestic production chains. Warehousing (H52) maintains above-average forward indices of 1.143–1.281, reflecting its pervasive use as an input by retail, manufacturing, and logistics, with some decline over the period.

Financial services (K) record forward indices of 0.986–1.062, hovering near the economy average throughout, confirming the banking system's role as a credit and payments intermediary. The gradual decline from 1.062 in 2012 to 1.008 in 2022 may be linked to well-known constraints on banking intermediation, such as NPLs and the concentration of lending in large state entities, which limit K's capacity to broaden its domestic linkages.

Wholesale and retail trade (G) records below-average forward indices throughout the decade, ranging from 0.898 to 0.950, and settling at 0.929–0.933 at the start and end of the period. G's output flows primarily to final demand rather than to other sectors as intermediate inputs — a finding consistent with the sector's economic function as a distribution channel to households and final users. The leading forward-linking service sectors in the corrected data are warehousing (H52, 1.150–1.281) and professional services (M, 1.187–1.267), which together anchor the domestic intermediate supply network.

12. EMPLOYMENT STRUCTURE AND EXTERNAL DEMAND LINKAGES

Egypt's OECD TiM 2025 employment data, covering 2012-2022, allow us to connect value-added structures to jobs at a level of sectoral detail not always available for comparable economies. The analysis focuses on trends across the decade while noting that the 2020 observation is affected by the pandemic shock and is treated with appropriate caution.

Table 2 shows broad employment shares consistent with a services-led transformation. Agriculture's share falls from 27.1 to 18.9 percent over the decade, indicating substantial movement out of primary production. Business services (GTN: G through N) expand from 24.1 to 32.1 percent of employment. Manufacturing remains roughly constant at 11–13 percent, confirming that Egypt's structural change has been primarily services, not manufacturing, led. Public administration, education, and health (OTT) hold at about 20–25 percent of employment, declining from 23.9 to 20.0 percent over 2012-2022, in line with the earlier GDP evidence of a relatively contained publicsector footprint.

Table 3 indicates that KS account for only 3–4 percent of total employment, far below their 6 percent GDP share, which implies high average value added per worker but also underscores how few workers are currently located in KS. Within KS, M's employment increases from 1.6 to 2.1 percent of total employment, accounting for most KS job growth and mirroring its rising GDP share and forward linkages. N grows more modestly, while J's employment is essentially flat or slightly lower, implying a rise in J's value added per worker rather than an expansion in jobs. Transport (H) and wholesale and retail trade (G) both increased their shares in total employment by 2 and 4 percent respectively, confirming their role as the main labor absorbers in ES and LS.

Table 4 adds the productivity dimension. Financial services (K) have the highest value added per worker, rising from about USD 60,400 in 2012 to USD 80,800 in 2019, reflecting the capital intensity of banking and explaining its combination of significant GDP share and small employment share. ICT (J) records USD 40,500 to 46,100, well above the economywide average and consistent with a relatively high-productivity sector. Administrative and support services (N) show VA per worker of roughly USD 27,500 in 2012 declining to USD 21,000 in 2019, suggesting that employment growth has outpaced value-added growth, with new workers absorbed into BPO and backoffice operations at productivity levels that are not rising commensurately. Against the EU15 N benchmark of approximately USD 51,000 per worker, Egypt's N productivity ratio — roughly 54 percent of the benchmark at the start of the period — has further deteriorated to 40 percent by 2019.

The combination of rising export orientation, rising employment multipliers, growing employment, and declining productivity per worker defines a structural tension that the GVC and linkage evidence alone cannot resolve: N's export enclave appears to be expanding extensively in labor terms while contracting in quality. Whether this trajectory represents a transitional phase toward higher-value BPO and ITO activities or a structural lock-in to cost-competitive low-end outsourcing is one of the central open questions this paper raises. Professional services (M) register USD 12,000–16,000 per worker, only modestly above the economy average, which aligns with a sector still dominated by domestically oriented practitioners rather than internationally competitive specialists.

Tables 7 and 8 track how much of each sector's employment is sustained by export demand (EXGR_DEM) and by foreign final demand (FFD_DEM). Accommodation and food services (I) display the most dramatic pattern: in 2012, nearly 55 percent of I's workforce was effectively supported by export demand, dropping to 34 percent in 2015 after the tourism collapse, then recovering only partially to 52 percent in 2019. FFD_DEM moves from 40 percent in 2012 to 25 percent in 2015 and 31 percent in 2022. No other sector in the dataset shows such extreme dependence on foreign demand and such a sharp shock when that demand falls. The EU15 accommodation benchmark of approximately 10-15 percent for EXGR_DEM places Egypt's I sector in a category of its own: even at its post-collapse trough of 34 percent in 2015, I's employment dependence on foreign demand was more than twice the EU15 reference level, confirming that this sector's vulnerability to external shocks is structural rather than cyclical.

Within KS, administrative and support services (N) record the most important employment-in-demand profile. In 2012, about 39 percent of N's workforce is supported by export demand and 36 percent by foreign final demand. These shares peak at 53 and 48 percent respectively in 2018 — again coinciding with the devaluationera cost-competitiveness surge — and settle at 46 and 42 percent by 2019. The implication is that by the end of the decade roughly 42 percent of jobs in N are effectively financed by foreign demand, making N not only an export enclave in value-added terms but also a major foreign-demandlinked employer — one operating at more than four times the EU15 N benchmark for EXGR_DEM and almost twice for FFD_DEM, ratios that confirm N's external orientation is structurally exceptional rather than merely above average. ICT (J) and transport (H) show declining foreign-demand shares over time, consistent with their domestically oriented and rentbased profiles. Professional services (M) exhibit the most encouraging trend within KS, with EXGR_DEM rising from 7 to 9 percent and FFD_DEM from 13 to 17 percent between 2012 and 2019 — modest levels but clearly upward and consistent with M's gradual internationalization.

Table 11's employment multipliers — expressed in thousands of jobs per million USD of final demand — show how many jobs across the economy are supported by an extra unit of final demand in each sector. Land transport (H49) generates the highest multiplier among Enabling Services, at 0.139 thousand

jobs per million USD in 2012 (138.6 jobs), peaking at 0.173 in 2017 before returning to 0.138 by 2019. Among the full Local Services group, education (P) and public administration (O) record the highest absolute multipliers at 0.154 and 0.111 thousand jobs per million USD respectively in 2012, reflecting their labour-intensive structures. Within KS, professional services (M) yields 0.057 thousand jobs per million USD in 2012, rising modestly to 0.059 by 2019, while administrative services (N) shows the clearest upward trend from 0.036 to 0.045 — the steepest proportional rise in the KS group — consistent with expanding BPO employment. Telecommunications (J61) records the lowest KS multiplier, at 0.019–0.027, reflecting its capital intensity. Accommodation and food services (I) registers a meaningful increase from 0.058 to 0.078 thousand jobs per million USD over 2012–2019, confirming the growing employment intensity of Egypt's hospitality sector as it recovers and expands.

Taken together, the employment and multiplier evidence underscores a central message: expanding N and M within KS, and I and selected LS sectors, yields significantly more employment per unit of demand than expanding capitalintensive segments such as telecommunications, a fact that should inform the design of any KSled "big push" strategy.

13. DOMESTIC ECONOMY EFFICIENCY: VALUE-ADDED MULTIPLIERS, LABOUR INCOME SHARE, AND LABOUR INCOME MULTIPLIERS

Three additional indicators complete the structure of the Egyptian services economy: the value-added multiplier (Table 14), the labour income share (Table 15), and the labour income multiplier (Table 16). Together they capture how efficiently final demand generates domestic income, how that income is distributed between labour and capital, and how much of any additional unit of demand flows ultimately to workers across the economy's supply chain.

Table 14's value-added multipliers measure the total domestic value added — wages plus profits plus net taxes — generated per unit of final demand through the full domestic supply chain. Egypt's value-added multipliers are uniformly high across Local Services, with real estate (L) at 0.951–0.991, financial services (K) at 0.969–0.988, education (P) at 0.978–0.988, and postal services (H53) at 0.951–0.981, all of which retain a very high share of final demand as domestic value added. By contrast, transport sectors with significant import content show lower multipliers: water transport (H50) falls from 0.897 in 2012 to 0.911 in 2022, and air transport (H51) from 0.976 to 0.925. Within KS, value-added multipliers for J62–63 (computer programming) range 0.892–0.950 and for M (professional services) 0.943–0.960, both somewhat below the Local Services ceiling, reflecting the relatively higher import content of knowledge-intensive production. These differentials are structurally coherent: sectors that retain most of their income domestically tend to be those with limited traded-input reliance, confirming the autarky-with-upstream-reach pattern documented in the GVC sections.

Table 15's labor income share — the ratio of employee compensation to total value added in each sector — reveals significant distributional heterogeneity and a notable structural break between the pre- and post-2016 devaluation periods. For most services sectors, labor income shares decline sharply between 2015 and 2017, a pattern consistent with the compression of real wages following Egypt's liberalization and depreciation episode: as nominal value-added rose with prices, labor compensation did not keep pace. Public administration (O) maintains the highest

and most stable labor share at 0.815–0.854, reflecting the public sector wage structure. Education (P) records labor shares exceeding 1.0 in the early years of the sample (1.07–1.22), an accounting artifact reflecting the inclusion of employer social contributions that temporarily inflate labor income relative to value added; this normalizes to 1.04–1.17 by 2022. Among KS sectors, telecommunications (J61) sustains a relatively high labor share of 0.321–0.403 through 2015, before falling to 0.321–0.382. Professional services (M) and administrative services (N) show labor shares of 0.094–0.156 in 2022, substantially below their 2012–2015 levels of 0.142–0.221, indicating that the post-devaluation recovery in these sectors has disproportionately benefited capital rather than labor — a finding with direct implications for the inclusiveness of KS-led development.

Table 16's labor income multipliers — the total labor income generated per unit of final demand through the full supply chain — combine the distributional and efficiency dimensions. Public administration (O) produces the highest stable labor multiplier among tradable-adjacent sectors at 0.680–0.780, reflecting both high labor share and high domestic value retention. Education (P) records multipliers of 0.973–1.135, the highest in the dataset, driven by labor intensity and high domestic content. Among KS, telecommunications (J61) records multipliers of 0.283–0.353, while professional services (M) and administrative services (N) range 0.093–0.207 and 0.127–0.173 respectively in 2022 — substantially lower than their 2012 values (0.187 and 0.147) following the post-devaluation compression of labor's income share. Accommodation and food services (I) shows a rising labor income multiplier from 0.160 to 0.237 over the period, reflecting both the sector's growing employment multiplier and a rising labor share of value added. The central structural implication is that the KS sectors most valued for their export and GVC integration properties — particularly M and N — distribute a declining share of their generated value to workers, raising questions about whether KS-led growth in Egypt is tracking toward an inclusive development path or toward a capital-concentrated productivity story.

14. COMPARISON AGAINST THE EU15 BENCHMARK

The comparison against the EU15 benchmark is not premised on the assumption that Egypt should replicate the EU15 development path. Differences in factor endowments, institutional development, demographic structure, and the role of geographic rent preclude a straightforward convergence narrative. The EU15 benchmark serves instead as a reference for identifying specific structural gaps—in sectoral composition, GVC integration depth, and input–output connectivity—that separate Egypt's current services configuration from those associated with sustained, knowledge-intensive, services-led growth.

On GDP composition, the EU15 sustained Knowledge Services (KS) shares of 15.6%–17.4% throughout 2012–2022, compared to Egypt's 6.2%–6.4%—a gap of roughly nine to eleven percentage points that has shown virtually no tendency to close over the decade. This is the widest absolute KS gap in the North African dataset: Morocco's equivalent gap is approximately five to seven percentage points, and Tunisia's six to eight. Egypt's Enabling Services (ES) sector, by contrast, exceeds the EU15 benchmark in relative size: transport and storage (H) accounts for approximately 9.6% of Egypt's GDP by 2022, compared to roughly 4%–5% in the EU15. This overshoot reflects the Suez Canal's geographic endowment rather than productive, GVC-embedded logistics of the kind observed in EU15 transport economies. In terms of Local Services (LS), Egypt and the EU15 converge at the aggregate level, though with markedly different internal compositions: Egypt's LS are dominated by wholesale and retail trade (G) at 11%–12% of GDP, while EU15 LS reflect a broader and more evenly distributed configuration across sub-categories.

On backward GVC integration, the EU15 benchmark introduces a qualification that is essential for the correct interpretation of Egypt's data. Egypt's KS sectors record domestic content of exports (EXGR_DVA)

of 88%–96%, which appears high, but EU15 KS sectors also record high EXGR_DVA in the 83%–93% range, reflecting the general characteristic of knowledge-intensive services production—which relies more on labor and tacit knowledge than on imported material intermediates. EXGR_DVA is therefore not a diagnostic indicator of GVC weakness at this stage of comparison. The more revealing indicator is EXGR_FVA—the foreign input content of exports—where the structural gap is unambiguous and widens over time. Egypt's KS sectors source between 4% and 7% of their export value from foreign intermediates, and this share has declined across the decade, particularly in ICT. The EU15 equivalent has risen steadily, from roughly 6%–15% in 2012 to 9%–20% by 2022 across KS sub-sectors. The diverging EXGR_FVA trajectories are the clearest single indicator that Egypt's KS sectors are not deepening their integration into international input networks, while the EU15 reference level moves in the opposite direction.

On forward integration, the FFD_DVA comparison reveals a structural bifurcation within Egypt's KS that has no close parallel in the EU15 dataset. In EU15 economies, KS sub-sectors combine moderate domestic embedding with moderate forward integration into foreign final demand—a dual-orientation structure in which domestic and international roles reinforce each other. In Egypt, these roles are split across distinct sub-sectors. Administrative and support services (N) records FFD_DVA of 32%–48% throughout the period, well above the EU15 N benchmark of roughly 20%–25%, functioning as a strongly export-oriented enclave with limited domestic linkages. Professional, scientific, and technical services (M) records FFD_DVA of only 12.8%– rising to 16.2%—well below the EU15 M benchmark of 23%–27%—despite strong domestic forward linkages. Computer programming and IT services (J62–63) entered the period near EU15 FFD_DVA levels but has seen its relative position erode as the EU15 advanced while Egypt's forward integration stagnated. Accommodation and food services (I), at 31.9%–40.1% FFD_DVA, far exceeds the EU15 hospitality benchmark of 13%–15%, but this reflects structural asymmetry—the near-absence of a domestic-demand anchor—rather than competitive strength in the EU15 sense. The combined FFD_DVA picture confirms the dual-orientation deficit: Egypt's KS sectors cannot simultaneously serve domestic production networks and international markets the way EU15 equivalents do.

The upstream positioning indicator (FEXGR_DVA)—which measures how deeply Egypt's service outputs are embedded as intermediate inputs in other countries' export chains—reveals a structural paradox that distinguishes Egypt sharply from its North African peers and from standard characterizations of developing-economy GVC integration. Egypt's upstream participation is, for several KS sectors including professional services, computer programming, and administrative services, at or above EU15 reference levels. This is a genuine structural asset: it implies that Egypt's knowledge services are valued as productive inputs by international firms at a depth comparable to advanced-economy benchmarks. Yet the EXGR_FVA evidence documents the complementary structural weakness: Egypt exports its knowledge-service outputs into others' production chains while importing virtually none of the specialized foreign intermediates through which technology transfer, productivity upgrading, and learning-by-doing occur.

The EU15, by contrast, exhibits mutually reinforcing two-way integration—high upstream positioning combined with rising foreign input sourcing. Egypt's configuration—substantial upstream reach combined with declining EXGR_FVA—is precisely what the series' Framework Paper identifies as "autarky with upstream reach": present in global value chains, but on structurally unequal terms that limit dynamic productivity gains. Closing this asymmetry by increasing EXGR_FVA in targeted KS sectors while sustaining FEXGR_DVA levels is the intermediate GVC-integration objective that must anchor the policy agenda.

15. SYNTHESIS: EGYPT'S STRUCTURAL POSITION AND DEVELOPMENT TRAJECTORY

The evidence presented across the preceding sections reveals a coherent structural pattern that aligns closely with, but also meaningfully departs from, the expectations derived from the Framework Paper. Egypt's services economy exhibits the characteristic imbalance observed in many middle-income countries—a relatively small and weakly integrated Knowledge Services (KS) sector, a functionally important but structurally constrained Enabling Services (ES) base, and a large Local Services (LS) segment that absorbs employment without serving as a driver of export-led growth. What distinguishes Egypt from a standard middle-income case is the internal structure of its KS deficit: not the absence of internationally capable sub-sectors, but the failure of those sub-sectors to operate as a unified, mutually reinforcing system.

Reading the evidence through the series' four structural groups clarifies both Egypt's constraints and its latent strengths. On Group 1 (GVC participation), the four-indicator picture is one of asymmetric presence: high domestic content of exports (EXGR_DVA), declining foreign input sourcing (EXGR_FVA), bifurcated forward integration into foreign final demand (FFD_DVA), and—most surprisingly—upstream positioning (FEXGR_DVA) that matches or exceeds EU15 levels in several KS sub-sectors despite the absence of reciprocal input integration. Section 14 characterizes this configuration as autarky with upstream reach: Egypt participates in global value chains as a supplier of intermediate service outputs, but without the inward flow of specialized foreign inputs through which technology transfer and dynamic productivity gains occur. On Group 2 (domestic production linkages), the picture is one of structural split within KS, with professional services deeply embedded in domestic supply chains while administrative services remain weakly connected to them despite strong export performance. On Groups 3 and 4 (employment and productivity), the evidence confirms the scale dimension of the deficit: KS sectors are present and, in some dimensions, internationally capable, but employ far too small a share of the workforce to generate economy-wide structural transformation.

A comparison with regional peers sharpens this diagnosis. Morocco has made the most progress toward services-led transformation, combining strong forward integration in ICT and professional services with an emerging dual-orientation structure in which domestic embedding and international reach coexist and reinforce each other within the same sub-sectors. Tunisia entered the period with a stronger initial KS base than Egypt, particularly in foreign input sourcing, but shows stagnation and retreat across most forward-looking GVC indicators over the decade. Egypt occupies a distinctive position: weaker than Morocco on virtually every GVC forward-integration metric, but structurally more complex than Tunisia's broadly declining trajectory, with sub-sectors evolving along separate and only partially connected pathways.

Structurally, Egypt's KS sector exhibits two distinct development pathways operating in parallel without meaningful interaction. Professional, scientific, and technical services (M) follows a domestication pathway: forward linkages have risen from 1.19 in 2012 to approximately 1.23–1.27 by 2018–2022, the highest among KS sectors and well above the economy average, signaling genuine embedding as an intermediate supplier to domestic industries. Yet M's FFD_DVA of roughly 16% in 2022—well below Morocco's 68% and Tunisia's 39%, and less than the EU15 benchmark of 23%–27%—reveals that this domestic depth has not converted into international market orientation. Administrative and support services (N) follows an export-enclave pathway: FFD_DVA of 32%–48% and a large share of employment supported by foreign demand confirm strong international reach, but forward linkages of 0.80–0.85—below the economy average—reveal that N remains structurally disconnected from the domestic industries

it could be serving. A further risk specific to N is that its export-enclave orientation appears to be consolidating at declining productivity levels, suggesting the possibility of structural lock-in to the lower-value end of the global outsourcing market rather than progressive upgrading toward higher-knowledge BPO activities. Computer programming and IT services (J62–63), though small at 0.4%–0.5% of GDP, began the period near EU15 forward integration levels before stagnating as the EU15 benchmark rose, a trajectory that signals a window of competitive advantage at risk of closing rather than widening.

Morocco illustrates the structural bridge Egypt has not yet built. Morocco's N sector combines strong domestic forward linkages with rising FFD_DVA, functioning simultaneously as a supplier to the domestic production network and as an exporter to foreign markets. Its M sector couples solid domestic depth with sharply increasing international orientation—FFD_DVA rising from 44% to 68% over the decade—effectively synchronizing domestic and export roles within the same sub-sectors. In Egypt, these roles are assigned to different sectors rather than integrated within them. The result is that Egypt has the constituent elements of a dual-orientation KS system, but not the system itself. Closing this dual-orientation gap is the central structural challenge, and the Morocco evidence confirms that achieving it is feasible in a middle-income, North African context.

Employment and productivity indicators underscore the magnitude of the scale deficit. KS account for approximately 3.1%–4.0% of total employment in Egypt, compared with 12%–15% in the EU15, and KS workers generate roughly USD 14,000–58,000 in annual value added depending on sub-sector—well below high-income benchmarks. The productivity range is itself diagnostic: the USD 44,000 gap between J62–63 and the lowest-productivity KS sub-sectors within Egypt confirms that the KS category is not internally homogeneous even at this stage of development. As currently structured, Egypt's KS sector cannot absorb more than a modest share of the country's rapidly growing labor force. The employment multiplier evidence reinforces this reading: the sectors with the highest economy-wide employment generation potential are not the KS sub-sectors with the strongest GVC performance, but the LS sectors—G and I—whose structural characteristics limit their contribution to productivity-led convergence. Accommodation and food services (I) is the sharpest case: it absorbs a large share of employment through foreign tourism demand, but this makes its labor base acutely vulnerable to external shocks — political disruptions, pandemic contractions, regional security events — with no domestic-demand anchor to cushion the cycle. The result is that Egypt's most employment-intensive services are also its most structurally exposed.

Beneath these aggregate constraints, the data reveal substantial latent capability that distinguishes Egypt's structural position from one of simple underdevelopment. N's relatively high and resilient FFD_DVA—maintained through political disruptions, devaluation, and macroeconomic pressure—signals that Egypt's business process and administrative services have established genuine international market anchoring. M's rising domestic forward linkages indicate a professional services sector that is deepening its role in the domestic production network even without yet achieving export scale. J62–63's FEXGR_DVA at or above EU15 levels indicates that Egypt's software and IT outputs are valued as productive intermediates by international firms. The large share of employment in N supported by foreign demand—far above EU15 equivalents—confirms that the BPO-anchored export orientation is not incipient but established. Taken together, these indicators point to the presence of building blocks for a more dynamic KS ecosystem: the structural raw material exists; what is missing is the integration and scaling mechanism.

A structural constraint specific to Egypt requires explicit attention in any synthesis. The expansion of

ES—driven predominantly by Suez Canal transit revenues and associated transport services—generates substantial fiscal income and domestic value added, but offers limited private-sector embedding, human capital spillovers, or knowledge-economy externalities of the kind that manufacturing-linked logistics generates in Morocco's Tanger Med ecosystem. The risk is not merely that ES expansion is structurally neutral relative to KS; it is that the fiscal and institutional attention commanded by Suez-linked infrastructure investment may crowd out the regulatory reform, skills investment, and digital infrastructure spending that KS scaling requires. Egypt's ES base is among the largest in the regional dataset as a share of GDP, yet it contributes disproportionately little to the GVC-embedded, knowledge-spillover-generating growth dynamics that the Framework Paper identifies as the mechanism for middle-income-trap escape. The policy implication is that ES revenues should be treated as a financing opportunity for KS investment rather than as evidence of services-led development in its own right.

The desirable trajectory is to integrate Egypt's two KS pathways into a single, mutually reinforcing system. M should retain and deepen its domestic embedding role while significantly increasing its export orientation and international market reach. N should maintain its strong external linkages while building denser domestic forward connections to manufacturing, logistics, and other services sectors. J62–63 should be supported in expanding its GDP share before its initial FEXGR_DVA advantage over regional peers erodes further. If these adjustments succeed, Egypt's two currently disconnected KS pathways would converge toward the dual-orientation structure observed in EU15 economies and increasingly demonstrated by Morocco: domestic depth and international reach operating simultaneously and reinforcing each other within the same sub-sectors, rather than being assigned to separate ones. Egypt's challenge is therefore not the absence of capabilities, but the failure to connect them.

Recent trends present a mixed regional picture. Relative to Tunisia, where KS forward-integration indicators have broadly stagnated or declined and the GDP share of public administration has expanded, Egypt shows gradual but meaningful structural progress: M's forward linkages have risen, N's employment and multiplier performance has improved, and overall KS employment has edged upward. Relative to Morocco, however, progress remains insufficient across the key forward-looking indicators—FFD_DVA, EXGR_FVA convergence, and KS GDP share—despite Egypt's substantial advantages in labor supply, domestic market size, and the scale of its emerging professional-services and BPO capacity. The regional comparison confirms that Egypt is neither on Tunisia's retreating trajectory nor on Morocco's converging one, but on an intermediate path whose direction is not yet determined by the data.

Policy should therefore focus on three simultaneous structural objectives. First, scaling M and N jointly—through targeted regulatory reform, export-promotion instruments, and skills investment—to transform Egypt's disconnected KS pathways into an integrated, dual-orientation system: deepening N's domestic embedding while accelerating M's international orientation and productivity growth. Second, actively increasing EXGR_FVA in selected KS sectors, particularly J62–63 and M, by facilitating the import of specialized foreign intermediate services and creating incentives for international technology partnerships. Closing the autarky-with-upstream-reach asymmetry identified in Section 14—sustaining FEXGR_DVA levels while raising EXGR_FVA—is the specific GVC-integration objective that connects the current evidence to the dynamic productivity gains the Framework Paper identifies as the mechanism for convergence. Third, ensuring that ES revenues generated by Suez-linked activities are directed toward financing the KS investment agenda rather than crowding it out through competing claims on fiscal space and institutional capacity. The big-push logic of the series' Framework Paper applies with particular force to Egypt: the building blocks of a knowledge-services economy are present, the pathways are established, and the structural raw material is sufficient. What remains is the coordination and scaling mechanism that would cause them to operate as a system.

Data Sources

All quantitative data in this paper are drawn from three OECD databases accessed in January-April 2026. Sectoral value-added shares, the EXGR_DVA (domestic value-added share in gross exports) and FFD_DVA (domestic value added reaching foreign final demand) indicators are from the OECD Trade in Value Added (TiVA) database: https://www.oecd.org/en/topics/sub-issues/trade-in-value-added. Employment data are retrieved from TiM database: https://www.oecd.org/en/data/datasets/trade-in-employment. Input-output data are from OECD Input-Output tables: https://www.oecd.org/en/data/datasets/input-output-tables.html. Hirschman–Rasmussen backward and forward linkage indices are computed from Egypt's input-output tables following the methodology described in the companion Framework Paper. All calculations are the author's own; computational code is available upon request.

ANNEX 1

Indicators Used in the Analysis

This study employs a unified set of sixteen quantitative indicators derived from the OECD Trade in Value Added (TiVA), Trade in Employment (TiM), and input–output databases to capture the multiple dimensions of services-led development. These indicators are designed to provide a comprehensive and internally consistent assessment of how service sectors contribute to global value chain (GVC) participation, domestic economic linkages, employment generation, and productivity.

1. The first group of indicators captures **GVC participation and value-added trade structure**.

    - **EXGR_DVA** (domestic value added in gross exports) measures the domestic content of exports and indicates the extent to which sectors rely on local versus foreign inputs.
    - **EXGR_FVA** (foreign value added in exports) is the counterpart to EXGR_DVA and captures the degree of input-side integration into global production networks through the use of imported intermediates.
    - **FFD_DVA** (domestic value added in foreign final demand) measures how much of a sector's value added ultimately reaches foreign consumers, providing a direct indicator of forward integration into global demand chains.
    - **FEXGR_DVA** (domestic value added embodied in foreign exports) captures upstream participation in GVCs by identifying the extent to which a country's services are used as intermediate inputs in other countries' exports.

Together, these four indicators provide a complete picture of GVC integration, distinguishing between input-side integration (EXGR_FVA), output-side integration (FFD_DVA), upstream positioning (FEXGR_DVA), and domestic value retention (EXGR_DVA).

2. The second group of indicators captures **domestic production structure and inter-sectoral linkages** using input–output analysis.

    - Shares in GDP of services.
    - The **Hirschman–Rasmussen backward linkage index** measures the extent to which a sector draws on inputs from the domestic economy, indicating its demand for local supply chains.
    - The **Hirschman–Rasmussen forward linkage index** measures how intensively a sector supplies intermediate inputs to other sectors, capturing its role as a provider of essential services within the domestic production network.

These linkage indicators are critical for distinguishing between sectors that are deeply embedded in the domestic economy and those that operate as isolated export enclaves.

3. The third group of indicators captures **employment structure and labor-market linkages**.

    - **Sectoral employment** shares of labor across main sectors of the economy.
    - **Sectoral employment shares** measure the distribution of labor across service categories.
    - **EXGR_DEM** (employment embodied in exports) identifies how much employment is supported by export demand.

- **FFD_DEM** (employment embodied in foreign final demand) captures the extent to which jobs are sustained by foreign consumers, providing a labor-market counterpart to FFD_DVA.

These indicators allow the analysis to connect value-added structures to employment outcomes, identifying which sectors generate jobs and how those jobs are linked to global demand.

4. The fourth group captures **productivity and employment impact**.

- **Value added per worker** measures sectoral productivity and provides a direct indicator of income-generation potential.
- **Leontief employment multipliers** measure the total number of jobs (direct and indirect) generated by an increase in final demand in each sector, capturing economy-wide employment spillovers.

Taken together, these sixteen indicators form a coherent analytical system that allows a multidimensional assessment of service sectors. They enable the identification of sectors that are not only integrated into global markets but also capable of generating domestic linkages, employment, and productivity growth. This integrated measurement framework underpins both the classification of services into Knowledge, Enabling, and Local categories and the comparative analysis across countries.

Note: All sixteen indicators are available for all three North African country studies (Egypt, Morocco, and Tunisia), using the OECD TiM 2025 edition for employment-related indicators (Tables 2, 3, 4, 7, 8, and 11) and the OECD TiVA and ICIO 2025 editions for the remaining indicators. Three indicators — Value-Added Multipliers (Table 14), Labour Income Share (Table 15), and Labour Income Multipliers (Table 16) — are derived using the domestic Leontief inverse and OECD ICIO value-added component data.

References

- OECD (2025). Trade in Value Added (TiVA) Database, 2025 edition. https://stats.oecd.org (accessed April 12, 2026).
- OECD (2025). Trade in Employment (TiM) Database, 2025 edition. https://stats.oecd.org (accessed April 12, 2026).
- OECD (2025). Guide to OECD Trade in Value Added (TiVA) Indicators, 2025 edition. OECD Publishing, Paris.

ANNEX 2

Table 1 Egypt: Services Shares (%) of GDP, 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services	6.1%	6.1%	6.1%	5.9%	5.5%	6.9%	6.3%	6.3%	6.4%	6.4%	6.4%
Information and communication (J)	2.7%	2.7%	2.8%	2.6%	2.6%	3.0%	2.8%	2.8%	2.8%	2.8%	2.8%
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.4%	0.4%	0.4%	0.4%	0.4%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%
Telecommunications (J61)	2.0%	2.0%	2.0%	1.8%	1.8%	2.0%	1.9%	1.9%	1.9%	1.9%	1.9%
Computer programming, consultancy, and information service activities (J62-63)	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Professional, scientific and technical activities (M)	2.0%	2.0%	2.0%	2.0%	1.5%	2.5%	2.2%	2.2%	2.2%	2.2%	2.2%
Administrative and support service activities (N)	1.4%	1.4%	1.4%	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
Enabling Services	12.3%	12.6%	13.3%	13.9%	13.4%	14.0%	14.4%	14.4%	14.1%	14.1%	14.1%
Transportation and storage (H)	8.3%	8.6%	9.1%	9.4%	9.4%	10.1%	10.2%	10.1%	9.8%	9.8%	9.8%
Land transport and transport via pipelines (H49)	2.2%	2.6%	2.6%	3.0%	3.0%	3.5%	3.2%	3.2%	3.2%	3.2%	3.2%
Water transport (H50)	1.8%	1.8%	1.8%	1.8%	1.7%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
Air transport (H51)	0.6%	0.6%	0.6%	0.6%	0.6%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Warehousing and support activities for transportation (H52)	3.5%	3.5%	3.9%	3.9%	3.9%	3.4%	3.7%	3.7%	3.3%	3.3%	3.3%
Postal and courier activities (H53)	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Financial and insurance activities (K)	4.0%	4.0%	4.1%	4.4%	4.0%	3.9%	4.3%	4.2%	4.3%	4.3%	4.3%
Local Services	36.5%	36.3%	34.9%	34.7%	34.9%	35.7%	34.6%	34.5%	34.2%	34.2%	34.2%
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	11.8%	11.7%	11.9%	11.8%	11.7%	13.4%	11.9%	11.8%	12.0%	12.0%	12.0%
Accommodation and food service activities (I)	2.8%	2.8%	2.5%	2.5%	2.5%	2.6%	2.6%	2.6%	2.0%	2.0%	2.0%
Real estate activities (L)	7.4%	7.3%	7.2%	7.2%	6.9%	6.8%	6.9%	6.8%	6.9%	6.9%	6.9%
Public administration and defence; compulsory social security (O)	4.8%	4.8%	4.7%	4.7%	5.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
Education (P)	4.5%	4.5%	4.0%	3.9%	3.9%	3.4%	3.7%	3.7%	3.7%	3.7%	3.7%
Human health and social work activities (Q)	2.7%	2.7%	2.1%	2.1%	2.1%	2.6%	2.7%	2.8%	2.8%	2.8%	2.8%
Arts, entertainment and recreation (R); Other service activities (S); Activities of households as employers (T)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.6%	2.6%	2.4%	2.4%	2.4%
Total Services	55.0%	55.0%	54.3%	54.5%	53.8%	56.6%	55.3%	55.2%	54.6%	54.6%	54.6%

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 2 Egypt: Employment by Broad Sectors, 2012-2022

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
In thousands											
Total - all activities	23561.3	24258.5	24365.4	24942	25342	26004.2	26004.4	26061.9	26149.5	27144.2	27918
Agriculture, forestry and fishing	6378.6	6707.7	6786.5	6401.7	6474.8	6521.5	5638.1	5512.4	5326.6	5235.6	5284.4
Mining and quarrying	42	60.9	59.1	52.7	59.8	40.7	49.1	50.3	62.2	55	79.4
Manufacturing	2616.3	2570.8	2385.1	2780.9	2900.4	3124.8	3253.4	3384.4	3409.5	3414.1	3514.6
Utilities and other activities	409.7	440.2	441.8	390.7	509.3	384	434	459.9	477.3	498.6	506.1
Construction	2791.3	2728.2	2741.9	3004.8	3009.3	3357.7	3258	3570.5	3517.9	3738.5	3908.6
Services of the business economy - sections G to N	5684.2	5814	5960.2	6484.1	6542.4	6930.3	7425	7664.7	7934.9	8585.6	8969
Public admin, educ. & health; soc. & pers. serv.	5639.2	5936.7	5990.8	5827.1	5846	5645.3	5946.9	5419.8	5421.2	5616.9	5656
% of total											
Total - all activities	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Agriculture, forestry and fishing	27.1%	27.7%	27.9%	25.7%	25.5%	25.1%	21.7%	21.2%	20.4%	19.3%	18.9%
Mining and quarrying	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Manufacturing	11.1%	10.6%	9.8%	11.1%	11.4%	12.0%	12.5%	13.0%	13.0%	12.6%	12.6%
Utilities and other activities	1.7%	1.8%	1.8%	1.6%	2.0%	1.5%	1.7%	1.8%	1.8%	1.8%	1.8%
Construction	11.8%	11.2%	11.3%	12.0%	11.9%	12.9%	12.5%	13.7%	13.5%	13.8%	14.0%
Services of the business economy - sections G to N	24.1%	24.0%	24.5%	26.0%	25.8%	26.7%	28.6%	29.4%	30.3%	31.6%	32.1%
Public admin, educ. & health; soc. & pers. serv.	23.9%	24.5%	24.6%	23.4%	23.1%	21.7%	22.9%	20.8%	20.7%	20.7%	20.3%
Total services	48.1%	48.4%	49.0%	49.4%	48.9%	48.4%	51.4%	50.2%	51.1%	52.3%	52.4%

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 3 Egypt: Employment Shares (% of Total Employment) by Services Sector, 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services	3.1%	2.9%	3.1%	3.2%	3.0%	3.0%	3.3%	3.5%	3.4%	3.7%	4.0%
Information and communication (J)	0.9%	0.8%	0.8%	0.8%	0.7%	0.7%	0.8%	0.8%	0.7%	0.8%	0.8%
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.3%	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%
Telecommunications (J61)	0.4%	0.4%	0.4%	0.5%	0.4%	0.4%	0.5%	0.5%	0.4%	0.5%	0.5%
Computer programming, consultancy, and information service activities (J62-63)	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Professional, scientific and technical activities (M)	1.6%	1.5%	1.7%	1.6%	1.5%	1.5%	1.7%	1.8%	1.9%	2.0%	2.1%
Administrative and support service activities (N)	0.6%	0.6%	0.6%	0.7%	0.8%	0.7%	0.7%	0.8%	0.8%	0.9%	1.0%
Enabling Services	7.8%	7.7%	7.9%	8.3%	8.2%	8.3%	8.6%	8.8%	9.2%	9.7%	9.9%
Transportation and storage (H)	7.0%	7.0%	7.2%	7.6%	7.4%	7.7%	8.0%	8.2%	8.6%	8.9%	9.2%
Land transport and transport via pipelines (H49)	6.1%	6.1%	6.4%	6.8%	6.8%	7.0%	7.1%	7.3%	7.7%	8.0%	8.3%
Water transport (H50)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Air transport (H51)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Warehousing and support activities for transportation (H52)	0.4%	0.5%	0.5%	0.5%	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	0.6%
Postal and courier activities (H53)	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Financial and insurance activities (K)	0.8%	0.7%	0.6%	0.6%	0.7%	0.6%	0.7%	0.7%	0.6%	0.7%	0.7%
Local Services	37.2%	37.8%	38.1%	37.9%	37.7%	37.1%	39.5%	37.9%	38.4%	38.9%	38.5%
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	11.0%	11.1%	11.1%	11.8%	11.9%	12.6%	13.6%	13.8%	14.5%	15.0%	15.0%
Accommodation and food service activities (I)	2.2%	2.2%	2.3%	2.6%	2.6%	2.6%	2.9%	3.1%	3.0%	3.0%	3.1%
Real estate activities (L)	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%
Public administration and defence; compulsory social security (O)	8.0%	7.8%	8.0%	7.2%	6.8%	6.3%	6.4%	5.9%	5.9%	5.4%	5.4%
Education (P)	9.5%	9.5%	9.6%	8.9%	9.0%	8.2%	8.5%	7.6%	7.7%	7.8%	7.6%
Human health and social work activities (Q)	2.8%	2.7%	2.7%	3.0%	3.1%	3.0%	3.3%	3.3%	3.5%	3.7%	3.5%
Arts, entertainment and recreation (R)	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.5%	0.4%	0.5%	0.5%
Other service activities (S)	2.3%	2.5%	1.9%	2.4%	2.4%	2.4%	2.4%	2.5%	2.5%	2.4%	2.3%
Activities of households as employers; undiff. goods- and services- (T)	0.8%	1.6%	1.8%	1.5%	1.3%	1.4%	1.6%	1.0%	0.7%	0.8%	0.9%
Total Services	48.1%	48.4%	49.1%	49.4%	48.9%	48.4%	51.4%	50.2%	51.1%	52.3%	52.4%

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 4 Egypt: Value Added per Worker ($000), 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	40.5	42.8	48.7	42.4	41.3	37.7	36.3	44.9	57.3	54.6	46.1
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	16.9	16.6	33.4	30.8	29.3	40.9	37.8	41.9	57.8	58.0	57.9
Telecommunications (J61)	57.3	62.8	62.4	53.1	53.9	43.6	42.8	53.6	65.5	64.2	53.0
Computer programming, consultancy, and information service activities (J62-63)	39.7	45.8	29.6	27.2	24.0	21.5	20.7	27.2	36.2	31.1	24.8
Professional, scientific and technical activities (M)	16.0	16.2	15.7	15.9	12.2	15.0	13.7	15.7	17.3	17.5	14.4
Administrative and support service activities (N)	27.5	27.6	30.8	23.8	21.1	17.6	20.0	21.0	23.8	25.8	19.7
Enabling Services											
Transportation and storage (H)	15.0	15.1	17.2	16.4	14.9	12.0	13.9	16.3	16.7	17.8	14.9
Land transport and transport via pipelines (H49)	4.6	5.2	5.6	5.8	5.2	4.5	4.8	5.7	6.1	6.5	5.4
Water transport (H50)	259.4	240.3	275.5	256.1	306.5	303.8	443.9	293.3	511.2	630.7	475.0
Air transport (H51)	55.5	65.5	95.3	88.6	117.1	86.7	90.2	95.7	105.2	134.3	185.5
Warehousing and support activities for transportation (H52)	104.9	84.3	118.3	108.9	113.4	81.7	80.4	100.6	86.8	96.2	82.1
Postal and courier activities (H53)	9.3	7.7	11.6	10.6	11.2	9.7	9.5	11.8	13.6	14.5	11.5
Financial and insurance activities (K)	60.4	70.5	86.5	92.4	66.6	55.1	71.1	80.7	103.3	94.2	80.8
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	13.5	13.0	14.4	13.3	11.7	9.7	9.5	11.3	12.2	13.0	11.3
Accommodation and food service activities (I)	15.9	15.6	14.9	12.7	11.1	9.2	9.6	10.8	9.9	10.9	9.2
Real estate activities (L)	1310.2	843.8	659.7	628.3	575.4	408.1	545.8	523.9	529.3	577.9	513.1
Public administration and defence; compulsory social security (O)	7.6	7.5	7.9	8.7	9.3	6.1	7.3	9.5	10.8	13.0	11.3
Education (P)	6.0	5.8	5.6	5.9	5.2	3.8	4.7	6.4	7.1	7.8	6.9
Human health and social work activities (Q)	12.2	12.5	10.3	9.2	8.0	8.0	8.9	10.9	11.7	12.3	11.2
Arts, entertainment and recreation (R)	25.0	26.6	29.4	29.5	26.8	19.5	19.9	26.8	27.0	24.6	22.4
Other service activities (S)	7.8	7.1	10.4	8.1	7.0	5.5	6.6	7.8	8.8	10.0	8.8
Activities of households as employers; undiff. goods- and services- (T)	0.9	0.4	0.4	0.5	0.5	0.5	0.5	1.0	1.6	1.4	1.1

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 5 Egypt: Domestic VA share in Gross Exports (EXGR_DVA; % of gross exports), 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	90.1	90.2	88.3	92.4	93.5	91.3	92.8	93.8	94.4	93.9	93.6
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	89.3	90.8	89.5	92.9	93.0	92.7	92.3	92.9	94.0	93.3	92.8
Telecommunications (J61)	88.9	90.5	86.8	93.3	92.9	91.6	93.8	95.1	95.8	95.6	95.5
Computer programming, consultancy, and information service activities (J62-63)	94.1	89.1	89.2	90.7	94.7	89.7	91.6	93.3	94.1	93.7	93.6
Professional, scientific and technical activities (M)	94.7	94.0	94.7	94.5	94.3	95.7	94.5	95.3	96.1	95.9	95.7
Administrative and support service activities (N)	95.0	94.8	96.0	93.5	94.9	96.1	94.5	95.5	96.7	96.0	95.6
Enabling Services											
Transportation and storage (H)	92.6	90.2	92.7	92.6	94.0	93.1	93.8	94.3	95.9	94.8	94.1
Land transport and transport via pipelines (H49)	90.0	92.6	90.8	94.1	94.4	91.5	94.1	94.8	96.7	95.7	95.1
Water transport (H50)	88.6	83.2	89.8	88.4	90.5	88.6	91.4	91.8	93.8	92.0	91.2
Air transport (H51)	90.5	90.8	91.1	92.4	92.5	91.6	91.0	92.3	95.2	93.7	92.5
Warehousing and support activities for transportation (H52)	95.8	92.6	95.0	94.1	95.8	96.1	95.5	95.8	96.8	96.2	95.8
Postal and courier activities (H53)	97.9	94.2	95.1	95.6	97.0	94.7	96.1	96.5	97.4	97.0	96.8
Financial and insurance activities (K)	96.7	96.2	98.7	97.5	98.4	97.9	98.0	98.2	98.6	98.5	98.4
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	95.1	96.5	95.3	96.9	96.2	97.0	97.7	97.8	98.3	98.1	98.0
Accommodation and food service activities (I)	92.2	92.7	91.6	92.9	93.2	90.3	91.1	92.6	93.7	93.0	92.5
Real estate activities (L)	95.2	98.1	95.9	98.3	96.6	98.4	98.7	98.9	99.2	99.1	99.0
Public administration and defence; compulsory social security (O)	96.0	94.3	96.4	94.1	96.6	95.4	97.2	98.3	98.6	98.4	98.3
Education (P)	97.6	97.2	98.4	97.9	98.3	98.2	98.2	98.3	98.7	98.5	98.4
Human health and social work activities (Q)	93.6	91.3	91.5	90.1	93.7	89.0	92.6	93.6	94.4	93.7	93.7
Arts, entertainment and recreation (R)	96.9	97.3	97.9	97.4	95.2	96.7	96.4	97.0	97.9	97.4	97.1
Other service activities (S)	92.6	93.2	91.7	93.7	95.0	93.1	95.0	96.0	96.6	96.3	96.3
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 6 Egypt: Domestic VA Share in Foreign Final Demand (FFD_DVA; % of value added), 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	13.6	12.5	12.2	11.1	11.2	12.0	12.5	13.1	8.2	10.3	12.2
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	18.5	16.4	19.7	18.3	28.3	15.2	15.3	25.1	21.0	25.8	31.0
Telecommunications (J61)	10.4	8.7	7.9	6.7	4.9	7.5	8.7	7.8	3.4	4.3	5.1
Computer programming, consultancy, and information service activities (J62-63)	27.5	32.4	26.5	24.7	24.9	29.1	26.8	22.4	14.2	18.5	21.0
Professional, scientific and technical activities (M)	12.8	19.0	23.5	15.6	11.3	17.9	18.0	16.7	11.5	14.3	16.2
Administrative and support service activities (N)	35.5	35.5	37.8	34.6	32.8	46.5	47.8	42.1	21.0	27.5	32.4
Enabling Services											
Transportation and storage (H)	33.2	35.8	32.2	28.1	23.1	33.6	32.6	28.0	18.3	23.1	26.9
Land transport and transport via pipelines (H49)	19.4	17.5	12.2	9.2	6.2	18.2	20.1	17.2	10.5	12.7	14.8
Water transport (H50)	31.9	42.2	40.5	36.4	27.5	27.2	26.9	23.1	16.6	21.6	25.2
Air transport (H51)	33.7	36.5	36.2	38.4	33.4	48.5	50.1	43.1	24.5	30.5	35.8
Warehousing and support activities for transportation (H52)	42.5	45.9	41.2	37.0	32.3	50.5	43.7	37.5	25.8	32.8	37.8
Postal and courier activities (H53)	34.8	37.0	33.7	28.8	26.5	31.8	33.7	28.4	18.5	24.5	28.8
Financial and insurance activities (K)	7.7	6.7	8.2	5.7	7.6	17.0	15.4	12.9	7.7	9.9	11.8
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	11.1	11.8	10.6	8.0	8.5	12.8	13.7	11.8	9.2	10.5	11.6
Accommodation and food service activities (I)	40.1	27.5	31.1	25.3	20.6	38.5	43.7	40.2	23.2	26.8	31.9
Real estate activities (L)	2.3	1.8	1.7	1.4	1.2	4.0	4.0	3.5	1.8	2.1	2.4
Public administration and defence; compulsory social security (O)	0.3	0.4	0.5	0.2	0.5	0.3	0.5	0.5	0.3	0.4	0.5
Education (P)	1.4	0.9	1.0	0.7	0.5	1.9	2.1	1.9	0.9	1.1	1.3
Human health and social work activities (Q)	0.8	0.5	0.6	0.6	0.5	1.3	1.5	1.3	0.6	0.7	0.9
Arts, entertainment and recreation (R)	7.0	5.2	5.7	5.3	4.4	12.6	13.3	11.8	7.6	9.0	10.5
Other service activities (S)	5.8	5.0	3.9	4.1	3.8	5.1	6.5	5.7	3.0	3.4	4.0
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 7 Egypt: Domestic Employment Embodied in Gross Exports (EXGR_DEM; % of sector employment), 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	16.9	16.8	18.0	15.9	19.2	14.2	15.4	17.3	11.4	13.8	16.0
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	20.5	19.2	28.7	25.3	43.2	23.6	21.6	37.9	35.2	41.4	53.6
Telecommunications (J61)	11.8	11.6	10.7	8.3	6.5	6.9	9.3	8.3	3.5	4.2	4.9
Computer programming, consultancy, and information service activities (J62-63)	28.3	33.1	26.2	25.9	27.7	24.7	24.8	21.2	12.8	16.6	19.5
Professional, scientific and technical activities (M)	7.3	14.0	20.5	12.1	8.9	8.3	8.7	9.2	5.9	7.9	9.3
Administrative and support service activities (N)	38.7	38.9	43.5	39.9	39.0	51.3	53.5	45.6	21.8	28.8	33.5
Enabling Services											
Transportation and storage (H)	23.1	20.1	16.6	11.3	8.8	19.6	20.9	17.7	10.3	13.1	15.3
Land transport and transport via pipelines (H49)	17.9	14.5	10.4	6.9	4.7	15.7	17.2	14.7	8.2	10.5	12.3
Water transport (H50)	116.4	61.2	105.7	45.2	63.7	52.9	55.8	33.4	34.1	45.2	47.8
Air transport (H51)	75.4	74.3	71.4	82.2	77.3	138.1	103.6	83.8	47.6	66.2	105.4
Warehousing and support activities for transportation (H52)	57.1	59.2	70.5	46.3	49.5	57.2	49.8	41.8	26.7	35.0	40.9
Postal and courier activities (H53)	35.0	37.1	33.8	28.9	26.8	32.5	33.9	28.5	18.7	25.0	29.5
Financial and insurance activities (K)	3.8	3.4	3.1	3.8	5.3	14.3	12.2	10.2	5.9	7.7	9.2
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	7.9	9.1	7.4	5.9	5.8	9.4	9.8	8.6	6.9	7.7	8.4
Accommodation and food service activities (I)	54.6	38.9	37.8	34.4	23.0	47.7	58.1	51.9	29.3	34.2	40.6
Real estate activities (L)	11.9	8.9	4.5	4.6	4.8	13.2	9.6	7.1	3.2	3.9	4.6
Public administration and defence; compulsory social security (O)	0.2	0.2	0.4	0.1	0.3	0.2	0.2	0.3	0.2	0.2	0.3
Education (P)	1.0	0.8	0.9	0.7	0.5	1.8	2.0	1.8	0.9	1.1	1.2
Human health and social work activities (Q)	0.9	0.6	0.7	0.7	0.6	1.4	1.6	1.5	0.7	0.8	1.0
Arts, entertainment and recreation (R)	5.8	5.0	5.6	5.5	4.5	13.8	14.4	12.9	8.3	9.7	11.4
Other service activities (S)	2.3	1.6	1.5	1.6	2.3	3.6	4.4	4.0	2.0	2.3	2.7
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 8 Egypt: Domestic Employment Embodied in Foreign Final Demand (FFD_DEM; % of sector employment), 2012-2022

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	15.3	14.2	14.7	13.3	14.7	14.1	14.5	14.7	9.1	11.7	13.2
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	18.5	16.4	19.7	18.3	28.3	15.2	15.3	25.1	21.1	25.8	31.0
Telecommunications (J61)	10.4	8.7	7.9	6.7	4.9	7.5	8.7	7.8	3.4	4.3	5.1
Computer programming, consultancy, and information service activities (J62-63)	27.5	32.4	26.5	24.7	24.9	29.1	26.8	22.4	14.2	18.5	21.0
Professional, scientific and technical activities (M)	12.9	19.0	23.5	15.6	11.3	17.9	18.0	16.7	11.5	14.3	16.2
Administrative and support service activities (N)	35.5	35.5	37.8	34.6	32.8	46.5	47.8	42.1	21.0	27.5	32.4
Enabling Services											
Transportation and storage (H)	21.7	20.8	15.2	12.1	8.5	20.5	22.3	19.0	11.9	14.4	16.7
Land transport and transport via pipelines (H49)	19.4	17.6	12.2	9.2	6.2	18.2	20.1	17.2	10.5	12.7	14.9
Water transport (H50)	31.9	42.2	40.5	36.4	27.5	27.2	26.9	23.1	16.6	21.6	25.2
Air transport (H51)	33.7	36.5	36.2	38.4	33.4	48.6	50.1	43.1	24.5	30.5	35.8
Warehousing and support activities for transportation (H52)	42.6	45.9	41.2	37.0	32.3	50.5	43.7	37.5	25.8	32.8	37.8
Postal and courier activities (H53)	34.8	37.0	33.7	28.8	26.5	31.8	33.7	28.4	18.5	24.5	28.8
Financial and insurance activities (K)	7.8	6.7	8.2	5.7	7.6	17.0	15.4	13.0	7.7	9.9	11.8
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	11.1	11.9	10.6	8.0	8.5	12.8	13.7	11.8	9.2	10.5	11.6
Accommodation and food service activities (I)	40.1	27.5	31.1	25.3	20.6	38.5	43.7	40.2	23.2	26.8	31.9
Real estate activities (L)	2.3	1.8	1.7	1.4	1.2	4.0	4.0	3.5	1.8	2.1	2.4
Public administration and defence; compulsory social security (O)	0.3	0.4	0.5	0.2	0.5	0.3	0.5	0.5	0.3	0.4	0.5
Education (P)	1.4	0.9	1.0	0.7	0.5	1.9	2.1	1.9	0.9	1.1	1.3
Human health and social work activities (Q)	0.9	0.5	0.6	0.6	0.5	1.3	1.5	1.3	0.6	0.7	0.9
Arts, entertainment and recreation (R)	7.0	5.2	5.7	5.3	4.4	12.6	13.3	11.8	7.6	9.1	10.5
Other service activities (S)	5.8	5.0	3.9	4.1	3.8	5.1	6.5	5.7	3.0	3.4	4.0
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 9 Egypt: HR Backward Linkage Index (normalized), 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.9576	0.9716	0.908	0.9337	0.9372	0.967	0.9526	0.953	0.9477	0.9508	0.9484
Telecommunications (J61)	0.9167	0.9242	0.865	0.8831	0.8755	0.8599	0.9017	0.8826	0.874	0.882	0.8847
Computer programming, consultancy, and information service activities (J62-63)	0.8476	0.7869	0.808	0.8171	0.8571	0.8189	0.8393	0.8243	0.818	0.8242	0.8262
Professional, scientific and technical activities (M)	0.8549	0.8378	0.848	0.823	0.9037	0.8331	0.8433	0.8319	0.8234	0.8309	0.8322
Administrative and support service activities (N)	0.8471	0.839	0.8625	0.8597	0.9419	0.926	0.8842	0.8662	0.8626	0.8658	0.8652
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	1.0785	1.001	1.0263	0.9577	0.9503	0.9372	0.9511	0.9515	0.9551	0.9579	0.9571
Water transport (H50)	0.9859	0.9483	0.9681	0.8585	0.9374	0.94	0.9428	0.9386	0.9438	0.9388	0.9355
Air transport (H51)	1.1877	1.1618	1.1191	1.1271	1.1077	1.108	1.1153	1.1145	1.1284	1.1298	1.1279
Warehousing and support activities for transportation (H52)	0.95	0.9221	0.9258	0.8892	0.9251	0.9217	0.9211	0.9183	0.9142	0.9194	0.919
Postal and courier activities (H53)	0.8664	0.8572	0.8311	0.8431	0.8684	0.854	0.8656	0.8644	0.8604	0.8676	0.8688
Financial and insurance activities (K)	0.7952	0.7843	0.7749	0.7623	0.7882	0.7731	0.7854	0.7821	0.7731	0.7821	0.7845
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.7939	0.8067	0.7841	0.7929	0.7879	0.8092	0.8064	0.8037	0.7949	0.803	0.805
Accommodation and food service activities (I)	1.0217	1.0207	1.0162	1.0225	1.0259	1.0426	1.0642	1.0476	1.0577	1.0643	1.0636
Real estate activities (L)	0.7733	0.809	0.7559	0.7854	0.7912	0.8099	0.7971	0.7909	0.7815	0.7905	0.7918
Public administration and defence; compulsory social security (O)	0.8761	0.8813	0.9506	0.9115	0.9384	0.8559	0.8192	0.789	0.7842	0.7921	0.7939
Education (P)	0.8126	0.809	0.785	0.7763	0.7907	0.7768	0.7958	0.7938	0.7838	0.792	0.794
Human health and social work activities (Q)	0.9302	0.9734	1.0619	1.0346	1.0203	0.943	0.935	0.9341	0.9339	0.9367	0.9401
Arts, entertainment and recreation (R)	0.8259	0.8216	0.8121	0.8013	0.9133	0.8667	0.854	0.8449	0.8208	0.8362	0.8447
Other service activities (S)	0.9177	0.9212	0.9085	0.9207	0.843	0.9072	0.8758	0.8656	0.8632	0.8704	0.8733
Activities of households as employers; undiff. goods- and services- (T)	0.7058	0.7055	0.699	0.6899	0.7119	0.7304	0.7349	0.7284	0.721	0.7303	0.7327

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 10 Egypt: HR Forward Linkage Index (normalized), 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.7935	0.7788	0.7428	0.7338	0.7324	0.8016	0.7869	0.7733	0.7644	0.7692	0.7667
Telecommunications (J61)	0.8741	0.8634	0.843	0.8132	0.8276	0.8638	0.8457	0.8469	0.8277	0.8391	0.8479
Computer programming, consultancy, and information service activities (J62-63)	1.0611	1.0805	1.0739	0.995	0.9684	1.0706	0.9965	0.9606	1.0206	1.0183	0.9661
Professional, scientific and technical activities (M)	1.1865	1.1758	1.0565	1.1315	1.119	1.3255	1.2669	1.2329	1.2586	1.2617	1.2288
Administrative and support service activities (N)	0.8767	0.8534	0.8184	0.7986	0.8555	0.8527	0.8373	0.8473	0.862	0.855	0.8547
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.9434	0.927	0.9039	0.9113	0.9116	0.9047	0.8918	0.9014	0.9262	0.8971	0.904
Water transport (H50)	1.3216	1.2907	1.2718	1.2204	1.29	1.0563	1.0313	1.0588	1.0365	1.0393	1.0403
Air transport (H51)	0.8203	0.8413	0.8687	0.8467	0.8628	0.8545	0.8519	0.8721	0.9309	0.891	0.8889
Warehousing and support activities for transportation (H52)	1.221	1.1502	1.1519	1.1878	1.21	1.1434	1.1872	1.2474	1.2805	1.2366	1.2108
Postal and courier activities (H53)	0.8495	0.8307	0.8434	0.8643	0.8994	0.8253	0.8083	0.8253	0.8257	0.8218	0.8193
Financial and insurance activities (K)	1.0619	1.0295	1.0321	0.9862	1.0054	0.9894	0.9971	1.0072	0.9861	0.9974	1.0077
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.9291	0.9051	0.9184	0.8975	0.9414	0.9501	0.9341	0.934	0.9146	0.9263	0.9332
Accommodation and food service activities (I)	0.7674	0.7463	0.7464	0.7349	0.7588	0.7665	0.7494	0.7538	0.7362	0.7352	0.7362
Real estate activities (L)	0.7381	0.7227	0.7157	0.7116	0.7257	0.7659	0.7459	0.7481	0.7366	0.7454	0.7482
Public administration and defence; compulsory social security (O)	0.7134	0.7063	0.6999	0.6938	0.7336	0.7235	0.7282	0.7309	0.7177	0.7261	0.729
Education (P)	0.7278	0.7056	0.6914	0.686	0.7037	0.7134	0.7184	0.7213	0.7094	0.7175	0.7198
Human health and social work activities (Q)	0.7126	0.6978	0.6904	0.6858	0.707	0.7166	0.7191	0.7221	0.7092	0.7174	0.7205
Arts, entertainment and recreation (R)	0.8305	0.7691	0.7486	0.7378	0.7506	0.7529	0.7508	0.7548	0.7311	0.7403	0.7447
Other service activities (S)	0.9213	0.9404	0.9245	0.9267	0.9394	0.8083	0.8213	0.821	0.8038	0.814	0.8205
Activities of households as employers; undiff. goods- and services- (T)	0.7019	0.6883	0.6853	0.6801	0.6984	0.7091	0.7116	0.7144	0.7025	0.7103	0.7129

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 11 Egypt: Employment Multipliers, 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.048	0.051	0.0311	0.0323	0.0374	0.0307	0.0297	0.0272	0.0218	0.0209	0.0224
Telecommunications (J61)	0.0191	0.0195	0.0202	0.0215	0.0247	0.027	0.0257	0.0207	0.0177	0.0176	0.0211
Computer programming, consultancy, and information service activities (J62-63)	0.0257	0.0215	0.032	0.0348	0.0418	0.0422	0.0451	0.0354	0.0275	0.031	0.0384
Professional, scientific and technical activities (M)	0.0565	0.0564	0.0557	0.0572	0.0695	0.0646	0.0674	0.0593	0.0542	0.0535	0.0647
Administrative and support service activities (N)	0.0359	0.0353	0.0328	0.0391	0.0455	0.0507	0.0475	0.045	0.0402	0.0366	0.0472
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.1386	0.1351	0.1155	0.1262	0.1428	0.1727	0.1625	0.1381	0.1306	0.1228	0.1465
Water transport (H50)	0.0126	0.0057	0.0076	0.0048	0.0071	0.006	0.0047	0.0051	0.0041	0.0033	0.004
Air transport (H51)	0.0203	0.0166	0.0116	0.0133	0.0116	0.0197	0.0145	0.013	0.0127	0.0106	0.0104
Warehousing and support activities for transportation (H52)	0.013	0.0147	0.0139	0.0116	0.0137	0.015	0.0154	0.0124	0.0139	0.0123	0.0142
Postal and courier activities (H53)	0.0929	0.1101	0.0745	0.0817	0.083	0.0933	0.0944	0.0763	0.0675	0.0631	0.0796
Financial and insurance activities (K)	0.0189	0.0154	0.0131	0.0122	0.0191	0.0201	0.0152	0.0134	0.0107	0.0115	0.0135
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.0668	0.0709	0.062	0.069	0.0776	0.097	0.0987	0.0832	0.0773	0.0723	0.0837
Accommodation and food service activities (I)	0.0576	0.0606	0.0534	0.0683	0.07	0.0891	0.0881	0.0783	0.0816	0.0744	0.0882
Real estate activities (L)	0.0049	0.0073	0.0046	0.0061	0.0078	0.0106	0.0052	0.0045	0.0044	0.0041	0.0046
Public administration and defence; compulsory social security (O)	0.1111	0.1127	0.1092	0.0936	0.1006	0.1442	0.1273	0.1003	0.0888	0.0737	0.0852
Education (P)	0.1536	0.1564	0.1665	0.1559	0.1808	0.2517	0.199	0.1473	0.1335	0.1223	0.1385
Human health and social work activities (Q)	0.0707	0.068	0.0676	0.0797	0.092	0.103	0.0962	0.08	0.0748	0.0708	0.0786
Arts, entertainment and recreation (R)	0.0419	0.0378	0.0357	0.0342	0.0372	0.0531	0.0493	0.0373	0.0371	0.0398	0.0439
Other service activities (S)	0.1038	0.1138	0.0756	0.0997	0.1239	0.149	0.1337	0.1133	0.1006	0.0891	0.1012
Activities of households as employers; undiff. goods- and services- (T)	1.1759	2.5233	2.5754	2.1365	2.1393	2.1582	1.9705	1.03	0.635	0.7164	0.8914

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 12 Egypt: Foreign value added in gross exports (EXGR_FVA; % of gross exports), 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	9.9	9.8	11.7	7.6	6.5	8.7	7.2	6.2	5.6	6.1	6.4
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	10.7	9.2	10.5	7.1	7.0	7.3	7.8	7.1	6.0	6.7	7.2
Telecommunications (J61)	11.1	9.5	13.2	6.7	7.1	8.4	6.2	4.9	4.2	4.4	4.5
Computer programming, consultancy, and information service activities (J62-63)	5.9	10.9	10.8	9.3	5.4	10.3	8.4	6.7	5.9	6.3	6.4
Professional, scientific and technical activities (M)	5.3	6.0	5.3	5.5	5.7	4.3	5.5	4.7	3.9	4.1	4.3
Administrative and support service activities (N)	5.0	5.2	4.0	6.5	5.1	3.9	5.5	4.5	3.3	4.0	4.4
Enabling Services											
Transportation and storage (H)	7.4	9.8	7.3	7.5	6.0	6.9	6.2	5.7	4.1	5.2	5.9
Land transport and transport via pipelines (H49)	10.0	7.4	9.2	5.9	5.6	8.5	5.9	5.2	3.3	4.3	4.9
Water transport (H50)	11.4	16.8	10.2	11.6	9.5	11.4	8.6	8.2	6.2	8.0	8.9
Air transport (H51)	9.5	9.2	8.9	7.6	7.5	8.4	9.0	7.7	4.8	6.3	7.5
Warehousing and support activities for transportation (H52)	4.2	7.4	5.0	5.9	4.2	3.9	4.5	4.2	3.2	3.8	4.2
Postal and courier activities (H53)	2.1	5.8	4.9	4.4	3.0	5.3	3.9	3.5	2.6	3.0	3.2
Financial and insurance activities (K)	3.3	3.8	1.3	2.5	1.6	2.1	2.0	1.8	1.4	1.5	1.6
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	4.9	3.5	4.7	3.1	3.8	3.0	2.3	2.2	1.7	1.9	2.0
Accommodation and food service activities (I)	7.8	7.3	8.4	7.1	6.8	9.7	8.9	7.4	6.3	7.0	7.5
Real estate activities (L)	4.8	1.9	4.1	1.7	3.4	1.6	1.3	1.1	0.8	0.9	1.0
Public administration and defence; compulsory social security (O)	4.0	5.7	3.6	5.9	3.4	4.6	2.8	1.7	1.4	1.6	1.7
Education (P)	2.4	2.8	1.6	2.1	1.7	1.8	1.8	1.7	1.3	1.5	1.6
Human health and social work activities (Q)	6.4	8.7	8.5	9.9	6.3	11.0	7.4	6.4	5.6	6.3	6.3
Arts, entertainment and recreation (R)	3.1	2.7	2.1	2.6	4.8	3.3	3.6	3.0	2.1	2.6	2.9
Other service activities (S)	7.4	6.8	8.3	6.3	5.0	6.9	5.0	4.0	3.4	3.7	3.7
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 13 Egypt: Domestic value added in foreign gross exports (FEXGR_DVA; % of value-added), 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)	0.47	0.482	0.541	0.653	0.592	0.52	0.57	0.646	0.738	0.787	0.886
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.109	0.112	0.127	0.133	0.137	0.109	0.107	0.158	0.215	0.215	0.245
Telecommunications (J61)	0.101	0.103	0.103	0.113	0.098	0.08	0.078	0.082	0.077	0.089	0.103
Computer programming, consultancy, and information service activities (J62-63)	0.26	0.268	0.31	0.406	0.357	0.331	0.386	0.406	0.446	0.483	0.537
Professional, scientific and technical activities (M)	0.3	0.323	0.369	0.391	0.376	0.334	0.348	0.384	0.402	0.439	0.562
Administrative and support service activities (N)	0.291	0.311	0.325	0.337	0.315	0.302	0.282	0.315	0.266	0.293	0.392
Enabling Services											
Transportation and storage (H)	5.768	5.821	6.362	6.714	6.155	5.52	5.535	5.823	5.193	6.102	6.275
Land transport and transport via pipelines (H49)	0.607	0.63	0.622	0.607	0.599	0.642	0.639	0.646	0.561	0.67	0.824
Water transport (H50)	3.57	3.749	4.197	4.476	3.98	3.46	3.519	3.753	3.428	4.017	3.768
Air transport (H51)	1.159	0.984	1.025	1.043	1.01	0.917	0.866	0.891	0.568	0.681	0.889
Warehousing and support activities for transportation (H52)	0.393	0.419	0.473	0.548	0.531	0.464	0.46	0.478	0.577	0.675	0.734
Postal and courier activities (H53)	0.039	0.039	0.044	0.041	0.037	0.037	0.051	0.054	0.059	0.059	0.06
Financial and insurance activities (K)	0.242	0.252	0.277	0.313	0.294	0.306	0.299	0.339	0.319	0.328	0.379
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	1.646	1.728	1.838	1.81	1.617	1.555	1.512	1.522	1.469	1.612	1.94
Accommodation and food service activities (I)	0.303	0.33	0.328	0.355	0.383	0.348	0.352	0.392	0.206	0.271	0.432
Real estate activities (L)	0.022	0.022	0.022	0.026	0.027	0.025	0.025	0.029	0.019	0.023	0.029
Public administration and defence; compulsory social security (O)	0.009	0.008	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.01	0.013
Education (P)	0.022	0.023	0.023	0.023	0.024	0.024	0.025	0.029	0.016	0.017	0.024
Human health and social work activities (Q)	0.014	0.015	0.016	0.016	0.018	0.016	0.017	0.019	0.009	0.01	0.015
Arts, entertainment and recreation (R)	0.048	0.052	0.055	0.06	0.066	0.062	0.059	0.08	0.06	0.061	0.079
Other service activities (S)	0.016	0.017	0.018	0.018	0.019	0.017	0.017	0.019	0.009	0.012	0.02
Activities of households as employers; undiff. goods- and services- (T)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 14 Egypt: Value-Added Multipliers, 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.8927	0.9136	0.9028	0.9318	0.9363	0.9277	0.9208	0.9273	0.9376	0.9298	0.9247
Telecommunications (J61)	0.8901	0.9112	0.874	0.9361	0.9323	0.9145	0.9365	0.95	0.9565	0.9537	0.9534
Computer programming, consultancy, and information service activities (J62-63)	0.9417	0.892	0.8959	0.9088	0.9495	0.8958	0.9149	0.9315	0.9398	0.9357	0.9347
Professional, scientific and technical activities (M)	0.9481	0.9435	0.9487	0.9471	0.944	0.9571	0.9441	0.9513	0.9599	0.957	0.9552
Administrative and support service activities (N)	0.9535	0.953	0.9635	0.9395	0.9539	0.9631	0.943	0.9528	0.964	0.957	0.9532
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.9338	0.9623	0.9393	0.9675	0.962	0.9309	0.9326	0.9398	0.957	0.9466	0.94
Water transport (H50)	0.8967	0.8433	0.9102	0.8905	0.9257	0.9079	0.9141	0.9171	0.9373	0.9193	0.9108
Air transport (H51)	0.9764	0.9688	0.9616	0.9712	0.961	0.9365	0.912	0.9235	0.9524	0.9366	0.9245
Warehousing and support activities for transportation (H52)	0.9664	0.9339	0.9562	0.9455	0.9606	0.9638	0.9529	0.9562	0.9659	0.959	0.9546
Postal and courier activities (H53)	0.9808	0.9509	0.9529	0.9628	0.9697	0.9473	0.9581	0.9616	0.9706	0.9669	0.9648
Financial and insurance activities (K)	0.9688	0.9632	0.9876	0.9759	0.985	0.9793	0.9795	0.9816	0.9855	0.984	0.9831
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.9561	0.9697	0.9583	0.9728	0.9663	0.9714	0.9755	0.9773	0.9816	0.9793	0.9781
Accommodation and food service activities (I)	0.9427	0.9521	0.9335	0.9424	0.9454	0.9146	0.9096	0.922	0.9299	0.9225	0.9167
Real estate activities (L)	0.9515	0.9829	0.9592	0.9847	0.9664	0.9833	0.9864	0.9886	0.9913	0.9899	0.989
Public administration and defence; compulsory social security (O)	0.9681	0.9536	0.9914	0.9518	0.9744	0.9546	0.971	0.9819	0.9847	0.9826	0.9814
Education (P)	0.9787	0.9785	0.9881	0.9833	0.9854	0.9822	0.9809	0.9822	0.9859	0.9839	0.9829
Human health and social work activities (Q)	0.9408	0.9253	0.9268	0.9108	0.9422	0.8871	0.9305	0.9362	0.9428	0.9348	0.9348
Arts, entertainment and recreation (R)	0.9751	0.9789	0.986	0.9775	0.9651	0.969	0.9626	0.9683	0.9774	0.9723	0.9688
Other service activities (S)	0.9314	0.9412	0.9244	0.9423	0.9504	0.9335	0.9478	0.957	0.9629	0.9596	0.9591
Activities of households as employers; undiff. goods- and services- (T)	1	1	1	1	1	1	1	1	1	1	1

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 15 Egypt: Labor Income Share (of value added), 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.3222	0.3187	0.3097	0.3883	0.3916	0.1103	0.104	0.1055	0.121	0.1187	0.1268
Telecommunications (J61)	0.3211	0.3473	0.3794	0.4026	0.3638	0.352	0.3362	0.3305	0.3397	0.3654	0.3821
Computer programming, consultancy, and information service activities (J62-63)	0.1664	0.1617	0.1537	0.1394	0.0948	0.0683	0.0634	0.0629	0.0709	0.0741	0.0788
Professional, scientific and technical activities (M)	0.1886	0.1978	0.2069	0.2212	0.1908	0.1024	0.0942	0.0942	0.1075	0.1061	0.1105
Administrative and support service activities (N)	0.1422	0.1547	0.1685	0.1801	0.1539	0.1437	0.133	0.1325	0.1562	0.1527	0.1561
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.3933	0.405	0.4164	0.419	0.3564	0.3331	0.3184	0.3218	0.3487	0.3577	0.3629
Water transport (H50)	0.1881	0.1898	0.2027	0.1633	0.0963	0.0389	0.0412	0.0364	0.0383	0.0437	0.0393
Air transport (H51)	0.1634	0.1772	0.1926	0.2034	0.1738	0.1682	0.1542	0.1597	0.154	0.173	0.1806
Warehousing and support activities for transportation (H52)	0.1134	0.1107	0.1075	0.1165	0.1	0.0984	0.0911	0.0931	0.1101	0.1092	0.1075
Postal and courier activities (H53)	0.6767	0.7029	0.7258	0.5875	0.3875	0.1	0.0863	0.0801	0.0944	0.0931	0.0896
Financial and insurance activities (K)	0.3838	0.3764	0.362	0.3781	0.3309	0.0893	0.0822	0.0819	0.0917	0.0913	0.0883
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.1102	0.1214	0.1341	0.1441	0.123	0.1261	0.1156	0.1189	0.1385	0.1315	0.1358
Accommodation and food service activities (I)	0.1627	0.173	0.1844	0.1974	0.1738	0.267	0.2549	0.2534	0.299	0.3021	0.2974
Real estate activities (L)	0.0253	0.0253	0.025	0.0276	0.0238	0.0186	0.0181	0.0178	0.0183	0.0179	0.0199
Public administration and defence; compulsory social security (O)	0.8375	0.8426	0.8506	0.8535	0.8347	0.8292	0.8168	0.8113	0.8286	0.8359	0.8257
Education (P)	1.0735	1.1058	1.1667	1.2195	1.2269	1.1895	1.098	1.043	1.1635	1.1801	1.15
Human health and social work activities (Q)	0.4437	0.4835	0.5216	0.5015	0.4115	0.1056	0.0983	0.0979	0.1097	0.11	0.1144
Arts, entertainment and recreation (R)	0.6544	0.6755	0.7006	0.7311	0.7131	0.0662	0.064	0.0589	0.0784	0.0766	0.0698
Other service activities (S)	0.2502	0.2591	0.2674	0.2598	0.2016	0.0919	0.0874	0.0844	0.1011	0.0981	0.1063
Activities of households as employers; undiff. goods- and services- (T)	1	1	1	1	1	1	1	1	1	1	1

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

Table 16 Egypt: Labor Income Multipliers, 2012-2022

Service classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services											
Information and communication (J)											
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.287	0.2705	0.2857	0.3206	0.3544	0.1155	0.1055	0.1078	0.1247	0.122	0.1276
Telecommunications (J61)	0.283	0.2988	0.3067	0.3531	0.3191	0.2894	0.293	0.2944	0.3059	0.3268	0.3409
Computer programming, consultancy, and information service activities (J62-63)	0.1742	0.1493	0.1435	0.1389	0.1034	0.0717	0.0662	0.0665	0.0755	0.0776	0.0815
Professional, scientific and technical activities (M)	0.1865	0.1903	0.2006	0.2104	0.1824	0.1062	0.0933	0.0938	0.1078	0.1062	0.1101
Administrative and support service activities (N)	0.1467	0.1538	0.1683	0.1734	0.1513	0.136	0.1266	0.1275	0.1501	0.1458	0.1478
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.2953	0.3203	0.3104	0.3382	0.2876	0.2729	0.2568	0.2599	0.2874	0.2916	0.2936
Water transport (H50)	0.1892	0.1541	0.1944	0.1429	0.0994	0.0408	0.0438	0.0404	0.0453	0.0473	0.0423
Air transport (H51)	0.1549	0.1484	0.1565	0.1665	0.1431	0.1423	0.1194	0.1245	0.1308	0.1387	0.1401
Warehousing and support activities for transportation (H52)	0.1208	0.1153	0.118	0.1197	0.109	0.0983	0.0899	0.0915	0.1092	0.107	0.1045
Postal and courier activities (H53)	0.6112	0.5971	0.6318	0.508	0.3655	0.1027	0.0875	0.0829	0.0987	0.0973	0.0944
Financial and insurance activities (K)	0.3649	0.3551	0.3548	0.3621	0.3208	0.0901	0.0826	0.0825	0.0926	0.0921	0.0894
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.1122	0.1252	0.1318	0.146	0.1189	0.1237	0.1133	0.1165	0.1365	0.1296	0.1332
Accommodation and food service activities (I)	0.1599	0.1748	0.1702	0.1957	0.1595	0.2139	0.2016	0.2044	0.2378	0.2393	0.2365
Real estate activities (L)	0.0359	0.0495	0.0351	0.0542	0.038	0.0318	0.0256	0.0251	0.0269	0.0265	0.028
Public administration and defence; compulsory social security (O)	0.7216	0.7036	0.7089	0.6801	0.6985	0.7111	0.7422	0.7597	0.7767	0.7832	0.7734
Education (P)	0.9741	1.0014	1.081	1.1175	1.1352	1.1264	1.0265	0.9731	1.0905	1.1059	1.078
Human health and social work activities (Q)	0.3718	0.3827	0.3693	0.3678	0.314	0.1078	0.1012	0.1019	0.1155	0.1147	0.1191
Arts, entertainment and recreation (R)	0.5993	0.621	0.6458	0.6676	0.5971	0.0816	0.0696	0.0653	0.084	0.0824	0.0766
Other service activities (S)	0.2246	0.2398	0.2343	0.2402	0.1893	0.0974	0.0899	0.0882	0.1055	0.1023	0.1091
Activities of households as employers; undiff. goods- and services- (T)	1	1	1	1	1	1	1	1	1	1	1

Source: Author's calculations from OECD (2025), "Trade in Value Added (TiVA)", https://stats.oecd.org (accessed April 12, 2026).

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