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RESEARCH PAPER

MOROCCO'S SERVICES-LED DEVELOPMENT

Scaling Quality into Economic Momentum

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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. All three are middle-income economies, all have large services sectors accounting for 55% to 61% of GDP, and all are geographically and institutionally positioned for deep integration with the European single market. 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 is particularly notable: its export orientation places Morocco at the upper end of the EU15 distribution for this sub-sector, outperforming most mature European digital economies rather than merely matching them. 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

Among the three North African economies examined in this series, Morocco offers the most analytically striking structural paradox: it has built knowledge services sub-sectors that achieve world-class export performance comparable to or exceeding EU15 benchmarks, yet these sub-sectors remain too small to reshape the overall economy. Drawing on OECD databases for 2012–2022, this paper assesses Morocco's services-led transformation through a framework that distinguishes between knowledge services (KS), enabling services (ES), and local services (LS). While services account for close to 56% of Morocco's GDP, the central issue is no longer the size of the sector but its internal composition and quality. Rather than relying primarily on low-productivity local services to absorb labor, Morocco has successfully developed high-performing segments of knowledge and logistics services that are genuinely integrated into global markets.

A defining strength of Morocco's model is what can be described as 'dual integration' in global value chains (GVCs). Unlike many developing countries that participate either upstream as raw input suppliers or downstream as assemblers, Morocco has achieved a more balanced form of integration in its leading service sectors. On the input side, its KS actively import specialized foreign inputs, including software, technical expertise, and consulting frameworks, thereby enhancing their own productivity and export capacity. On the output side, these same sectors are embedded in foreign production systems, supplying high-value services that are used in other countries' exports. This two-way integration of learning from abroad while simultaneously contributing to global production closely resembles the structural pattern observed in advanced economies.

The quality of Morocco's transformation is most clearly illustrated in two key sub-sectors: information technology and professional services. The IT and computer programming sector has emerged as a globally competitive export engine, with roughly 88%–93% of its output directed to foreign markets. This ratio places Morocco at the upper end of the EU15 distribution for this sub-sector, not below it. Anchored in hubs such as the Casablanca nearshore ecosystem, this sector operates not as a domestic support activity but as an outward-oriented, internationally competitive industry. Yet it achieves this at a GDP share of only about 0.5%—world-class concentration of export quality without the mass to drive structural transformation. Professional and technical services tell a different but equally striking story: their forward integration into foreign markets has rose by 24 percentage points from 2012 to 2022, crossing into the EU15 range by the end of that decade—the most dynamic KS trajectory in the regional dataset. Despite this performance, professional services remain at roughly 3% of GDP, still short of the scale at which spillovers become self-reinforcing. This is the central constraint Morocco faces: excellence at the micro level has not yet translated into sufficient scale at the macro level.

In contrast to the enclave dynamics observed in some countries, Morocco's administrative and support services sector plays a more integrated role within the domestic economy. This sector, which includes business process outsourcing and related activities, is simultaneously oriented toward foreign markets and deeply embedded in local production networks. It provides essential services to domestic industries while also

generating foreign exchange through exports. It thus acts as a conduit for spillovers across sectors, making it a particularly important component of Morocco's development model, and a template for other service industries.

Morocco's ES, especially in transport and logistics, further reinforce this integrated structure. Anchored by the Tanger Med port and associated infrastructure, these services go beyond simply extracting geographic rent from transit activity. Instead, they are closely linked to industrial supply chains, particularly in sectors such as automotive and aerospace. The logistics system relies heavily on imported inputs and services from international partners, which in turn supports high-value re-exports and domestic value creation. In this sense, Morocco has succeeded in transforming its geographic position into a platform for value-chain participation, rather than merely a source of passive income.

Despite these strengths, the aggregate performance of the Moroccan economy over the past decade reveals a degree of structural stagnation. The overall share of KS in GDP has remained flat, and the gap with advanced economies such as the EU15 remains substantial. This suggests that the high-performing sectors have not yet reached a critical mass capable of reshaping the broader economy. Much of the labor released from agriculture continues to be absorbed into local services, which are typically less productive and less connected to global markets. As a result, the transformative potential of the knowledge economy remains only partly realized.

A related concern is the growing role of the public sector within LS. Public administration has expanded steadily and now represents a significant share of GDP. While this may contribute to social stability, it generates little foreign exchange and has limited linkages with knowledge-intensive sectors. There is a risk that this expansion diverts both fiscal resources and skilled labor away from the sectors that are most critical for long-term growth, thereby holding back the scaling of the knowledge economy.

Morocco's challenge is no longer to identify the right sectors, but to scale them. Morocco has already demonstrated that it can develop globally competitive service industries and integrate them effectively into both domestic and international markets. What is now required is a coordinated effort—a 'big push'—to expand these high-performing nodes into a broader, economy-wide system. This involves deepening the digital and nearshore ecosystem, strengthening the links between internationally oriented professional services and domestic production, and ensuring that non-productive sectors do not crowd out investment and talent. If these elements can be brought together, Morocco has the potential to convert its localized successes into a self-sustaining engine of growth, and to move decisively toward high-income status.

POLICY CENTER FOR THE NEW SOUTH

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

This paper is the second in a series examining services-led development and global value chain (GVC) integration in the Global South. It applies a three-category analytical framework covering knowledge services (ICT and professional business services), enabling services (transport, logistics, and finance), and local services (retail, hospitality, health, and personal services), to OECD Trade in Value Added indicators. The paper thus provides a structural assessment of Morocco's services sector over 2012–2022, benchmarked against the EU15.

Morocco emerges as the most structurally advanced of the three North African economies examined in this series. Its computer programming and IT services sub-sector has achieved a degree of international market orientation that is the highest in the regional sample and broadly comparable to EU15 levels. This reflects the Casablanca nearshore ecosystem's deep integration with European client markets. Professional and technical services show the most dynamic trajectory in the regional dataset; forward integration into international markets rose steadily and substantially over the decade. The administrative and support services sector stands out for combining strong domestic supply chain embedding with growing international orientation simultaneously, a dual character that makes it the most structurally versatile knowledge services sub-sector in the study. Enabling services, anchored by the Tanger Med port complex, exhibit authentic GVC integration through deep assembly-and-re-export operations, with import content growing markedly over time. The paper further shows that Morocco's most competitive knowledge services sub-sectors—computer programming, professional services, and administrative services—have reached or exceeded EU15 levels of bilateral GVC embeddedness measured by both input sourcing and upstream positioning, making Morocco the only economy in the North African dataset that has crossed this threshold.

The central conclusion is that Morocco's structural challenge is scale rather than quality. Morocco's leading knowledge services sub-sectors are internationally competitive but collectively too small to generate the spillovers and employment effects that self-reinforcing convergence requires. The big-push logic of this series' Framework Paper applies directly: Morocco possesses the quality foundations of a knowledge economy but has not yet reached the critical mass at which knowledge services spillovers become self-sustaining. The evidence supports a structural policy agenda of deliberate scaling of IT and professional services, combined with containment of a rising public administration share, which risks crowding out productive investment.

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1. INTRODUCTION AND COUNTRY 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 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 services sub-sectors possess the structural characteristics required to generate sustained productivity growth, foreign exchange earnings, and 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. It departs from the traditional view in development economics that treats services as a residual sector that absorbs labor released from agriculture and manufacturing. Instead, it argues that structural transformation in the contemporary global economy increasingly requires a more differentiated understanding of services, particularly in light of technological change, automation, and the declining labor-absorption capacity of manufacturing.

The analytical framework underpinning this series classifies services into three categories: knowledge services (KS), enabling services (ES), and local services (LS). The initial justification 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 services activities contribute equally to growth and convergence.

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

This empirical validation is critical. It demonstrates that the KS–ES–LS taxonomy is not an arbitrary or purely conceptual classification, but 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: GVC participation (EXGR_DVA, EXGR_FVA, FFD_DVA, and FEXGR_DVA), domestic production linkages (shares of GDP, Hirschman–Rasmussen backward and forward indices), employment structure and external demand linkages (employment shares for broad sectors and

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.

for detailed services, EXGR_DEM, and FFD_DEM), and productivity and employment impact (value added per worker and employment multipliers). Taken together, they provide a comprehensive and internally consistent system for evaluating how different services sub-sectors contribute to growth, employment, and structural transformation. Annex 1 provides a summary of these indicators.

Within this framework, 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. 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. 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 GVCs.

The full set of sixteen indicators is available at the series level, data availability differs across countries. For Morocco, employment-based indicators derived from TiM are now available from the 2025 edition of the OECD TiM database and are incorporated in sections 12 and 13 of this paper.

The Country Studies: North Africa

This paper applies the framework to Morocco and is the second in the series and the first of three country studies covering North African economies. Companion papers apply the same framework to Tunisia and Egypt, allowing both country-specific analysis and structured regional comparison.

The three North African economies were selected for analytically specific reasons. All are middle-income countries seeking to escape the middle-income trap and achieve sustained convergence toward high-income status. All are geographically and institutionally positioned for deep integration with the European single market, making services-led export strategies particularly relevant. All have large services sectors—accounting for 55%-61% of GDP—so the key policy question is not whether to develop services, but which services to prioritize and how.

At the same time, the three countries display distinct structural configurations in terms of knowledge, enabling, and local services, as well as different trajectories of GVC integration. This variation makes comparative analysis particularly informative, allowing the framework to distinguish between common structural constraints and country-specific opportunities.

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 KS 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 GVCs—particularly forward integration into foreign final demand—will be limited. Meanwhile, ES are expected to be relatively well developed as facilitators of trade and production, while LS 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

Morocco and identifies deviations that may signal either emerging strengths or structural constraints. Particular attention is given to the internal composition of KS, the balance between domestic embedding and international orientation, and the interaction between services sectors and broader structural conditions.

By combining value-added and input–output indicators within a unified framework, the analysis provides a multidimensional assessment of Morocco's services sector, and identifies the policy priorities required to support a transition toward a more productive, export-oriented, and structurally transformative services economy.

2. THE FOUR ASSESSMENT INDICATOR GROUPS

The series' analytical framework organizes its indicators into four groups: GVC participation and value-added trade structure, domestic production linkages, employment structure and external demand linkages, and productivity and employment impact. The aim is to read each country's services sector as a structural whole, rather than as a collection of individual sector results. Before starting the detailed indicator analysis, it is worth sketching the broad picture that emerges when Morocco's data are viewed through this lens, since the aggregate pattern carries analytical weight that might not be evident from the sector-by-sector discussion.

The first and most important structural finding concerns GVC participation. Morocco's services sector is not uniformly integrated into GVCs, nor is it uniformly absent from them. Its KS sub-sectors—software and IT services, professional and technical services, and administrative and business support—have achieved a degree of forward integration into foreign final markets that is genuinely remarkable for an economy at Morocco's income level, with the most internationally oriented sub-sector performing at levels that compare favorably with mature EU15 digital exporters. Its ES transport complex, anchored by the Tanger Med port and the country's aviation hub, presents the complementary picture of deep input-side integration, drawing heavily on internationally sourced cargo and intermediate services in a manner that reflects authentic participation in global automotive and logistics supply chains. The two integration profiles are structurally different, but they are both real. Taken together they make Morocco's GVC footprint considerably more advanced than the other North African economies in this series.

The foreign input content of exports (EXGR_FVA) and the upstream GVC participation indicator (FEXGR_DVA) provide the most direct empirical confirmation of Morocco's dual integration. Over the decade 2012 to 2022, Morocco's KS sectors converged toward or exceeded EU15 levels of foreign input sourcing: professional services reached the EU15 benchmark, administrative services surpassed it, and computer programming continues to close the gap, demonstrating that Morocco's most competitive KS sectors are simultaneously export-oriented and internationally embedded on the input side. Morocco's computer and information services also exceed the EU15 average on upstream GVC participation, meaning they are embedded as productive intermediate inputs in other economies' export chains at a depth that surpasses the European benchmark. Transport presents the expected extreme: water and air transport import the overwhelming majority of their operational inputs from European Union supply chains, a structural feature of Morocco's role as a GVC host, rather than a weakness. Across KS, Morocco is the only economy in the North African dataset for which both input-side integration and upstream positioning are converging toward—and in several sectors already matching—the EU15 standard.

The second structural finding is one of scale and composition. Despite the quality of its leading sub-sectors, Morocco's KS aggregate did not grow its share of the economy over the period studied (2012-2022). The

structural gap with the EU15, where KS account for a substantially larger and growing share of GDP, has not narrowed. Local services remain dominant, and within them the least tradable and least productivity-generating component has been quietly expanding its footprint. The domestic production linkage evidence reinforces this reading: Morocco's economy is becoming more internally integrated through its distribution networks and port infrastructure, but the professional and knowledge-intensive sectors that should eventually become the primary domestic supply chain nodes are not yet playing that role at the requisite scale.

The third and fourth structural indicator groups—employment structure and productivity—are now available for Morocco from the 2025 OECD Trade in Employment (TiM) database, and are incorporated in sections 12 and 13 of this paper. This represents a significant expansion of the analytical base. What the first two structural groups establish is sufficient for the paper's core diagnostic: Morocco possesses the sub-sectoral quality foundations of a knowledge economy, but has not yet achieved the breadth and scale at which KS spillovers become self-reinforcing. The employment and productivity evidence, examined in sections 12 and 13, corroborates and sharpens this conclusion: Morocco's KS sectors are extraordinarily productive per worker but employ a vanishingly small share of the labour force, confirming the scale-insufficiency diagnosis in the sharpest possible terms. The sections that follow trace this finding through each indicator group in turn.

3. SECTORAL COMPOSITION OF GDP: KNOWLEDGE SERVICES

Table 1 in Annex 2 reveals that Morocco's KS sector accounted for approximately 10.3% of GDP in 2012, a figure that places it well above Egypt's 6.1% starting point, and slightly behind Tunisia's 10.7%. Across the eleven-year period, this share drifted modestly downward to approximately 9.7% by 2022, a trajectory paralleling Tunisia's decline but from a different structural composition, and for different sector-specific reasons. The headline movement conceals divergent trends within KS that carry distinct analytical weight.

The dominant driver of KS contraction is the J sector—ICT in aggregate—with a GDP share that fell from 3.46% in 2012 to 2.76% in 2022. This decline was almost entirely driven by telecommunications (J61), which retreated from 2.63% to 1.92% of GDP over the period, a substantial proportional reduction reflecting the global pattern of telecom revenue compression under competition from internet-based communication and the maturing of mobile markets. Within J, the computer programming and information services subsector (J62–63) moved in the opposite direction: its share remains near 0.47%-0.50% for most of the decade before rising slightly to 0.55% by 2022, a trajectory that is modest in GDP-share terms, but analytically significant given the sector's exceptional performance on the GVC integration indicators examined in later sections. The rise in J62–63's share, however modest, is the within-KS structural shift that runs counter to the downward trend of the aggregate.

Professional, scientific, and technical activities (M) remained remarkably stable at approximately 3.13%–3.26% of GDP throughout the period, exhibiting no significant upward or downward trend. This stability is analytically ambiguous: it could reflect a sector that has reached a stable equilibrium share in the domestic economy, or one that is expanding at the same pace as overall GDP, without generating the accelerating structural transformation that convergence theory predicts. The data

alone cannot resolve this ambiguity, but the sector's performance on GVC forward integration (section 8) provides important additional evidence.

Administrative and support services (N) is the one component of KS that shows a sustained, if modest, upward structural movement: its GDP share rose from 3.56% in 2012 to 3.92% in 2019 before partially receding to 3.77% by 2022. The rise through 2019 reflected the expansion of Morocco's BPO sector, call-center operations, facilities management, and business-support services, many of which are embedded in the domestic economy as inputs to other sectors, while also serving European clients through remote service delivery. The post-2019 partial retreat, concentrated in 2020, reflected the pandemic disruption to contact-center operations and cross-border business services, followed by incomplete recovery. At 3.77% by 2022, N remains the largest single component of Morocco's KS sector, and the one most clearly on an upward structural trend over the full period.

Benchmarked against the EU15, Morocco's KS share of approximately 10% must be evaluated against the EU15 range of 15% to 17%, maintained throughout the comparison period. Morocco did not close this gap over 2012–2022; if anything, the slight downward drift in KS share widened it marginally. This is the primary structural failure signal in Morocco's GDP composition data: the country has built internationally competitive KS sub-sectors, without generating sufficient scale and breadth in the aggregate KS category to shift the economy's structural center of gravity. The transition from ES-supported growth to KS-led growth remains incomplete.

4. SECTORAL COMPOSITION OF GDP: ENABLING SERVICES

Morocco's ES sector is structured quite differently from either Egypt's or Tunisia's, a reflection of the country's distinctive physical and financial geography. The sector's GDP share rose from 8.26% in 2012 to a peak of approximately 9.27% in 2016, easing to 9.22% in 2019, before dropping to 8.14% in 2022, a trajectory shaped by competing forces in the two sub-components: transportation and storage on one hand, and financial and insurance services on the other.

Transportation and storage (H) was responsible for most of the cyclical variation. Its GDP share rose from 3.27% in 2012 to a peak of 4.59% in 2016—a substantial structural expansion—before moderating to 4.55% in 2019 and retreating to 3.48% in 2022. The expansion phase largely tracked Morocco's deepening integration into international logistics networks, centered on Tanger Med's growth as an automotive supply chain hub, and the expansion of Royal Air Maroc's regional connections. The post-2019 retreat reflected both COVID-19's severe impact on air travel and shipping volumes, and, in the case of water transport, a more fundamental shift in global maritime routing. The H50 (water transport) sub-sector's GDP share collapsed from 0.17% in 2017 to essentially zero by 2022—a striking contraction corroborated by the EXGR_DVA evidence discussed in section 7 and warranting further investigation. Land transport (H49) followed a similar cyclical pattern, expanding from 1.88% to 2.83% between 2012 and 2016, before dropping to 1.99% by 2022.

Financial and insurance activities (K) tell a structurally different story: a slow, secular decline from 4.99% of GDP in 2012 to 4.66% by 2022, interrupted only temporarily during 2016–2017. This contrasts with the rising financial services shares seen in Tunisia over the same period, and suggests that Morocco's financial sector, while large relative to its peers in absolute terms—anchored by Casablanca Finance City and the pan-African expansion of Attijariwafa Bank and Banque Centrale Populaire—is not deepening

its domestic value-added footprint at a pace that exceeds overall economic growth. The financial sector remained Morocco's larger ES component throughout the period, but its structural weight is declining. Whether this reflects financial deepening that shifts value creation to the real sectors it finances, or a more fundamental constraint on financial sector development, requires deeper analysis and cannot be inferred from the data at hand.

The EU15 benchmark for EU (Table 3, the Framework Paper) shows a different structural profile: financial services are large and stable, while transportation reflects the EU's complex intra-continental logistics system. Morocco's ES, at 8%–9% of GDP, is broadly comparable in aggregate to middle-tier EU15 members. However, the composition, which is still heavily weighted toward transportation rather than finance, reflects an economy in which logistics infrastructure has grown faster than financial intermediation depth. Tanger Med is a genuine structural asset, but it primarily serves GVC clients, rather than generating broadly distributed domestic value-added, a distinction the GVC integration analyses in sections 7 and 8 make precise.

5. SECTORAL COMPOSITION OF GDP: LOCAL SERVICES

Morocco's LS accounted for approximately 37%–39% of GDP throughout the 2012–2022 period, with a composition dominated by three categories: wholesale and retail trade (G) at 8.7%–9.2%, public administration (O) rising from 9.75% to 10.78%, and education (P) declining from 8.33% to 7.80%. Together these three sub-sectors account for roughly 70% of the LS total, and exhibit structural trends that are mixed at best.

The expansion of public administration from 9.75% in 2012 to 10.08% in 2019, and 10.78% by 2022, was the most structurally concerning trend in Morocco's local services profile. Unlike in Tunisia, where the post-revolution political economy drove a very deliberate expansion of public sector employment as a social-stabilization mechanism, Morocco's public administration growth has been more gradual, but the underlying dynamic of state activity expanding its GDP share is the same. Public administration generates no foreign exchange, creates minimal backward linkages to knowledge-intensive domestic suppliers, and does not build the exportable capabilities that convergence requires. Its rising share in an already large LS sector represents a compositional decline in services quality, even if aggregate services shares remain stable.

Education's declining share from 8.33% to 7.80% of GDP is partly an artifact of sector classification and partly a real phenomenon: government education spending in Morocco has historically been high relative to peers, but efficiency concerns and demographic transition (declining youth cohort size as fertility falls) constrain the sector's expansion. The decline is not alarming in structural terms. Education is ultimately an LS input into the broader economy, and its GDP share is not a direct indicator of educational quality or human capital formation. What matters for the three-category framework is whether the educational system produces the graduate supply that KS expansion requires, a question the GDP-share data cannot address directly.

Accommodation and food services (I) showed a gentle upward trend from 2.22% to 2.47% of GDP across the period, reflecting Morocco's steady development as a tourist destination—particularly European package tourism through Marrakech, Agadir, and the Atlantic coast—and the gradual expansion of domestic consumption in food service. Unlike Tunisia's equivalent sector, Morocco's

accommodation sector was not disrupted by security shocks comparable to the 2015 attacks in Tunisia, and the COVID-19-induced contraction of 2020 largely reversed by 2022. The sector's modest but stable GDP share is consistent with Morocco's position as a middle-income economy, which has a growing tourism industry but has not yet reached the structural weight it holds in southern European comparators. Against the EU15 benchmark, Morocco's LS composition reveals the same compositional problem visible in its aggregate structure: the EU15 economies by 2022 reduced the share of non-tradable, low-productivity LS, particularly public administration and undifferentiated retail, in their GDP relative to the early 2000s, while growing their KS categories rapidly. Morocco's LS composition moved in the opposite internal direction: public administration, the least productive and least tradable component of the LS category, is the only sub-sector that expanded its GDP share. At 10.8% of GDP by 2022, Morocco's public administration share is substantially higher than maintained by any EU15 economy during its own services-transition decades. Morocco's public administration absorbs fiscal resources and labor that the convergence agenda requires to scale the KS sector.

6. OVERALL SERVICES COMPOSITION: STRUCTURAL ASSESSMENT AND EU15 COMPARISON

Assembling the three categories, Morocco's total services sector accounted for approximately 57% of GDP in 2012 and 56% by 2022, a broadly stable share that masks divergent internal dynamics. The structural profile, read against the EU15 benchmark, reveals both genuine strengths and persistent gaps that define Morocco's position in the services development landscape.

The EU15 economies exhibit a characteristic pattern in which KS GDP shares rose continuously, approaching or exceeding 17% by the end of the comparison period, while LS, particularly the less productive public-sector-dominated components, account for a smaller proportional share than in North African economies. Morocco's KS share of 9.7%–10.3% is approximately 60% of the EU15 lower bound, a gap that did not narrow over the 2012–2022 period. This is the fundamental structural diagnosis: Morocco is not gaining on the EU15 benchmark in the category of services that most directly drives productivity convergence.

The most important nuance in this structural comparison is that aggregate shares alone misstate Morocco's position. Among Morocco's KS sub-sectors, J62–63 and M perform at genuinely world-class levels in terms of international market orientation (section 8), but their GDP shares (0.55% and 3.18% respectively) are too small to shift the aggregate. Morocco's structural challenge is not the absence of globally competitive KS sub-sectors, but the failure to scale them to GDP shares that can drive economy-wide structural transformation. This is precisely the big-push diagnosis: individually capable sub-sectors require coordinated expansion to generate the demand-side multipliers and supply-side capability accumulation that make services-led convergence self-sustaining.

In summary, Morocco's total services share of GDP declined modestly over the period—the mirror image of Tunisia's expanding trajectory. But for Morocco, the three-category framework reveals that this aggregate movement concealed a more concerning internal story. KS, while larger in absolute terms than in either Egypt or Tunisia, at approximately 10.3% of GDP in 2012, drifted downward to around 9.7% by 2022, with the ICT component declining most noticeably. ES remained broadly flat at around 8%, showing no structural expansion. LS remained dominant at roughly 37%–38% throughout, anchored by public administration, wholesale trade, and education. The traditional national accounts reading of a broadly stable services share would suggest structural continuity. The three-category framework reframes this as stagnation in the only services category capable of driving productivity convergence. Morocco's

services composition is neither improving nor deteriorating dramatically, but the absence of KS expansion over a whole decade is a cause for concern, particularly for an economy with Morocco's level of GVC integration and institutional development.

Structural transformation in the conventional sense—the reallocation of economic activity from lower- to higher-productivity service categories—is not detectably underway in Morocco's data. This does not preclude transformation within categories (rising productivity within KS, for instance), but the inter-sectoral reallocation that the EU15 transition involved has not yet begun in Morocco's aggregate data. This confirms our findings elsewhere (El Aynaoui and Dinh, 2026), showing that in the last two decades, structural transformation effects remained limited in Morocco because the surplus labor released from the agricultural sector did not move to the manufacturing sector, but rather to various types of non-tradable services where productivity was not high.

7. BACKWARD GVC INTEGRATION: EXGR_DVA ANALYSIS

Table 5's EXGR_DVA values, which measure the share of domestic value added in a sector's gross exports, together with the complementary EXGR_FVA evidence in Table 12, reveal Morocco's position in GVCs through what might be termed the import dimension of GVC participation. Sectors with high EXGR_DVA rely primarily on domestically sourced inputs to produce their exports. Sectors with low EXGR_DVA import substantial foreign intermediate content, which may indicate either deeper GVC integration (importing to re-export at higher value) or simple import dependence. Reading Morocco's EXGR_DVA data against this interpretive framework produces a markedly different structural picture than Egypt's uniformly high domestic content ratios.

To complement the EXGR_DVA evidence, Table 12 reports EXGR_FVA (foreign value added embodied in exports) for the same sectors and years. By construction, EXGR_FVA captures the shares of exports that originate from foreign intermediate inputs, and is therefore the direct counterpart to EXGR_DVA. Together, the two indicators provide a complete decomposition of the value-added structure of exports and allow a more precise assessment of input-side GVC participation. While EXGR_DVA highlights the domestic content of Morocco's services exports, EXGR_FVA reveals the extent to which these exports are embedded in international production networks through the use of foreign-sourced inputs.

Morocco's KS EXGR_DVA values are uniformly high across all sub-sectors, ranging from approximately 89% to 96% in the early years of the period and declining modestly across the board by 2022. The J sector (ICT aggregate) registered 92.5% in 2012, and 86.1% in 2022; J62–63 (computer programming) registered 95.5%, declining to 88.3%; M (professional services) remained at 95.2%, falling to 89.1%; and N (administrative support) moved from 95.5% to 85.9%. These high values, which show that Morocco's KS exports embody overwhelmingly domestic value, have the same structural interpretation as Egypt's: Morocco's KS sector is not yet drawing on a deep pool of imported, globally sourced intermediate knowledge inputs, in the way that characterizes EU15 professional and technology service clusters.

In EU15 economies, the equivalent KS sectors record EXGR_DVA values across a range that varies meaningfully by sub-sector: computer programming (J62-63) sits at 79%–85%, while professional services (M) and administrative support (N) sit higher at 90%–94% and 90%–93% respectively—

reflecting the greater import intensity of digital and software platforms compared with professional and business services. Morocco's values of 86%–96% across these sub-sectors are broadly comparable to or above the EU15 range for J62-63, and approach but remain just below the EU15 range for M and N, confirming that Morocco's KS sectors have not yet deepened into the import-intensive phase that characterizes the most digitally integrated EU15 knowledge-economy clusters. The modest downward trend across all KS sub-sectors from 2014 onward could, however, represent an early phase of GVC deepening, in which Morocco started to import specialized software tools, consulting methodologies, and professional frameworks from international networks, rather than simple self-sufficiency. The direction is appropriate even if the magnitude remains limited.

The EXGR_FVA results in Table 12 reinforce this interpretation. Across KS, foreign value-added shares have risen over time, consistent with the observed decline in EXGR_DVA. This suggests that Morocco's KS sectors are beginning to incorporate greater shares of internationally sourced intermediate inputs, including software tools, digital infrastructure, and professional methodologies, indicative of incipient integration into global knowledge-production networks. While the levels remain below those observed in EU15 economies, the direction of change contrasts sharply with Egypt's pattern of persistently low EXGR_FVA, and signals a gradual deepening of backward GVC participation.

The most analytically striking EXGR_DVA patterns in Morocco's data are in enabling services, particularly the transport sector, where domestic content ratios diverge sharply from the KS pattern. The aggregate transportation and storage sector (H) registered 61.3% in 2012—already far below the KS range—and continued to fluctuate in the 57%–72% band throughout the period, reaching its lowest recorded value of 56.9% in 2022. This means that approximately 43% of Morocco's transport sector's gross exports embody foreign-sourced intermediate content, a ratio that directly reflects the transit and re-export character of Tanger Med's container operations, and Morocco's role in the automotive supply chains of Renault-Dacia and other European manufacturers. The country is genuinely using internationally sourced inputs, including vehicles, aerospace components, and refined fuel, to generate its logistics and transportation value.

The EXGR_FVA evidence further clarifies the nature of the integration of Morocco's transport sector. The high foreign value-added shares implied by low EXGR_DVA confirm that transport services, particularly maritime and aviation activities, are deeply embedded in international supply chains, relying extensively on foreign-origin cargo, equipment, and intermediate services. Unlike rent-based logistics structures, this pattern reflects genuine participation in multi-country production networks, in which Morocco functions as a processing, assembly, and distribution hub within GVCs.

Within H, the sub-sector disaggregation is revealing. Water transport (H50) recorded EXGR_DVA of 37.8% in 2012, already indicating very high import intensity, and fell to a remarkable 10.2% by 2022, meaning that by the end of the period, nine-tenths of Morocco's water transport gross exports embodied foreign-sourced inputs. This is almost certainly a reflection of Morocco's port sector handling predominantly foreign-origin cargo, with little domestic content beyond the port handling fees and labor inputs that constitute the Moroccan contribution. Air transport (H51) similarly recorded low values in the 30%–53% range, reflecting the import intensity of jet fuel, aircraft maintenance, and aviation services. Land transport (H49) occupied a different structural position: its EXGR_DVA rose from 64.9% in 2012 to a peak of around 79%–82% in 2015–2017 (a period of transport sector expansion and GVC deepening), before dropping again to 69.9% by 2022. The land transport figure is higher than sea and air transport because road freight in Morocco draws on more domestically sourced inputs, such as locally produced vehicles and parts, domestic fuel processing, and Moroccan drivers and logistics workers, relative to the more import-

intensive maritime and aviation operations.

Financial services (K) has one of the highest domestic contents in its exports: it recorded EXGR_DVA of 95.2% in 2012, declining to 90.8% by 2022, a pattern similar to KS. Morocco's banking and insurance exports—primarily cross-border financial services to sub-Saharan African markets—are built overwhelmingly on Moroccan capital, Moroccan financial professionals, and Moroccan regulatory infrastructure. The high EXGR_DVA reflects the knowledge-and-capital-intensive character of financial services, which rely less on imported physical intermediates than transport or manufacturing sectors.

Across LS, EXGR_DVA values are uniformly high (approximately 82%–99%), consistent with these sectors' predominantly domestic-demand orientations. Real estate (L) recorded the highest values in the dataset at 95%–99%, reflecting its near-complete domestic content. Wholesale and retail trade (G), accommodation (I), and health services (Q) all clustered in the 85%–93% range, confirming that Morocco's LS sector, like Egypt's and Tunisia's, operates primarily within the domestic economy, with limited import intensity in its export activity.

8. FORWARD GVC INTEGRATION: FFD_DVA ANALYSIS

Table 6's FFD_DVA values, which measure what share of a sector's domestic value added ultimately reaches foreign final demand, together with the complementary FEXGR_DVA evidence in Table 13, are the most analytically productive indicators in this study for assessing Morocco's services development trajectory. While EXGR_DVA captures how sectors source their inputs, FFD_DVA captures how deeply their outputs penetrate international final markets. The distinction matters enormously for the convergence question: it is forward integration—the capacity to supply value to foreign buyers who pay full final-demand prices—that generates the foreign exchange, scale economies, and international quality benchmarking that drive productivity convergence. Morocco's FFD_DVA data present the strongest case for its comparative leadership among the three North African countries examined.

To complement the FFD_DVA evidence, Table 13 reports FEXGR_DVA (domestic value added embodied in other countries' exports). This indicator captures Morocco's participation as an upstream supplier in GVCs, measuring the extent to which Moroccan services contribute indirectly to foreign exports. Together, FFD_DVA, and FEXGR_DVA distinguish two dimensions of forward integration: direct engagement with foreign final demand and indirect participation through intermediate input provision to foreign producers.

The single most remarkable finding in the entire sixteen-table dataset for Morocco (Annex 2) is the FFD_DVA performance of J62–63 (computer programming, consultancy and information services). This sub-sector registered values of 87.9% in 2012, declining only modestly to 78.5% in 2014, then rising to 85.9% (2015), approximately 87%–88% across 2016–2019, and peaking at 92.7% in 2020, with a 2022 value of 90.5%. These figures mean that essentially the entire output of Morocco's software and IT services sector flowed through to foreign final consumers—a ratio approaching 100%, which is extraordinary by the standard of any developing economy, and rivals the performance of mature digital exporters.

On forward-integration alone, Morocco's J62–63 sub-sector has achieved structural convergence with the EU15: the EU15 distribution for computer programming FFD_DVA ranges from approximately 20% to 26%, and Morocco's consistent 87%–93% values place it far above this distribution rather than below it—a benchmark-crossing that no other indicator for any KS sector in any of the three North African economies achieves. The structural basis is Morocco's Casablanca Nearshore Park, and the adjacent ecosystem of French-language IT services firms that deliver software development, application maintenance, cloud services, and business intelligence to French, Spanish, and, increasingly, broader European clients. The 87%–93% FFD_DVA range confirms that this is not a sector that primarily serves the domestic economy while happening to generate some exports. It is a sector structurally configured for international demand capture, with domestic consumption of its output accounting for only 7%–13% of its value-added.

The FEXGR_DVA results in Table 13 indicate that Morocco's ICT sector is not only strongly oriented toward foreign final demand, but also increasingly embedded upstream in global production networks. A non-negligible share of domestic value added is embodied in foreign exports, reflecting Morocco's role as a provider of intermediate digital services within European and global value chains. This dual pattern of high FFD_DVA combined with rising FEXGR_DVA is a hallmark of advanced GVC integration. It distinguishes Morocco sharply from economies for which ICT exports are limited to final-demand outsourcing.

Professional and technical services (M) recorded one of the most dynamic upward trajectories in the dataset: FFD_DVA rose from 43.9% in 2012 to 44.3% in 2015, 50.0% in 2017, 53.8% in 2019, and 68.1% by 2022. This 24-percentage-point rise over ten years was a structural shift of the first order, indicating that Morocco's engineering firms, management consultancies, legal and accounting practices, and technical advisory services, have reoriented progressively toward foreign final demand, rather than domestic consumption. The 2022 value of 68.1% means that over two-thirds of Morocco's professional services output now reaches foreign buyers. This figure should not be benchmarked against EU15 FFD_DVA for the same sector, which actually ranges from only 23% to 27% throughout the reference period—a low value that reflects the depth of the EU15 domestic market for professional services, not weak export performance. Morocco's consistently higher FFD_DVA reflects the smallness of its own domestic market relative to the volume its professional service firms produce for foreign clients. The relevant benchmark is the rising trajectory itself: a 24-percentage-point gain over the decade confirms that the reorientation toward foreign demand is structural rather than cyclical. Francophone Africa—where Morocco's professional services firms provide engineering, financial, and management services to governments and corporations across West and Central Africa—is the most plausible structural explanation, alongside deepening European client relationships in regulatory compliance and technical consulting.

A similar dual-integration pattern emerges for professional services. While FFD_DVA captures a strong and rising orientation toward foreign final demand, FEXGR_DVA suggests that Moroccan professional services are also increasingly used as intermediate inputs in foreign production processes, including engineering design, compliance services, and consulting inputs embedded in international projects. This combination of downstream and upstream integration indicates that Morocco's M sector is approaching the dual-orientation structure observed in EU15 economies, where professional services function simultaneously as export earners, and as integral components of global production systems.

Administrative and support services (N) recorded FFD_DVA values of 41.7% in 2012, declining temporarily to 34.9% in 2014, then recovering to 37.1%–41.7% through 2019, and rising to 51.8% by 2022. The overall trajectory is upward, if not as dramatically as M's, and the 2022 value confirms that the majority of Morocco's BPO and business-support output (call centers, back-office operations, HR and payroll services

for European clients) is now oriented toward foreign final demand. The temporary dip in 2014 may reflect a contractual restructuring phase in the BPO industry's relationship with French clients, a transition that the sector appears to have navigated successfully, given the subsequent recovery.

The FEXGR_DVA evidence further strengthens the interpretation of N as a structural anchor sector. In addition to its high FFD_DVA and strong domestic forward linkages, N exhibits meaningful upstream participation in GVCs, with Moroccan administrative and support services embedded in foreign export production processes. This triple role of domestic intermediate supplier, exporter to foreign final demand, and upstream contributor to foreign production, gives N a uniquely powerful position within Morocco's services economy, and reinforces its central role in any services-led development strategy.

The J sector aggregate recorded FFD_DVA of 36.0% in 2012, ranging from 31% to 36% through 2019, then rising sharply to 43.2% in 2022. The stability through 2019, followed by a break upward, was consistent with the compositional dynamics noted above: declining telecommunications FFD_DVA (which would pull the aggregate down) was offset by rising J62–63 weight and stable M-adjacent orientation until 2019, after which the COVID-19-accelerated shift to digital service delivery, and Morocco's positioning as a nearshore digital hub, produced a structural step up. Telecommunications (J61) recorded FFD_DVA in the 19%–30% range (moderate, reflecting a blend of internationally oriented interconnection revenue and domestically consumed services), with a notable decline to 18.7% in 2020, before partial recovery.

Morocco's ES forward integration is equally strong. The H sector aggregate recorded FFD_DVA of 51.9% in 2012, broadly in the 50%–57% range through 2019, then rising to 69.0% by 2022—a substantial increase concentrated in the post-COVID-19 restructuring period. Air transport (H51) registered the highest values within transport at 74.2% (2012), rising to 88%–91% across 2015–2022, confirming that Morocco's aviation sector (Royal Air Maroc's operations and Mohammed V International's hub function) is predominantly oriented toward international passengers and cargo, rather than domestic travel. Postal and courier services (H53) recorded 81.0% in 2012, rising to 93.5% by 2022, consistent with Morocco's growing role as a regional parcel distribution hub for e-commerce flows entering sub-Saharan Africa via Casablanca. Land transport (H49) recorded 40.7% in 2012, rising to 67.9% by 2022. This 27-percentage-point structural shift reflected the expanding share of Moroccan road freight in serving cross-border EU-Africa trade corridors, rather than purely domestic distribution.

Financial services (K) recorded FFD_DVA in the 14.9–19.8% range—the lowest in KS plus ES—with a modest upward trend from 14.9% in 2012 to 19.8% by 2022. This relative underperformance on forward integration is analytically interesting given Casablanca Finance City's regional ambitions: Morocco's banks are expanding across sub-Saharan Africa through subsidiary networks, but the TiVA framework captures cross-border financial services flows rather than FDI-mediated financial intermediation, meaning the FFD_DVA metric likely understates the true international orientation of Morocco's financial sector. The moderate and rising FFD_DVA is a floor estimate of financial sector international engagement.

Among LS, wholesale and retail trade (G) stands out: its FFD_DVA rose from 25.2% in 2012 to 35.7% by 2022, a structural shift that confirms Morocco's role as a regional distribution hub through which traded goods flow to sub-Saharan African final markets. Accommodation and food services (I) recorded 56.6% in 2012, reflecting the dominance of international tourists in Morocco's

hospitality sector. They then declined to 30.1% in 2020 and further to 24.7% in 2021—the true trough of the pandemic disruption to international tourism—before recovering to 52.0% in 2022. The incomplete recovery to pre-pandemic levels by 2022 was consistent with a gradual rebuilding of international tourism, with European arrivals recovering faster than long-haul markets.

Taken together, Tables 6 and 13 indicate that Morocco's forward GVC integration is strong along both dimensions. FFD_DVA demonstrates deep penetration into foreign final markets across key knowledge and enabling services, while FEXGR_DVA confirms that Moroccan services are also embedded upstream in international production chains. This dual integration into both global demand and global production networks is a defining characteristic of advanced services economies. It represents Morocco's most important structural advantage, relative to its regional peers.

9. INPUT-SIDE INTEGRATION AND UPSTREAM POSITIONING

Tables 12 and 13 complete the four-dimensional GVC characterization with the two indicators that capture Morocco's integration from the supply side and from the upstream positioning side, respectively. EXGR_FVA measures the foreign input content of service exports, or how much Morocco sources from abroad when it exports. FEXGR_DVA measures how much of Morocco's domestic value added is embedded as intermediate inputs in other countries' gross exports. The findings from these two tables are the strongest empirical confirmation of the dual integration narrative that organizes this paper's structural analysis.

Table 12 shows Morocco's EXGR_FVA trajectory as one of broad and sustained convergence toward EU15 levels across KS over the decade. J62-63 (computer programming) rose from 4.5% in 2012 to 11.7% in 2022, reducing the gap with the EU15 level of 20.3% (now at 0.57 times EU15, up from 0.29 times in 2012). Professional services (M) rose from 4.8% to 10.9%, essentially reaching the EU15 level of 10.4% (1.05 times EU15)—convergence achieved within the decade. Administrative and support services (N) rose most dramatically from 4.5% to 14.1%, exceeding the EU15 level of 9.6% (1.48 times EU15). This was the largest proportional gain of any KS sector in the three-country dataset.

These rising EXGR_FVA values confirm that Morocco's KS firms are genuinely integrating foreign specialized intermediates into their export activities: the same sectors demonstrating world-class FFD_DVA are also deepening their foreign input sourcing, which is the bilateral embeddedness pattern that characterizes the EU15's most competitive knowledge-economy sectors. Transport tells an even more striking story: water transport (H50) reached 89.8% EXGR_FVA in 2022, and air transport (H51) reached 70.1%. Both thus far exceed EU15 levels of 24.8% and 24.7%, respectively. These figures directly quantify the import intensity of Morocco's logistics complex: Tanger Med and the aviation infrastructure serving the automotive, aerospace, and nearshore services GVCs, source the overwhelming majority of their operational inputs from EU supply chains. This is a structural feature of deep GVC hosting, not a sign of leakage.

Table 13 shows that Morocco's FEXGR_DVA for KS exceeds the EU15 benchmark across the most strategically important sectors. J62-63 reached 0.672% of GDP in 2022, against the EU15's 0.465% (1.45 times EU15)—a finding of considerable significance: Moroccan computer and information services are more deeply embedded as upstream intermediates in other countries' exports than the EU15 average, confirming that Morocco's IT and software firms are not merely selling to foreign final consumers, but are integrated as productive inputs into global technology supply chains. Professional services (M) reach

0.509 % against the EU15's 0.434 % (1.17 times EU15). Administrative services (N) reach 0.324 % against the EU15's 0.208 % (1.56 times EU15). One structural anomaly is worth noting: transport's FEXGR_DVA at 1.260% of GDP in 2022, fell below the EU15 level of 1.845% (0.68 times EU15), despite transport's exceptional EXGR_FVA. The interpretation is that Morocco's high-import-content transport sector serves Morocco's own manufacturing GVCs, functioning as a logistics infrastructure for the automotive and other supply chains that Morocco hosts, rather than being sold as an upstream intermediate into other countries' production chains. This is a configuration consistent with Morocco's role as a GVC host rather than a GVC infrastructure exporter in transport. Taken as a whole, the EXGR_FVA and FEXGR_DVA evidence confirms that Morocco's KS sectors have achieved genuine dual integration. They source foreign inputs and supply domestic outputs into global production networks simultaneously, marking the bilateral embeddedness that the EU15 benchmark identifies as the structural hallmark of services-led development.

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.

Morocco's HR backward linkage indices in Table 9 reveal a domestic economic structure that is more nuanced than other economies. The central organising finding is that KS sectors cluster below the economy average—as expected for knowledge-intensive activities—while ES sectors display greater variation. Notably, water and air transport both started above average in 2012 but have declined toward or below average over the decade, while financial services have followed the opposite trajectory, rising above the economy average by the end of the period.

The overarching finding for KS is that Morocco's core knowledge-intensive sectors—J62–63, M, and N—all record backward linkage indices substantially below unity throughout the period. J62–63 (computer programming) holds in the 0.860–0.884 range; M (professional services) in the 0.826–0.885 range; and N (administrative support) in the 0.883–0.944 range. These below-average values are not a sign of weak domestic embeddedness but rather the structural signature of knowledge-intensive production: the primary inputs are human capital, digital tools, and proprietary know-how, none of which enters the input–output table as domestic intermediate purchases. This mirrors what the U.S. benchmark shows for equivalent sectors, where KS backward indices sit in the 0.81–0.97 range. J61 (telecommunications) is also below average (0.869–0.965) but has been rising gradually toward the economy average, reflecting the growing domestic infrastructure requirements of network operators. The exception within KS is publishing and broadcasting (J58–60), whose backward index has been consistently above average throughout (1.009–1.141 across the decade), reflecting its greater use of domestic physical inputs—printing materials, broadcast infrastructure, and studio services—relative to the more purely knowledge-intensive sub-sectors. Financial services (K) present the most analytically striking trajectory within this group: starting at 0.948 in 2012, broadly near the economy average, K has risen steadily to reach 1.040 by 2022—crossing above the economy average from 2018 onward. This is the only KS or near-KS sector whose backward

linkage has risen structurally over the decade, and it reflects the deepening of Morocco's banking system as an intermediate purchaser of domestic professional, IT, and business services.

Water transport (H50) started above the economy average with a backward linkage index of 1.257 in 2012 and 1.264 in 2013, indicating that port activities at that stage generated meaningful above-average domestic upstream demand. However, from 2014 onward the index fell sharply and persistently: it dropped to 0.979 in 2014, continued declining to the 0.799–0.815 range by 2018–2022, and stood at 0.813 by the end of the period. This trajectory—from above-average to well below average—is directly consistent with the EXGR_DVA and EXGR_FVA evidence in sections 7 and 9: as Tanger Med's port operations expanded and deepened their integration into international automotive and logistics supply chains, the sector sourced an increasing share of its operational inputs from abroad. The collapse of H50's backward linkage index is therefore not a sign of domestic economic weakness but of GVC deepening—the port handles predominantly foreign-origin cargo and draws increasingly on internationally sourced equipment, fuel, and services. The domestic economic contribution of Tanger Med operates primarily through its forward linkage relationships (discussed in section 11), rather than through intensive backward purchases from local suppliers.

Air transport (H51) recorded a similar trajectory. Starting above the economy average at 1.263 in 2012 and 1.253 in 2013, H51's backward index declined progressively through the period, reaching 1.180 in 2014, 1.031 in 2015, then falling more clearly below average: 0.939 in 2016, 0.909 in 2017, 0.884 in 2018, and 0.852 by 2022. The decline reflects Morocco's aviation sector sourcing a growing share of aircraft maintenance, fuel, and operational services from international suppliers—a structural feature of Morocco's role as a GVC aviation hub rather than a purely domestically self-sufficient carrier. The sector's backward linkages have weakened as international integration has deepened, consistent with the high and rising EXGR_FVA values (reaching 70.1% in 2022) documented in section 9.

Land transport (H49) started near the economy average at 0.989 in 2012 and has declined progressively to 0.831 by 2022, remaining below average from 2013 onward. The decline from a near-average position toward a clearly below-average index reflects the growing orientation of Moroccan road freight toward international trade corridors, which draws more intensively on foreign-sourced vehicles, fuel, and logistics services, reducing the domestic input intensity of the sector relative to the economy average.

Taken together, Morocco's backward linkage structure documents a consistent pattern of GVC deepening across its transport sectors: as H50, H51, and H49 have integrated more deeply into international supply chains, their backward purchases from the domestic economy have declined relative to the economy average. The structural exception is financial services (K), whose rising backward linkage index—now above average at 1.040—signals that Morocco's banking and insurance sector is deepening its domestic intermediate input base even as other ES sectors become more internationally integrated. The overall backward linkage profile confirms that Morocco's KS sectors display the knowledge-economy signature of below-average domestic intermediate intensity, while its enabling services are evolving in ways consistent with their respective GVC roles.

11. DOMESTIC ECONOMY STRUCTURE: HR FORWARD LINKAGES

Table 10's forward linkage indices measure how extensively each sector's output serves as an intermediate input to other sectors in the economy. An index above 1.0 indicates above-average supply to downstream sectors; below 1.0 indicates below-average domestic supply linkages. Sectors with high forward indices are structural nodes in the economy's input-output network: their expansion stimulates a wide range of downstream activities, while their contraction or underinvestment creates bottlenecks across the production system.

The most prominent forward linkage result in Morocco's dataset is wholesale and retail trade (G), which recorded indices of 1.000 in 2012, rising modestly to 1.035–1.058 in 2015–2019 and reaching 1.048 by 2022. G is therefore consistently at or just above the economy average throughout the period—confirming its structural role as a distribution node that supplies intermediate services to other sectors, but at a level of intensity that does not place it among the economy's dominant supply chain anchors. The sector's forward linkage has been broadly stable, rising slightly rather than surging, consistent with a gradual deepening of Morocco's retail and distribution intermediation as the formal economy expands.

The EU15 reference provides important context for interpreting G's position. In high-income service economies, wholesale and retail trade typically records above-average forward indices, reflecting deep integration of distribution services into multi-stage domestic production chains. Morocco's G forward index of 1.000–1.058 is broadly consistent with a middle-income distribution sector playing a moderate domestic supply role. Crucially, however, in advanced economies, G's forward linkage coexists with M (professional and technical services) forward indices that are substantially higher—in the U.S. benchmark, M ranges from 2.84 to 3.47 throughout the same period, making it the strongest forward linker in the entire services economy. In Morocco, M's forward index has declined from near-average (0.922 in 2012) to below average (0.815 in 2022), placing it well below both G and the U.S. benchmark. The implication is stark: at income convergence, professional and technical services should be the most deeply embedded domestic intermediate supplier—but Morocco's M sector has progressively exited that role as it has reoriented toward international client markets.

Administrative and support services (N) recorded the highest forward index within Morocco's KS group, consistently above the economy average throughout the period. N stood at 1.210 in 2012, remained broadly stable in the 1.194–1.224 range through most of the decade, and ended at 1.160 by 2022. These values—approximately 16%–22% above the economy average—confirm that Morocco's BPO and business-support sector is deeply embedded as an intermediate input supplier across the domestic economy, not merely an export-oriented enclave. Firms in manufacturing, finance, retail, and the public sector draw on administrative support, staffing, facilities management, and documentation services from the N sector at above-average rates. Against the U.S. benchmark, Morocco's N forward linkage of 1.16–1.22 falls below the U.S. range of 1.77–2.09, suggesting that as Morocco's economy develops further, N's role as a domestic intermediate supplier should deepen toward U.S. levels. This dual character—simultaneously serving foreign final demand at high rates (FFD_DVA of 42%–52%) and generating domestic forward linkages consistently above the economy average—distinguishes Morocco's N sector as having genuine structural anchor properties for domestic economic development.

Financial services (K) recorded consistently above-average forward linkage indices throughout the period: 1.124 in 2012, broadly stable in the 1.076–1.173 range across the decade, and reaching 1.175 by 2022. The above-average and broadly stable forward pull confirms that Morocco's banking and insurance sector serves as a pervasive credit and payments infrastructure supplier, providing services that feed into virtually every sector of the economy. Morocco's K forward linkages are higher than Egypt's, reflecting the more developed state of Morocco's formal financial system: higher banking penetration, more developed insurance markets, and a functioning capital market that provides intermediation services across a broader range of economic activities. Against the U.S. benchmark, however, Morocco's K forward linkage of 1.08–1.17 falls significantly short of the U.S. range of 2.27–2.72, reflecting the deeper financial intermediation and more complex capital market ecosystem of a high-income economy and indicating clear room for Morocco's financial sector to deepen its domestic supply chain role.

Professional and technical services (M) recorded forward indices of 0.922 in 2012, declining modestly to 0.900 in 2017, 0.870 in 2019, and 0.815 by 2022. M started slightly below the economy average in 2012 and has declined more clearly below average over the decade. This declining forward pull, alongside M's sharply rising FFD_DVA (reaching 68.1% in 2022), is analytically coherent: Morocco's professional services firms have progressively reoriented toward international client markets where value creation and margins are higher, while their role as intermediate input suppliers to other domestic sectors has declined simultaneously. The 2022 value of 0.815 means that M's domestic supply chain contribution is now clearly below average. The implication for the convergence agenda is that scaling M must eventually involve not only increasing international orientation but also deepening domestic linkages—a dual-integration target that the EU15 benchmark makes concrete.

Telecommunications (J61) recorded forward indices of 0.898 in 2012, rising modestly to a peak of 0.983 in 2018, before declining to 0.896 by 2022. J61's forward linkage index remained below the economy average in every year of the period, never crossing unity. The below-average reading reflects the structural displacement of traditional telecommunications as an intermediate supplier: internet-based communication platforms, cloud services, and digital alternatives have progressively reduced the role of conventional J61 firms in supplying intermediate inputs to other sectors. Computer programming (J62–63) recorded the weakest forward linkages in the KS group, clustered in the 0.686–0.725 range throughout the period—clearly below the economy average and consistent with its nature as a near-total export enclave with minimal domestic market penetration.

Water transport (H50) recorded near-average forward linkage indices throughout the period, with meaningful year-to-year variation. Starting at 0.990 in 2012, H50 rose briefly to 1.116 in 2013—the only year it clearly exceeded the economy average—before declining through 2014–2019 to a range of 0.860–0.930, and then recovering partially to 0.965 by 2022. This pattern confirms that Tanger Med's domestic supply relationships—the warehousing, freight processing, industrial zone services, and logistics networks that draw on port activity—are of moderate and oscillating intensity, near the economy average rather than strongly above it. The port's primary domestic economic mechanism is therefore not exceptional forward linkage intensity but rather the scale of its operations and the GVC activity it hosts, the analytical weight of which is captured by the EXGR_FVA, EXGR_DVA, and FFD_DVA evidence in sections 7–9.

Air transport (H51) recorded below-average forward indices throughout the period, declining from 0.931 in 2012 to 0.777–0.826 in 2017–2022. These below-average values reflect H51's character as a predominantly final-demand sector: international passenger and cargo flows generate limited intermediate supply relationships within the domestic economy beyond airport services. Land transport (H49) recorded forward indices near the economy average: 0.930 in 2012, broadly stable in the 0.915–

0.949 range through most of the period, before declining to 0.850 by 2022. The mild downward drift from 2019 onward likely reflects the growing orientation of Moroccan road freight toward international trade corridors, which weakens domestic downstream supply relationships relative to the economy average.

The remaining LS sectors present a uniformly below-average forward linkage picture throughout the period, consistent with their role as predominantly final-demand activities. Accommodation and food services (I) recorded indices in the 0.645–0.714 range, well below unity in every year. Real estate (L) is among the weakest forward linkers in the entire dataset, in the 0.643–0.722 range, declining to 0.692 by 2022—a structurally expected finding given that real-estate services are consumed as a final good by households and businesses rather than as intermediate inputs. Arts, entertainment, and recreation (R), and other service activities (S), recorded 0.637–0.702 and 0.754–0.794 respectively, both below average throughout. Health and social work (Q) ranged from 0.634 to 0.700 across the decade, declining gently, reflecting the predominantly final-demand character of health consumption. Public administration (O) ranged between 0.685 and 0.723 throughout the period, remaining below average in every year.

In summary, Morocco's forward linkage structure identifies N (administrative and support services) and K (financial services) as the economy's two consistently above-average domestic supply chain nodes within the services sector, with G (wholesale and retail trade) near average. These sectors anchor domestic production networks at above-average intensity. M (professional services) has been below and declining, signalling that international reorientation has come at a cost to domestic supply embedding—a trade-off the convergence agenda eventually requires both dimensions to resolve simultaneously. The LS sectors, with the partial exception of S (other service activities, near 0.79), are uniformly below average, confirming their character as final-demand absorbers rather than intermediate supply nodes. Against the U.S. benchmark, Morocco's N and K forward linkages are structurally encouraging but still well below advanced-economy levels, while M's below-average and declining index identifies the most urgent domestic-integration gap in Morocco's knowledge services sector.

12. EMPLOYMENT STRUCTURE AND EXTERNAL DEMAND LINKAGES

Tables 2 and 3 document the labor-market dimensions of Morocco's services economy over 2012–2022. Total employment rose from 10.5 million to 10.7 million workers, a gain of approximately 2% over the decade. Structural transformation at the broad-sector level was driven principally by agriculture's declining share, which fell from 39.2% to 31.4% of total employment, releasing nearly 750,000 workers over the period. These workers were absorbed predominantly into the services and construction sectors rather than into manufacturing, consistent with the broader finding of services-led rather than manufacturing-led structural transformation confirmed elsewhere (El Aynaoui and Dinh, 2026).

Total services employment rose from 39.4% to 46.2% of total employment. This aggregate masks a structurally striking finding: Morocco's services sector accounts for approximately 57% of GDP but employs approximately 40%-46% of the labor force. The implied productivity differential is substantial and reflects the heterogeneous internal composition of services: the high-value-added KS sub-sectors employ very few workers at very high productivity, while the large informal and semi-

formal LS segments absorb many workers at low productivity. This is the employment-side expression of the same structural paradox documented throughout this paper—Morocco has built high-performing KS sub-sectors that are too small in employment terms to reshape the labour market.

KS accounted for approximately 1.52% to 1.67% of total employment throughout the period, despite accounting for approximately 10% of GDP. This concentration of output in a minimal employment share is the sharpest structural contrast in Morocco's labor-market data. Within KS, the employment trajectory was modest: J (ICT aggregate) ranged between approximately 0.71% and 0.87% of total employment, with telecommunications (J61) declining from 0.37% to around 0.35%. Computer programming (J62–63) ranged more widely, from approximately 0.25% to 0.36% across the decade, while M (professional services) rose modestly from 0.30% to 0.34%, and N (administrative and support services) registered the clearest employment gain, rising from 0.37% to 0.47%, consistent with BPO sector expansion over the decade. Enabling services (H plus K) remained broadly stable at around 1.75%, with transport employment (H) declining from 1.17% to 1.08% while financial services employment rose from 0.58% to 0.68%. The overall KS employment share of approximately 1.52%–1.67%, rising only modestly despite KS sectors delivering world-class GVC performance, remains the definitive statistical expression of the scale-insufficiency diagnosis.

Table 4 reports value added per worker by sector in thousands of USD. The Morocco dataset reveals some of the highest KS productivity figures in the entire three-country study. Professional and technical services (M) recorded USD 102,834 per worker in 2012 and USD 106,195 in 2022—the highest among all analytically relevant services sectors in the dataset and broadly comparable to EU15 professional services productivity benchmarks. Administrative and support services (N) registered USD 90,460 in 2012 and USD 92,117 in 2022—also exceptionally high. Financial services (K) recorded USD 82,025 declining to USD 78,048, while telecommunications (J61) recorded USD 70,708 declining to USD 63,343. Computer programming (J62–63) recorded USD 14,062 in 2012, rising to USD 17,562 in 2022—the lowest KS sub-sector productivity but on an upward trend, consistent with the sector scaling through new firm entry at the start of the productivity curve alongside established high-end operators.

The contrast between KS productivity and LS productivity is stark. Wholesale and retail trade (G), which employs over 18% of the total workforce, registers only USD 4,670–4,568 per worker—less than one-twentieth of M's productivity. Accommodation and food services (I) registers USD 8,259–9,258. Real estate (L) records an anomalously high value added per worker figure (over USD 3.6 million) that is entirely a statistical artefact of imputed rents divided by near-zero formal employment, and should not be interpreted as genuine productivity. The productivity hierarchy documents precisely the structural challenge the framework identifies: Morocco has built extraordinarily productive KS sectors employing tiny shares of the workforce, alongside a vast low-productivity LS economy absorbing the bulk of labour. Scaling the former into the latter is the big-push task.

Tables 7 and 8 track the employment embodied in exports (EXGR_DEM) and in foreign final demand (FFD_DEM) as shares of each sector's total employment, providing the labor-market counterpart to the FFD_DVA evidence in section 8. The Morocco results are among the most striking in the entire North African dataset and directly confirm the structural narrative of internationally oriented, high-productivity KS sectors with deep export linkages.

Computer programming and information services (J62–63) records EXGR_DEM values of 93.8% in 2012, rising to 104.3% by 2022. FFD_DEM moves from 87.9% to 90.5%. These values confirm that essentially the entire J62–63 workforce—and, in EXGR_DEM terms, more than the direct workforce when supply-

chain employment is included—is effectively supported by export and foreign final demand. The values above 100% in EXGR_DEM reflect the OECD TiM methodology's capture of full supply-chain employment: J62–63's exports sustain more jobs in upstream domestic sectors than J62–63 itself directly employs. The near-equivalence of EXGR_DEM and FFD_DEM for J62–63 mirrors the near-equivalence of the corresponding value-added indicators and confirms that Morocco's software and IT services sector has essentially no meaningful domestic demand base—it is structurally configured for international markets.

Professional and technical services (M) records the most dramatic employment-in-demand trajectory in the entire Morocco dataset. EXGR_DEM rose from 62.1% in 2012 to 156.6% by 2022—the highest value in the KS group. FFD_DEM rose from 43.9% to 68.1% over the same period, precisely mirroring the FFD_DVA trajectory documented in section 8. The EXGR_DEM value of 156.6% means that by 2022, Morocco's professional services exports are sustaining not only the entire M workforce but also a substantial additional number of workers in upstream domestic supply chains—an economy-wide employment footprint that considerably exceeds the sector's own headcount. This is evidence of deep domestic supply-chain activation through M's export activity, consistent with the network of engineering, consulting, accounting, and technical advisory firms that serve both Moroccan and African regional clients.

Administrative and support services (N) records EXGR_DEM of 51.0% in 2012, rising to 92.8% by 2022, and FFD_DEM rising from 41.7% to 51.8%. The upward trajectory in both indicators mirrors N's FFD_DVA improvement and confirms that the majority of N's workforce is now effectively financed by foreign demand. ES show the expected high foreign-demand orientation: air transport (H51) registers EXGR_DEM of 134.5% in 2012 rising to 182.8% in 2022, and FFD_DEM rising from 74.2% to 89.8%, confirming aviation's near-total dependence on international passengers and cargo. Accommodation and food services (I) records FFD_DEM of 56.6% in 2012 and 52.0% in 2022, declining to 30.1% in 2020 and further to 24.7% in 2021 before partial recovery: Morocco's hospitality sector maintains a high but structurally stable dependence on international tourism employment. Financial services (K) records the lowest KS-plus-ES foreign demand employment share, with FFD_DEM rising modestly from 14.9% to 19.8%, consistent with its predominantly domestically oriented intermediation function.

Table 11's employment multipliers—thousands of jobs per million USD of final demand—reveal which sectors generate the most economy-wide employment per unit of spending. Among LS, wholesale and retail trade (G) records the highest multiplier at 0.172–0.162 thousand jobs per million USD, consistent with its enormous labour force and extensive supply chain relationships. Arts and entertainment (R) records 0.204–0.237, and accommodation and food services (I) records 0.121–0.103. Among KS sectors, J62–63 records a relatively higher multiplier of 0.064–0.051, reflecting some economy-wide employment generation per unit of IT demand. M records 0.014–0.018 and N 0.020–0.021, both low, reflecting the capital- and knowledge-intensive nature of professional and business services: each million USD of demand generates few direct jobs but those jobs are highly paid. Financial services (K) records 0.015–0.017. The low KS employment multipliers should not be read as a weakness: they are a structural feature of knowledge-intensive production, not a policy failure, and they are the counterpart to the extraordinarily high value added per worker documented in Table 4.

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

Three additional indicators complete the structure of Morocco's services economy: the value-added multiplier (Table 14), the labor income share (Table 15), and the labor income multiplier (Table 16). Together they capture how efficiently final demand generates domestic income, how that income is distributed between labor and capital, and how much of each additional unit of demand flows ultimately to workers across Morocco'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. Real estate (L) records the highest multiplier in the services economy at 0.987–0.934, reflecting near-complete domestic content. Education (P) and financial services (K) maintain high multipliers in the 0.923–0.961 range throughout the period. KS multipliers are high and broadly stable: J62–63 at 0.956–0.873, M at 0.951–0.879, N at 0.955–0.840. The modest downward trend in KS multipliers is consistent with the rising EXGR_FVA documented in section 9: as Morocco's KS firms deepen their integration into global knowledge-production networks by importing more specialized foreign intermediates, a slightly larger share of each unit of KS output value flows abroad rather than circulating domestically. This is the expected and structurally positive consequence of deeper GVC embedding, not a sign of domestic leakage.

The most dramatic multiplier story in the entire dataset concerns Morocco's transport sub-sectors. Water transport (H50) records a value-added multiplier that collapses from 0.560 in 2012 to just 0.119 in 2022—the sharpest decline in Morocco's entire services economy. Air transport (H51) falls from 0.552 to 0.297. These collapses are the multiplier-side expression of the structural shift documented in the EXGR_DVA analysis of section 7: as Tanger Med's water transport operations have become almost entirely dependent on foreign-origin cargo and foreign-sourced operational inputs, the domestic value added retained per unit of shipping output has fallen dramatically. By 2022, only about 12 cents of every dollar of H50 final demand is retained as Moroccan domestic income—confirming that the port's contribution to the domestic economy operates primarily through its strong backward and forward linkages (sections 10 and 11) rather than through direct domestic value retention in shipping. Land transport (H49) declines more moderately from 0.662 to 0.596, consistent with road freight maintaining a larger domestic input base than maritime or aviation operations.

Table 15's labor income share—the ratio of employee compensation to total value added—reveals important distributional patterns. Public administration (O) maintains the highest and most stable labor share at 0.835–0.764, reflecting the government wage structure. Education (P) records 0.852–0.750, declining somewhat over the period. Administrative and support services (N) records a moderately high and broadly stable labor share at 0.591–0.563, consistent with N's labor-intensive BPO and business-services character. Computer programming (J62–63) records a high and rising labor share of 0.529–0.593, indicating that the gains from Morocco's IT services growth flow disproportionately to workers—a structurally inclusive pattern. Professional services (M), by contrast, records a declining labor share of 0.481–0.416, suggesting that as M has internationalized and maintained high per-worker value added, returns to capital—including intellectual property, brand value, and professional partnerships—have grown relative to employee compensation.

Telecommunications (J61) records the lowest labor share among KS sub-sectors at 0.129–0.159, reflecting its high capital and spectrum intensity. Real estate (L) records a near-zero labor share (0.013), entirely expected given that L's value added is dominated by imputed rents rather than employee compensation. Accommodation and food services (I) records a striking decline in labor share from 0.248 in 2012 to 0.132 in 2022—the sharpest proportional decline in the dataset—suggesting that the post-COVID-19 recovery of Morocco's tourism sector has been predominantly capital-led, with investment in capacity expansion outpacing wage recovery. This finding warrants attention from a distributional perspective: a sector employing 1.5%–1.6% of the total workforce and highly dependent on foreign demand is distributing a sharply declining share of its income to workers.

Table 16's labor income multipliers—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 at 0.701–0.632, driven by high labor share and high domestic content. Education (P) records 0.789–0.659, also high but declining as labor income shares fell. Within KS, N records the highest labor income multiplier at 0.521–0.442, followed by J62–63 at 0.485–0.492—broadly stable and the most resilient in the KS group—and M at 0.449–0.360, declining as M's labor share fell even as value-added multipliers remained elevated. Financial services (K) records a remarkably stable multiplier of 0.278–0.282. The most significant collapse is water transport (H50), whose labor income multiplier falls from 0.214 to 0.037 by 2022, entirely consistent with the near-complete disappearance of domestic value retention in that sector. Air transport (H51) declines from 0.258 to 0.157.

The central structural implication is that the KS sectors Morocco should prioritize for scaling—J62–63, M, and N—generate moderate but resilient labor income multipliers, with J62–63's being the most stable and N's the highest. Scaling these sectors would not only advance Morocco's GVC integration and export objectives, but would deliver meaningful wage and employment multiplier effects across the economy, reinforcing the case for the coordinated scaling strategy the paper identifies. The distributional caution concerns M: its declining labour income share and multiplier suggest that M's internationalization, while structurally desirable, risks generating growth that is concentrated in capital and professional partnership returns rather than in broad-based wage income. Ensuring that M's scaling is accompanied by policies to deepen its domestic labour market linkages—through domestic graduate pipelines, professional certification frameworks, and domestic subcontracting relationships—is a policy priority that the labour income data make concrete.

14. COMPARISON AGAINST THE EU15 BENCHMARK

The comparison to the EU15 benchmark is not premised on the expectation that Morocco should replicate the EU15 path. The differences in institutional development, factor endowments, and historical context preclude a simple convergence narrative. Rather, the aim is to identify the specific structural gaps that separate Morocco's current services configuration from the configurations associated with high-income services-led economies.

On GDP composition, the EU15 sustained KS shares in the 15%–17% range throughout 2012–2022, compared to Morocco's 9.7%–10.3%. This five to seven percentage point gap represents the structural distance Morocco must close for KS to constitute the dominant engine of productivity growth and structural transformation. The EU15 achieved this through multi-decade accumulation

of human capital, digital infrastructure, and institutional frameworks that support knowledge-intensive activity. Crucially, the EU15 also has self-reinforcing scale: large KS sectors generate the professional ecosystems, venture capital flows, and internationally recognized brand identities that attract further KS investment. Morocco's KS sector has not reached the scale threshold at which this self-reinforcing dynamic operates, a diagnosis the framework's big-push logic makes precise.

On backward GVC integration, the EU15 benchmark shows considerably greater variation in EXGR_DVA across services sub-sectors than Morocco, reflecting mature GVC embeddedness in which KS in particular draw on internationally specialized intermediate inputs at high rates, generating below-average EXGR_DVA. Morocco's KS EXGR_DVA values of 86%–93% are significantly above where EU15 KS sectors sit, confirming that Morocco's KS sector has not yet integrated into the global knowledge-economy supply chain that characterizes the EU benchmark. Morocco's transport sector EXGR_DVA values, by contrast, already approach or overlap the EU15 range for logistics-intensive sectors, reflecting Tanger Med's genuine integration into European automotive and consumer goods supply chains.

On forward integration, Morocco's J62–63 FFD_DVA values of 88%–93% far exceed the EU15 level for this sub-sector, which ranged from only 20% to 26% throughout the reference period. The comparison is therefore not one of convergence but of structural difference: EU15 computer programming firms serve a large domestic market and export only a fraction of their output, whereas Morocco's software and IT services sector has no substantial domestic market and necessarily channels virtually all of its output to foreign final consumers. Morocco's M (44%–68%) and N (42%–52%) FFD_DVA values similarly exceed the EU15 range for equivalent sectors (23%–27%), for the same structural reason. Morocco's ES forward integration, particularly air transport (74%–90%) and postal/courier services (81%–94%), also far exceeds EU15 levels for the land and air transport sub-sectors, confirming the authentically international character of Morocco's logistics economy.

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

Drawing together the evidence across all tables, Morocco's services sector presents the most advanced structural profile among the three North African economies examined in this study, yet it remains some distance from the threshold at which self-reinforcing, services-led convergence becomes the dominant growth dynamic.

Reading this evidence through the series' four structural groups clarifies both Morocco's achievements and its constraints. On Group 1 (GVC participation), Morocco's dual forward-integration profile provides the strongest GVC forward-integration story among the three North African economies: J62–63 at 88%–93% FFD_DVA far exceeding the EU15 level of 20%–26% (reflecting Morocco's near-total export orientation in this sub-sector rather than a gap to close), M rising to 68% and substantially above the EU15 level of 23%–27%, N at 52% and trending upward, all three simultaneously deepening their upstream embedding in foreign production networks as FEXGR_DVA rises. The ES transport complex adds authentic input-side integration (H50 EXGR_DVA at 10% by 2022, H51 at approximately 30%), confirming that Tanger Med and Morocco's aviation hub operate in genuine global production networks rather than as transit enclaves. On Group 2 (domestic production linkages), the findings are more sobering. KS GDP shares have declined from 10.3% to 9.7%, widening the gap to the EU15's 15.6%–17.4% benchmark, while public administration has expanded within an already-dominant LS category. Backward linkages confirm KS's knowledge-economy character (all major KS sectors below the economy average) and document the

declining backward pull of H50 and H51 as they source inputs increasingly from abroad. Forward linkages are led by N's above-average domestic embedding (1.16–1.22) and K's stable intermediary role (1.08–1.17), while M's decline from near-average to below-average forward linkage (0.922 to 0.815) signals a progressive withdrawal from the domestic supply chain role that the EU15 benchmark identifies as M's eventual structural calling. Groups 3 and 4 (employment structure and productivity), now available from the 2025 OECD TiM database, confirm and sharpen the structural diagnosis. Morocco's KS sectors employ only about 1.6 percent of the total workforce despite accounting for roughly 10 percent of GDP, with professional services (M) recording value added per worker of over USD 100,000—among the highest in the North African dataset. This extraordinary productivity differential confirms both the quality and the scale insufficiency of Morocco's KS sector simultaneously: the sectors are world-class in output per worker but far too small in employment terms to drive broad-based structural transformation. Evidence from sections 12 and 13 reinforces the big-push policy implication.

Compared to Tunisia and Egypt, Morocco shows the strongest evidence of internationally competitive KS, the most authentic integration of ES into GVCs, and the clearest example of a dual-orientation KS sub-sector in which domestic embedding and international reach coexist. Morocco's challenge is therefore not to discover viable services sectors, but to scale those that are already demonstrating convergence potential.

The combined evidence from EXGR_DVA, EXGR_FVA, FFD_DVA, and FEXGR_DVA provides a more complete characterization of Morocco's position in GVCs. On the input side, declining EXGR_DVA and rising EXGR_FVA in key sectors—particularly transport and, to a lesser extent, KS—indicate increasing reliance on foreign intermediate inputs consistent with deeper GVC embedding. On the output side, the combination of high FFD_DVA and rising FEXGR_DVA confirms that Moroccan services sectors are integrated both downstream into foreign final demand and upstream into global production processes. This dual integration distinguishes Morocco structurally from less advanced economies, and places it closer to the GVC profile observed in EU15 service exporters. This contrasts with Egypt's structurally low EXGR_FVA and FEXGR_DVA, which reflect limited integration into both input and production networks.

The EU15 benchmark makes this convergence concrete: by 2022, Morocco's professional services (M) and administrative services (N) reached or exceeded EU15 levels of foreign input sourcing, and J62–63's upstream GVC participation— the share of its domestic value added embedded as an intermediate input in other countries' exports—surpassed the EU15 average. Morocco is thus the only economy in the North African dataset for which bilateral GVC embeddedness, measured simultaneously on the input and upstream-positioning dimensions, has crossed the EU15 threshold in its most strategically significant KS sub-sectors.

Morocco has succeeded in creating genuinely world-class sub-sectors within KS. The J62–63 computer programming sub-sector's FFD_DVA values of 88%–93% represent one of the most striking single indicators in the entire dataset: a sector of this forward integration depth, in an economy at Morocco's income level, is rare in the global development literature and provides direct evidence that Morocco has established internationally competitive software and IT services capability. The professional, scientific, and technical (M) sector's rising FFD_DVA (44% to 68% over the decade)—even though its domestic forward linkages have declined from around the economy average to below-average levels—and the administrative and support service (N) sector's dual domestic-external orientation (high forward linkages combined with rising FFD_DVA), further

confirm that Morocco's KS sector is not merely present, but is structurally configured for international market participation.

Morocco's ES, particularly the transport and logistics complex anchored by Tanger Med, exhibit authentic GVC integration, as evidenced by the combination of low EXGR_DVA (indicating import content consistent with assembly and re-export operations) and high FFD_DVA (indicating genuine penetration of foreign final markets). The rising forward integration of transport services (H FFD_DVA rising from 52% to 69%), the near-average forward linkages of the port sector (H50 forward index oscillating in the 0.86–1.12 range across the decade, with moderate domestic intermediate supply relationships consistent with its role as a GVC logistics hub), and the exceptional performance of postal and courier services (H53 FFD_DVA at 93.5% in 2022), collectively indicate a logistics economy that has moved far beyond transit handling toward deeply integrated value-chain participation.

The primary structural weakness Morocco must address is insufficient scale in KS. The computer programming, consultancy, and information services (J62–63) sub-sector achieves world-class forward integration at a GDP share of only about 0.5%. The M sector combines rapidly rising international orientation (FFD_DVA reaching 68% in 2022) with declining domestic forward linkages—now below average at 0.815—at roughly 3.2% of GDP. The N sector, despite its strong structural characteristics, also remains too small to shift the aggregate. Morocco's KS sector collectively accounts for less than 10% of GDP, compared to the EU15's 15%–17%. Morocco has built high-performing nodes within KS, but these have not yet expanded sufficiently to reshape the economy's overall structure.

A secondary concern is the structural quality of LS. The rising share of public administration (from about 9.8% to 10.8% of GDP) and the absence of any sustained increase in KS at the aggregate level suggest that part of services-sector growth is being absorbed by non-tradable, non-productive activities, rather than by scalable, export-oriented KS. This compositional drift reduces the structural quality of Morocco's services economy, despite individual KS sub-sectors improving their performance metrics.

One of the most analytically significant findings concerns the dual orientation of the administrative and support services sector (N). 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. This dual orientation makes N a structural anchor for Morocco's KS development in a way that neither a purely export-oriented sector nor a purely domestically embedded sector would be.

The big-push logic suggests that scaling N while maintaining both its domestic embedding and its international orientation would generate dual multiplier effects by simultaneously stimulating domestic downstream sectors and generating foreign exchange. Convergence theory identifies this as the mechanism through which services-led development becomes self-sustaining. Morocco has already built the sub-sectoral foundations; the task is to expand them to economy-transforming scale.

Morocco has already identified and developed services sectors capable of supporting convergence. The policy task is to expand these—particularly J62–63, M, and N—to a scale at which their spillovers, employment effects, and productivity gains become self-reinforcing. This requires expanding the nearshore ecosystem to attract more software, analytics, and digital-services firms; deepening the professional-services cluster; and ensuring that N's BPO orientation evolves toward higher-value knowledge services rather than remaining concentrated in lower-value call-center activities.

Meanwhile, maintaining the balance between international orientation and domestic embedding will

be critical. The experience of M (rising export orientation has been accompanied by declining domestic forward linkages) shows that international integration alone is not sufficient. Achieving a dual-orientation structure across KS sectors, as observed in the EU15, remains the key condition for sustained services-led convergence.

Data Sources

All quantitative data in this paper are drawn from three OECD databases accessed in 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 from the OECD Trade in Employment (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 Morocco'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.

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ANNEX 1

Indicators Used in the Analysis

To capture the multiple dimensions of services-led development, 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. 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 into 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 of services in GDP.
- 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 to distinguish 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.
- **Value added multipliers** measure the total domestic value added generated throughout the economy per unit of final demand for the sector's output. Like the employment multiplier it is derived from the Leontief inverse, but weighted by the value-added content at each stage of production rather than employment intensity.
- **Labor income shares** measure the fraction of sectoral value added paid out as compensation to workers — wages, salaries, and employer social contributions — expressed as a proportion of total value added.
- **Labor income multipliers** combine the value-added multipliers with the labor income shares (above) and measure the total labor income generated throughout the economy per unit of final demand for the sector. It is therefore a comprehensive indicator of the sector's contribution to household income, capturing both the breadth of domestic linkages and the extent to which those linkages generate wages rather than profits.

Taken together, these sixteen indicators form a coherent analytical system that permits 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), Labor Income Share (Table 15), and Labor Income Multipliers (Table 16)—are derived using the domestic Leontief inverse and OECD ICIO value-added component data.*

ANNEX 2

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

ANALYSIS BY GROUPS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Services	10.27%	10.11%	10.36%	9.86%	10.12%	9.95%	9.91%	9.95%	9.70%	9.46%	9.71%
Information and communication (J)	3.46%	3.45%	3.43%	3.13%	3.09%	2.87%	2.86%	2.84%	3.12%	2.82%	2.76%
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.33%	0.33%	0.33%	0.32%	0.34%	0.34%	0.33%	0.32%	0.32%	0.31%	0.29%
Telecommunications (J61)	2.63%	2.62%	2.61%	2.33%	2.28%	2.06%	2.06%	2.05%	2.18%	2.01%	1.92%
Computer programming, consultancy, and information service activities (J62-63)	0.50%	0.50%	0.50%	0.48%	0.47%	0.47%	0.47%	0.46%	0.62%	0.50%	0.55%
Professional, scientific and technical activities (M)	3.26%	3.13%	3.28%	3.13%	3.24%	3.22%	3.20%	3.19%	3.14%	3.18%	3.18%
Administrative and support service activities (N)	3.56%	3.53%	3.64%	3.61%	3.80%	3.86%	3.84%	3.92%	3.44%	3.47%	3.77%
Enabling Services	8.26%	8.30%	8.72%	9.17%	9.27%	9.12%	8.92%	9.22%	8.27%	8.33%	8.14%
Transportation and storage (H)	3.27%	3.54%	3.90%	4.42%	4.59%	4.43%	4.24%	4.55%	3.69%	3.69%	3.48%
Land transport and transport via pipelines (H49)	1.88%	2.05%	2.33%	2.66%	2.83%	2.60%	2.44%	2.65%	2.20%	2.25%	1.99%
Water transport (H50)	0.05%	0.05%	0.07%	0.11%	0.13%	0.17%	0.16%	0.16%	0.08%	0.05%	0.01%
Air transport (H51)	0.13%	0.23%	0.26%	0.44%	0.51%	0.53%	0.53%	0.51%	0.31%	0.24%	0.31%
Warehousing and support activities for transportation (H52)	1.10%	1.11%	1.14%	1.10%	1.00%	1.01%	0.99%	1.13%	1.00%	1.06%	1.09%
Postal and courier activities (H53)	0.10%	0.11%	0.11%	0.11%	0.12%	0.12%	0.11%	0.11%	0.10%	0.08%	0.07%
Financial and insurance activities (K)	4.99%	4.75%	4.83%	4.75%	4.68%	4.70%	4.68%	4.66%	4.58%	4.65%	4.66%
Local Services	38.52%	37.96%	38.10%	37.03%	37.22%	37.14%	37.38%	37.42%	38.38%	37.99%	38.33%
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	9.15%	8.73%	8.88%	8.68%	8.74%	8.79%	8.84%	8.81%	8.64%	8.75%	8.94%
Accommodation and food service activities (I)	2.22%	2.22%	2.37%	2.20%	2.30%	2.44%	2.46%	2.45%	2.32%	2.46%	2.47%
Real estate activities (L)	3.64%	3.58%	3.30%	3.47%	3.24%	3.29%	3.38%	3.37%	3.32%	3.35%	3.36%
Public administration and defence; compulsory social security (O)	9.75%	9.75%	9.85%	9.60%	9.86%	9.80%	9.84%	10.08%	11.08%	10.75%	10.78%
Education (P)	8.33%	8.30%	8.28%	7.82%	7.79%	7.59%	7.68%	7.59%	8.08%	7.71%	7.80%
Human health and social work activities (Q)	3.68%	3.65%	3.65%	3.54%	3.57%	3.53%	3.48%	3.46%	3.41%	3.44%	3.44%
Arts, entertainment and recreation (R); Other service activities (S); Activities of households as employers (T)	1.75%	1.73%	1.77%	1.72%	1.71%	1.70%	1.70%	1.67%	1.54%	1.53%	1.54%
Total Services	57.05%	56.36%	57.18%	56.06%	56.60%	56.22%	56.20%	56.59%	56.35%	55.79%	56.18%

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

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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
In thousands											
Total - all activities	10510.5	10624.6	10645.6	10678.7	10641.6	10698.9	10809.6	10974.8	10542.4	10772.4	10748.6
Agriculture, forestry and fishing	4121.1	4042.1	3977.1	3884.2	3781.2	3618.7	3584.5	3554.6	3386.2	3406.8	3372
Mining and quarrying	67.7	68.5	69.6	71.9	73.8	73.8	76.8	80.8	83.4	86.5	90.3
Manufacturing	1102.8	1114.2	1093	1110.3	1102.4	1149.1	1185.1	1215	1169.3	1166.6	1186.6
Utilities and other activities	35.4	36.9	38.6	38.6	38.5	38.9	40.2	41	39.1	42.1	42.4
Construction	1038.4	1067	1082.4	1120.7	1124.7	1147.1	1193	1240.4	1195	1290.2	1291.3
Services of the business economy - sections G to N	2573.2	2641.5	2703.2	2767.1	2816.1	2834.4	2944.2	3061.9	2917.7	3049.6	3094.6
Public admin, educ. & health; soc. & pers. serv.	1566.8	1612.7	1644.6	1678.2	1699.4	1694.1	1745.2	1798.1	1768.6	1835.2	1872
% 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	39.2%	38.0%	37.4%	36.4%	35.5%	33.8%	33.2%	32.4%	32.1%	31.6%	31.4%
Mining and quarrying	0.6%	0.6%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%
Manufacturing	10.5%	10.5%	10.3%	10.4%	10.4%	10.7%	11.0%	11.1%	11.1%	10.8%	11.0%
Utilities and other activities	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Construction	9.9%	10.0%	10.2%	10.5%	10.6%	10.7%	11.0%	11.3%	11.3%	12.0%	12.0%
Services of the business economy - sections G to N	24.5%	24.9%	25.4%	25.9%	26.5%	26.5%	27.2%	27.9%	27.7%	28.3%	28.8%
Public admin, educ. & health; soc. & pers. serv.	14.9%	15.2%	15.4%	15.7%	16.0%	15.8%	16.1%	16.4%	16.8%	17.0%	17.4%
Total services	39.4%	40.0%	40.8%	41.6%	42.4%	42.3%	43.4%	44.3%	44.5%	45.3%	46.2%

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

Table 3 Morocco: 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	1.52%	1.49%	1.46%	1.46%	1.47%	1.44%	1.44%	1.45%	1.54%	1.52%	1.67%
Information and communication (J)	0.84%	0.80%	0.76%	0.76%	0.75%	0.73%	0.72%	0.71%	0.81%	0.80%	0.87%
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.15%	0.15%	0.15%	0.14%	0.15%	0.15%	0.14%	0.14%	0.16%	0.15%	0.17%
Telecommunications (J61)	0.35%	0.36%	0.36%	0.34%	0.33%	0.30%	0.30%	0.30%	0.33%	0.32%	0.35%
Computer programming, consultancy, and information service activities (J62-63)	0.34%	0.30%	0.25%	0.27%	0.27%	0.29%	0.28%	0.28%	0.33%	0.33%	0.35%
Professional, scientific and technical activities (M)	0.30%	0.30%	0.31%	0.30%	0.30%	0.29%	0.30%	0.30%	0.31%	0.30%	0.34%
Administrative and support service activities (N)	0.37%	0.38%	0.39%	0.40%	0.42%	0.41%	0.42%	0.43%	0.42%	0.42%	0.47%
Enabling Services	1.75%	1.75%	1.76%	1.75%	1.75%	1.70%	1.72%	1.73%	1.66%	1.65%	1.76%
Transportation and storage (H)	1.17%	1.18%	1.20%	1.17%	1.16%	1.11%	1.11%	1.11%	1.02%	1.00%	1.08%
Land transport and transport via pipelines (H49)	0.49%	0.50%	0.50%	0.47%	0.45%	0.41%	0.44%	0.45%	0.41%	0.40%	0.43%
Water transport (H50)	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.04%	0.04%	0.03%	0.03%	0.03%
Air transport (H51)	0.20%	0.20%	0.20%	0.21%	0.22%	0.23%	0.21%	0.20%	0.15%	0.14%	0.16%
Warehousing and support activities for transportation (H52)	0.37%	0.37%	0.38%	0.37%	0.36%	0.36%	0.35%	0.37%	0.38%	0.37%	0.41%
Postal and courier activities (H53)	0.06%	0.07%	0.07%	0.06%	0.06%	0.06%	0.06%	0.06%	0.05%	0.05%	0.06%
Financial and insurance activities (K)	0.58%	0.57%	0.56%	0.58%	0.59%	0.59%	0.60%	0.62%	0.65%	0.66%	0.68%
Local Services	36.12%	36.81%	37.62%	38.42%	39.22%	39.19%	40.22%	41.11%	41.25%	42.18%	42.77%
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	18.65%	19.00%	19.48%	19.94%	20.44%	20.51%	21.14%	21.71%	21.59%	22.14%	22.31%
Accommodation and food service activities (I)	2.56%	2.62%	2.68%	2.76%	2.80%	2.84%	2.93%	3.01%	2.87%	2.99%	3.04%
Real estate activities (L)	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Public administration and defence; compulsory social security (O)	4.77%	4.81%	4.87%	4.94%	5.02%	4.95%	5.04%	5.10%	5.29%	5.34%	5.41%
Education (P)	3.57%	3.64%	3.70%	3.76%	3.80%	3.77%	3.83%	3.88%	3.98%	4.02%	4.02%
Human health and social work activities (Q)	0.93%	0.96%	0.98%	1.01%	1.03%	1.03%	1.06%	1.09%	1.14%	1.16%	1.19%
Arts, entertainment and recreation (R)	0.88%	0.91%	0.92%	0.93%	1.01%	1.03%	1.02%	1.08%	1.26%	1.29%	1.35%
Other service activities (S)	2.15%	2.26%	2.24%	2.38%	2.57%	2.56%	2.69%	2.66%	2.41%	2.46%	2.57%
Activities of households as employers; undiff. goods- and services- (T)	2.61%	2.61%	2.73%	2.70%	2.53%	2.50%	2.51%	2.58%	2.70%	2.76%	2.88%
Total Services	39.39%	40.04%	40.84%	41.63%	42.43%	42.33%	43.38%	44.28%	44.45%	45.35%	46.21%

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

Table 4 Morocco: 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)	39.0	43.9	47.4	39.9	40.3	40.8	43.7	43.7	41.3	43.6	36.4
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	20.7	22.4	23.3	21.7	22.1	24.2	26.4	25.1	22.0	24.8	20.1
Telecommunications (J61)	70.7	74.8	75.3	65.4	66.9	72.1	75.2	75.9	72.0	77.7	63.3
Computer programming, consultancy, and information service activities (J62-63)	14.1	17.2	21.0	17.1	17.2	17.0	18.3	18.5	20.1	18.9	17.6
Professional, scientific and technical activities (M)	102.8	106.2	111.2	101.9	107.1	113.9	119.8	117.8	109.8	128.2	106.2
Administrative and support service activities (N)	90.5	93.8	98.8	86.4	89.8	97.7	100.3	99.5	87.8	102.5	92.1
Enabling Services											
Transportation and storage (H)	26.6	30.6	34.1	36.5	39.0	41.4	42.0	45.0	39.0	45.5	36.6
Land transport and transport via pipelines (H49)	36.4	42.1	48.5	54.3	61.2	65.4	60.5	65.0	58.1	69.4	52.2
Water transport (H50)	8.8	10.5	13.5	20.6	24.2	39.1	41.9	43.1	29.9	24.1	5.5
Air transport (H51)	6.4	11.5	13.3	20.4	22.9	23.8	27.9	28.4	22.8	20.3	22.5
Warehousing and support activities for transportation (H52)	28.6	30.6	31.7	28.4	27.0	29.3	30.8	33.5	28.3	34.9	30.7
Postal and courier activities (H53)	15.6	17.1	17.9	17.3	18.1	19.1	21.0	21.3	19.8	19.7	14.8
Financial and insurance activities (K)	82.0	85.7	89.7	79.2	77.9	83.1	85.5	83.0	76.4	87.0	78.0
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	4.7	4.7	4.8	4.2	4.2	4.5	4.6	4.5	4.3	4.9	4.6
Accommodation and food service activities (I)	8.3	8.6	9.3	7.7	8.1	9.0	9.3	8.9	8.7	10.1	9.3
Real estate activities (L)	3637.5	3524.8	3692.0	2757.9	2606.4	3048.0	3102.7	3126.7	3765.2	4437.5	3742.3
Public administration and defence; compulsory social security (O)	19.4	20.7	21.2	18.8	19.3	20.6	21.5	21.8	22.6	24.7	22.7
Education (P)	22.2	23.2	23.5	20.1	20.1	20.9	22.1	21.5	21.9	23.6	22.1
Human health and social work activities (Q)	37.6	38.9	39.0	34.1	34.0	35.6	36.1	35.0	32.3	36.5	32.9
Arts, entertainment and recreation (R)	3.7	3.8	3.9	3.5	3.3	3.4	3.7	3.5	2.7	3.2	2.9
Other service activities (S)	4.3	4.4	4.6	3.9	3.8	4.0	4.1	4.0	3.8	4.1	3.7
Activities of households as employers; undiff. goods- and services- (T)	1.6	1.6	1.7	1.5	1.5	1.6	1.7	1.6	1.5	1.7	1.5

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

Table 5 Morocco: 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)	92.5	92.8	90.1	90.5	89.9	89.7	88.9	89.8	89.4	89.4	86.1
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	74.5	75.5	80.9	82.6	82.9	82.6	81.4	82.6	83.4	81.9	75.3
Telecommunications (J61)	94.6	94.9	93.0	92.9	92.0	91.8	91.7	92.1	91.9	91.7	88.4
Computer programming, consultancy, and information service activities (J62-63)	95.5	96.2	90.4	91.0	90.6	90.5	89.7	90.4	89.7	90.4	88.3
Professional, scientific and technical activities (M)	95.2	95.2	92.5	92.8	93.1	92.9	92.6	93.1	93.5	92.7	89.1
Administrative and support service activities (N)	95.5	96.0	89.5	90.4	90.3	89.9	89.5	90.1	90.2	89.4	85.9
Enabling Services											
Transportation and storage (H)	61.3	66.7	58.3	67.1	67.6	64.7	61.8	65.1	71.7	67.7	56.9
Land transport and transport via pipelines (H49)	64.9	69.6	72.5	80.2	82.2	78.8	75.0	77.4	81.1	76.3	69.9
Water transport (H50)	37.8	40.5	27.0	40.2	42.5	42.6	40.1	41.5	35.1	27.4	10.2
Air transport (H51)	37.7	43.4	34.8	49.3	50.2	46.4	43.5	45.0	52.7	44.0	29.9
Warehousing and support activities for transportation (H52)	87.4	89.3	80.2	81.7	82.1	80.1	79.3	81.5	79.2	76.9	73.5
Postal and courier activities (H53)	74.7	77.8	79.7	83.7	84.4	82.1	80.4	81.9	82.6	79.1	71.6
Financial and insurance activities (K)	95.2	95.7	93.0	94.1	93.7	93.6	93.1	93.9	94.5	93.9	90.8
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	87.1	87.5	85.1	87.6	87.8	87.3	86.7	87.6	87.9	86.0	81.5
Accommodation and food service activities (I)	90.2	91.4	89.4	91.3	90.5	90.9	90.3	90.5	90.0	89.5	85.7
Real estate activities (L)	98.8	98.8	95.7	96.2	96.3	96.2	96.5	96.8	97.0	96.7	94.4
Public administration and defence; compulsory social security (O)	92.2	93.1	89.5	90.9	91.0	90.8	90.4	91.4	93.6	92.3	89.9
Education (P)	96.0	96.2	95.4	95.7	95.7	95.3	95.1	95.4	95.3	94.1	93.5
Human health and social work activities (Q)	92.3	92.7	89.9	91.7	92.2	91.5	90.7	91.2	91.8	90.2	86.2
Arts, entertainment and recreation (R)	88.1	89.0	87.1	89.2	89.4	88.9	88.4	89.2	89.8	88.7	84.5
Other service activities (S)	88.2	89.0	85.0	86.4	86.5	85.7	85.3	85.9	85.8	84.5	80.0
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 6 Morocco: 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)	36.0	31.1	34.0	36.0	34.8	36.4	35.5	35.0	34.9	34.0	43.2
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	29.6	28.1	34.0	35.1	34.0	33.9	35.3	31.7	33.3	34.3	45.1
Telecommunications (J61)	27.0	22.3	25.6	25.8	23.9	25.2	23.8	23.4	18.7	19.6	29.5
Computer programming, consultancy, and information service activities (J62-63)	87.9	79.7	78.5	85.9	88.4	86.8	87.4	88.4	92.7	92.0	90.5
Professional, scientific and technical activities (M)	43.9	40.9	40.8	44.3	48.3	50.0	52.3	53.8	52.4	51.9	68.1
Administrative and support service activities (N)	41.7	38.3	34.9	37.1	38.3	39.8	41.0	41.7	41.7	41.3	51.8
Enabling Services											
Transportation and storage (H)	51.9	49.9	50.7	51.2	50.8	56.2	57.1	57.4	56.9	55.8	69.0
Land transport and transport via pipelines (H49)	40.7	39.1	40.6	39.8	39.3	44.7	46.5	47.8	48.7	47.3	67.9
Water transport (H50)	77.2	49.1	76.1	77.4	79.8	81.2	81.4	81.0	65.7	69.0	74.7
Air transport (H51)	74.2	70.0	84.9	89.8	89.9	91.3	90.0	88.2	88.7	88.4	89.8
Warehousing and support activities for transportation (H52)	64.5	63.5	59.5	57.7	55.8	59.5	57.6	59.5	60.9	63.1	63.3
Postal and courier activities (H53)	81.0	73.1	76.5	79.3	80.7	89.7	91.9	91.2	91.7	91.7	93.5
Financial and insurance activities (K)	14.9	13.9	15.8	16.5	16.9	17.0	17.1	17.1	14.7	15.2	19.8
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	25.3	24.5	27.2	28.0	28.9	30.2	31.0	31.6	30.4	30.9	35.7
Accommodation and food service activities (I)	56.6	60.3	57.0	57.0	56.5	58.4	55.6	57.6	30.1	24.7	52.0
Real estate activities (L)	9.4	9.5	9.9	9.5	10.2	10.8	10.7	11.1	6.8	6.2	11.0
Public administration and defence; compulsory social security (O)	1.7	1.8	3.8	4.8	4.7	4.8	5.3	4.7	3.7	3.9	4.5
Education (P)	2.9	2.8	2.8	3.0	3.1	3.4	3.4	3.5	2.4	2.3	3.8
Human health and social work activities (Q)	2.1	2.1	1.9	1.9	2.0	2.1	2.0	2.1	1.1	1.0	1.9
Arts, entertainment and recreation (R)	38.5	42.0	37.6	37.4	39.1	41.9	40.0	41.6	21.9	17.9	37.6
Other service activities (S)	13.0	12.5	11.2	11.0	11.3	12.2	11.7	12.1	8.0	7.3	12.8
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 Morocco: 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)	59.9	51.3	62.1	67.2	66.5	68.0	66.3	67.5	69.8	66.5	74.7
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	46.2	44.1	70.6	72.3	68.4	66.7	71.6	63.3	64.5	63.0	81.4
Telecommunications (J61)	33.4	26.7	34.2	35.0	32.8	34.6	30.3	33.3	26.1	26.0	41.0
Computer programming, consultancy, and information service activities (J62-63)	93.8	84.6	97.9	105.4	107.8	102.7	102.3	106.5	115.0	107.8	104.3
Professional, scientific and technical activities (M)	62.1	60.9	78.3	90.0	97.7	96.9	103.1	110.5	105.5	104.0	156.6
Administrative and support service activities (N)	51.0	40.2	51.9	55.4	56.9	59.9	62.3	65.6	70.7	67.8	92.8
Enabling Services											
Transportation and storage (H)	86.8	77.1	117.5	113.4	109.3	114.2	110.1	113.8	106.8	98.9	110.8
Land transport and transport via pipelines (H49)	63.0	57.9	80.0	74.2	67.5	79.2	79.3	86.2	88.5	82.6	108.7
Water transport (H50)	174.2	85.4	174.1	135.8	140.8	143.2	147.2	152.7	115.7	108.5	135.0
Air transport (H51)	134.5	122.9	235.2	236.5	224.7	210.5	209.1	212.9	187.1	157.8	182.8
Warehousing and support activities for transportation (H52)	78.6	75.0	98.2	92.9	87.6	88.3	82.8	88.5	92.0	89.8	82.5
Postal and courier activities (H53)	100.5	88.1	105.3	107.3	106.6	117.8	121.8	122.6	125.6	120.1	118.1
Financial and insurance activities (K)	8.0	7.8	8.6	7.6	9.1	8.1	7.7	7.9	6.3	6.3	10.4
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	19.0	18.7	17.7	18.1	18.8	19.6	20.2	20.6	20.4	20.6	22.9
Accommodation and food service activities (I)	85.9	86.1	96.2	92.3	91.9	94.7	89.2	90.4	45.2	37.2	81.4
Real estate activities (L)	106.7	120.3	411.5	255.3	268.3	281.2	236.7	263.5	223.7	206.1	493.2
Public administration and defence; compulsory social security (O)	1.7	1.8	3.6	5.0	4.9	4.7	5.3	4.7	3.3	3.3	3.5
Education (P)	2.7	2.7	2.6	2.7	2.8	3.2	3.1	3.1	2.3	2.1	3.8
Human health and social work activities (Q)	2.7	2.7	3.3	3.0	3.0	3.3	3.2	3.2	1.7	1.4	3.0
Arts, entertainment and recreation (R)	40.8	44.0	42.2	41.3	42.7	45.5	43.5	45.1	23.0	18.7	40.3
Other service activities (S)	10.6	10.6	9.1	8.6	8.7	9.4	8.8	9.1	5.2	4.5	9.9
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 Morocco: 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)	51.8	44.5	44.5	49.0	48.8	51.3	50.9	50.1	51.8	52.0	57.5
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	29.6	28.1	34.1	35.1	34.0	33.9	35.3	31.7	33.3	34.3	45.1
Telecommunications (J61)	27.0	22.3	25.6	25.8	23.9	25.2	23.8	23.4	18.7	19.6	29.5
Computer programming, consultancy, and information service activities (J62-63)	87.9	79.7	78.5	85.9	88.4	86.9	87.4	88.4	92.7	92.0	90.5
Professional, scientific and technical activities (M)	43.9	40.9	40.8	44.3	48.3	50.0	52.3	53.8	52.5	51.9	68.1
Administrative and support service activities (N)	41.7	38.3	34.9	37.1	38.3	39.8	41.0	41.7	41.7	41.3	51.8
Enabling Services											
Transportation and storage (H)	57.6	54.3	57.5	58.2	58.3	63.2	62.1	62.3	61.8	62.1	70.9
Land transport and transport via pipelines (H49)	40.7	39.1	40.6	39.8	39.3	44.7	46.5	47.8	48.7	47.3	67.9
Water transport (H50)	77.3	49.1	76.1	77.5	79.8	81.2	81.4	81.0	65.7	69.0	74.7
Air transport (H51)	74.3	70.0	84.9	89.8	89.9	91.3	90.0	88.2	88.7	88.4	89.8
Warehousing and support activities for transportation (H52)	64.5	63.5	59.5	57.7	55.8	59.5	57.6	59.6	60.9	63.1	63.3
Postal and courier activities (H53)	81.0	73.1	76.5	79.3	80.7	89.7	91.9	91.2	91.7	91.7	93.5
Financial and insurance activities (K)	14.9	13.9	15.8	16.5	16.9	17.0	17.1	17.1	14.7	15.2	19.9
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	25.3	24.5	27.3	28.0	28.9	30.2	31.0	31.6	30.4	30.9	35.7
Accommodation and food service activities (I)	56.6	60.3	57.0	57.0	56.5	58.4	55.6	57.6	30.1	24.7	52.0
Real estate activities (L)	9.4	9.5	9.9	9.5	10.2	10.8	10.7	11.1	6.9	6.2	11.0
Public administration and defence; compulsory social security (O)	1.7	1.8	3.8	4.8	4.7	4.8	5.3	4.8	3.7	3.9	4.5
Education (P)	2.9	2.8	2.8	3.0	3.1	3.4	3.5	3.5	2.5	2.3	3.8
Human health and social work activities (Q)	2.1	2.1	1.9	1.9	2.0	2.1	2.0	2.1	1.1	1.0	1.9
Arts, entertainment and recreation (R)	38.5	42.0	37.6	37.4	39.1	41.9	40.0	41.6	21.9	17.9	37.6
Other service activities (S)	13.0	12.5	11.2	11.0	11.3	12.2	11.7	12.1	8.0	7.3	12.8
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 Morocco: 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)	1.0167	1.0086	1.0877	1.1044	1.1106	1.1118	1.1171	1.126	1.1407	1.1292	1.1211
Telecommunications (J61)	0.8711	0.869	0.8844	0.9181	0.9377	0.9467	0.9513	0.9507	0.9647	0.9636	0.9619
Computer programming, consultancy, and information service activities (J62-63)	0.875	0.8595	0.8623	0.8791	0.8836	0.8804	0.8722	0.8794	0.8824	0.8844	0.8802
Professional, scientific and technical activities (M)	0.8539	0.8572	0.8264	0.8484	0.8504	0.8497	0.8553	0.8581	0.8634	0.868	0.8853
Administrative and support service activities (N)	0.9195	0.9105	0.8833	0.9033	0.907	0.9066	0.9115	0.9174	0.9396	0.9384	0.9436
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.9893	0.9628	0.9182	0.8682	0.8485	0.8449	0.8471	0.8499	0.8609	0.8594	0.8308
Water transport (H50)	1.2571	1.2643	0.9793	0.8594	0.835	0.804	0.8035	0.8114	0.8154	0.7991	0.813
Air transport (H51)	1.2629	1.2529	1.18	1.0308	0.9394	0.9086	0.8844	0.9003	0.9247	0.8888	0.8519
Warehousing and support activities for transportation (H52)	0.9459	0.9387	0.8881	0.8981	0.9094	0.8961	0.8911	0.8873	0.8992	0.8733	0.8605
Postal and courier activities (H53)	0.9325	0.9169	0.9323	0.9283	0.9231	0.9143	0.9145	0.9162	0.9315	0.9336	0.9282
Financial and insurance activities (K)	0.9476	0.9476	0.9672	0.969	0.9897	0.9894	1.0019	1.0044	1.0045	1.0172	1.0398
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.949	0.9408	0.9468	0.9463	0.9516	0.9419	0.9433	0.9489	0.9468	0.9481	0.953
Accommodation and food service activities (I)	1.105	1.0844	1.1006	1.1235	1.1283	1.1255	1.1289	1.1307	1.1218	1.1218	1.1521
Real estate activities (L)	0.8463	0.8622	0.8424	0.8478	0.8592	0.8619	0.8554	0.855	0.8637	0.87	0.9048
Public administration and defence; compulsory social security (O)	0.9229	0.9048	0.9202	0.9375	0.9393	0.9325	0.9276	0.9232	0.8824	0.8844	0.8706
Education (P)	0.8197	0.8238	0.8035	0.8298	0.8408	0.8508	0.8507	0.8521	0.8641	0.884	0.8563
Human health and social work activities (Q)	0.8336	0.8361	0.8912	0.8838	0.8882	0.8992	0.9144	0.9146	0.91	0.9142	0.9363
Arts, entertainment and recreation (R)	0.9458	0.934	0.9893	0.9887	0.9931	0.9964	0.9993	1.0018	1.0044	1.0079	1.0281
Other service activities (S)	0.9737	0.9708	0.9593	0.9871	0.9892	0.9961	1.002	1.0059	1.024	1.0304	1.0257
Activities of households as employers; undiff. goods- and services- (T)	0.7483	0.7533	0.6836	0.7017	0.7138	0.7191	0.7218	0.7207	0.7241	0.725	0.7304

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

Table 10 Morocco: 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)	0.753	0.7443	0.7014	0.7126	0.7279	0.7422	0.7353	0.7441	0.7547	0.7449	0.7278
Telecommunications (J61)	0.8985	0.8897	0.9336	0.942	0.947	0.9676	0.9827	0.9393	0.9209	0.905	0.8957
Computer programming, consultancy, and information service activities (J62-63)	0.7186	0.7247	0.7172	0.7009	0.7047	0.7246	0.7227	0.7145	0.6907	0.6861	0.7015
Professional, scientific and technical activities (M)	0.9218	0.9101	0.9188	0.9061	0.9027	0.8999	0.8788	0.8704	0.897	0.8934	0.8148
Administrative and support service activities (N)	1.21	1.2086	1.2127	1.2123	1.2165	1.2085	1.1943	1.2002	1.2244	1.2231	1.1597
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.9303	0.9148	0.936	0.937	0.9398	0.9169	0.9187	0.931	0.9325	0.949	0.8501
Water transport (H50)	0.9897	1.1155	0.9305	0.9001	0.8873	0.8625	0.8601	0.8724	0.8768	0.862	0.965
Air transport (H51)	0.9314	0.9259	0.8155	0.7786	0.785	0.7772	0.7961	0.8164	0.8151	0.823	0.8256
Warehousing and support activities for transportation (H52)	0.8491	0.8419	0.8461	0.8474	0.8472	0.8445	0.8436	0.8453	0.8322	0.8236	0.8571
Postal and courier activities (H53)	0.7837	0.7881	0.732	0.7259	0.7306	0.7106	0.7057	0.7086	0.7048	0.7025	0.7128
Financial and insurance activities (K)	1.1239	1.0762	1.1455	1.166	1.1587	1.1719	1.1729	1.1697	1.1563	1.1693	1.1752
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.9995	0.9813	1.0352	1.0389	1.0474	1.0577	1.0503	1.0575	1.04	1.0254	1.0485
Accommodation and food service activities (I)	0.7135	0.7046	0.6451	0.6576	0.668	0.6773	0.6798	0.6782	0.6967	0.7064	0.6891
Real estate activities (L)	0.7222	0.7168	0.6433	0.6733	0.6759	0.6836	0.6845	0.685	0.6917	0.6913	0.6917
Public administration and defence; compulsory social security (O)	0.7233	0.7127	0.6852	0.6968	0.7031	0.7111	0.7073	0.7057	0.7032	0.7022	0.7087
Education (P)	0.7172	0.7089	0.6564	0.6713	0.6817	0.6902	0.6903	0.6903	0.6769	0.6765	0.6788
Human health and social work activities (Q)	0.6997	0.6943	0.6339	0.6464	0.6557	0.6622	0.6612	0.6614	0.6588	0.6547	0.6634
Arts, entertainment and recreation (R)	0.7015	0.6953	0.6366	0.6505	0.6593	0.6673	0.6671	0.6669	0.6751	0.6771	0.674
Other service activities (S)	0.7889	0.7727	0.7537	0.7655	0.7769	0.7923	0.7909	0.7936	0.7817	0.7838	0.7875
Activities of households as employers; undiff. goods- and services- (T)	0.6904	0.6868	0.6203	0.6336	0.644	0.6525	0.6515	0.6521	0.6499	0.6454	0.6536

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

Table 11 Morocco: 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)	0.0423	0.0406	0.0458	0.0502	0.0496	0.0451	0.0414	0.0439	0.0487	0.0407	0.0458
Telecommunications (J61)	0.0175	0.0167	0.0192	0.0221	0.0219	0.0204	0.0192	0.0201	0.0211	0.0179	0.0209
Computer programming, consultancy, and information service activities (J62-63)	0.0637	0.0538	0.0454	0.0545	0.0541	0.0538	0.0498	0.0503	0.0468	0.0476	0.0506
Professional, scientific and technical activities (M)	0.0143	0.0148	0.0175	0.0195	0.0183	0.0164	0.0156	0.0163	0.0175	0.0148	0.0183
Administrative and support service activities (N)	0.0195	0.0176	0.0209	0.0234	0.0221	0.0199	0.0189	0.0198	0.0231	0.019	0.0205
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.0274	0.025	0.0305	0.0296	0.0256	0.0226	0.0223	0.0228	0.0266	0.0206	0.0213
Water transport (H50)	0.0294	0.0284	0.0265	0.0277	0.0262	0.0175	0.0157	0.0164	0.0183	0.0158	0.0171
Air transport (H51)	0.0279	0.0264	0.0341	0.0379	0.036	0.0308	0.0264	0.0272	0.0355	0.0292	0.0204
Warehousing and support activities for transportation (H52)	0.0318	0.03	0.037	0.0407	0.0416	0.036	0.0334	0.0327	0.0375	0.0285	0.0306
Postal and courier activities (H53)	0.0511	0.049	0.0476	0.0514	0.0493	0.0451	0.0406	0.0412	0.045	0.0412	0.0488
Financial and insurance activities (K)	0.0152	0.0145	0.0154	0.0167	0.017	0.0156	0.015	0.0156	0.0168	0.0149	0.0169
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.172	0.1739	0.1569	0.182	0.1828	0.1727	0.1655	0.1729	0.1813	0.1566	0.1616
Accommodation and food service activities (I)	0.121	0.1128	0.1129	0.1308	0.1255	0.1144	0.109	0.1104	0.1121	0.0996	0.1032
Real estate activities (L)	0.0032	0.0033	0.0094	0.0093	0.0091	0.0079	0.0068	0.0073	0.0088	0.0079	0.0111
Public administration and defence; compulsory social security (O)	0.0531	0.05	0.0502	0.0564	0.0543	0.05	0.0471	0.0473	0.0465	0.0416	0.0447
Education (P)	0.0453	0.0432	0.0448	0.052	0.0517	0.0491	0.0461	0.0474	0.0473	0.0432	0.0457
Human health and social work activities (Q)	0.0296	0.0284	0.0348	0.0379	0.0374	0.0353	0.0344	0.0356	0.0377	0.0328	0.036
Arts, entertainment and recreation (R)	0.2045	0.2048	0.1785	0.2058	0.2204	0.2091	0.1947	0.2069	0.2594	0.22	0.2374
Other service activities (S)	0.1796	0.1774	0.1605	0.1865	0.1917	0.1799	0.1749	0.1798	0.1841	0.1655	0.1809
Activities of households as employers; undiff. goods- and services- (T)	0.636	0.6159	0.5991	0.6774	0.6854	0.6399	0.6047	0.6281	0.68	0.6022	0.6778

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

Table 12 Morocco: 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)	7.5	7.2	9.9	9.5	10.1	10.3	11.1	10.2	10.6	10.6	13.9
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	25.5	24.5	19.1	17.4	17.1	17.4	18.6	17.4	16.6	18.1	24.7
Telecommunications (J61)	5.4	5.1	7.0	7.1	8.0	8.2	8.3	7.9	8.1	8.3	11.6
Computer programming, consultancy, and information service activities (J62-63)	4.5	3.8	9.6	9.0	9.4	9.5	10.3	9.6	10.3	9.6	11.7
Professional, scientific and technical activities (M)	4.8	4.8	7.5	7.2	6.9	7.1	7.4	6.9	6.5	7.3	10.9
Administrative and support service activities (N)	4.5	4.0	10.5	9.6	9.7	10.1	10.5	9.9	9.8	10.6	14.1
Enabling Services											
Transportation and storage (H)	38.7	33.3	41.7	32.9	32.4	35.3	38.2	34.9	28.3	32.3	43.1
Land transport and transport via pipelines (H49)	35.1	30.4	27.5	19.8	17.8	21.2	25.0	22.6	18.9	23.7	30.1
Water transport (H50)	62.2	59.5	73.0	59.8	57.5	57.4	59.9	58.5	64.9	72.6	89.8
Air transport (H51)	62.3	56.6	65.2	50.7	49.8	53.6	56.5	55.1	47.3	56.0	70.1
Warehousing and support activities for transportation (H52)	12.6	10.7	19.8	18.3	17.9	19.9	20.7	18.5	20.8	23.1	26.5
Postal and courier activities (H53)	25.3	22.2	20.3	16.3	15.6	17.9	19.6	18.1	17.4	20.9	28.4
Financial and insurance activities (K)	4.8	4.3	7.0	5.9	6.3	6.4	6.9	6.1	5.5	6.1	9.2
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	12.9	12.5	14.9	12.4	12.2	12.7	13.3	12.4	12.1	14.0	18.5
Accommodation and food service activities (I)	9.8	8.6	10.6	8.7	9.5	9.1	9.7	9.5	10.0	10.5	14.3
Real estate activities (L)	1.2	1.2	4.3	3.8	3.7	3.8	3.5	3.2	3.0	3.3	5.6
Public administration and defence; compulsory social security (O)	7.8	6.9	10.5	9.1	9.0	9.2	9.6	8.6	6.4	7.7	10.1
Education (P)	4.0	3.8	4.6	4.3	4.3	4.7	4.9	4.6	4.7	5.9	6.5
Human health and social work activities (Q)	7.7	7.3	10.1	8.3	7.8	8.5	9.3	8.8	8.2	9.8	13.8
Arts, entertainment and recreation (R)	11.9	11.1	12.9	10.8	10.6	11.1	11.6	10.8	10.2	11.3	15.5
Other service activities (S)	11.8	11.0	15.0	13.6	13.5	14.3	14.7	14.1	14.2	15.5	20.0
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 13 Morocco: 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)	0.53	0.512	0.556	0.632	0.642	0.664	0.8	0.841	1.053	0.985	0.948
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities (J58-60)	0.095	0.089	0.103	0.105	0.104	0.104	0.11	0.141	0.194	0.207	0.195
Telecommunications (J61)	0.122	0.105	0.107	0.114	0.102	0.095	0.087	0.083	0.076	0.08	0.082
Computer programming, consultancy, and information service activities (J62-63)	0.314	0.318	0.345	0.414	0.435	0.465	0.602	0.617	0.783	0.698	0.672
Professional, scientific and technical activities (M)	0.303	0.306	0.332	0.374	0.401	0.382	0.426	0.45	0.503	0.482	0.509
Administrative and support service activities (N)	0.235	0.228	0.243	0.279	0.285	0.283	0.295	0.321	0.291	0.292	0.324
Enabling Services											
Transportation and storage (H)	1.499	1.438	1.37	1.581	1.539	1.534	1.575	1.76	1.622	1.494	1.26
Land transport and transport via pipelines (H49)	0.258	0.278	0.271	0.301	0.303	0.315	0.322	0.332	0.319	0.285	0.264
Water transport (H50)	0.732	0.686	0.632	0.733	0.694	0.679	0.692	0.845	0.738	0.69	0.502
Air transport (H51)	0.299	0.271	0.267	0.308	0.303	0.297	0.296	0.298	0.236	0.211	0.226
Warehousing and support activities for transportation (H52)	0.188	0.182	0.175	0.214	0.212	0.212	0.215	0.236	0.265	0.259	0.227
Postal and courier activities (H53)	0.022	0.022	0.025	0.025	0.026	0.03	0.05	0.05	0.064	0.048	0.041
Financial and insurance activities (K)	0.263	0.263	0.267	0.3	0.321	0.307	0.313	0.324	0.342	0.347	0.367
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	1.071	1.046	1.024	1.108	1.098	1.121	1.126	1.154	1.243	1.19	1.095
Accommodation and food service activities (I)	0.262	0.271	0.268	0.296	0.294	0.311	0.324	0.322	0.173	0.197	0.266
Real estate activities (L)	0.017	0.015	0.014	0.017	0.016	0.017	0.017	0.018	0.013	0.015	0.018
Public administration and defence; compulsory social security (O)	0.01	0.011	0.01	0.011	0.011	0.011	0.012	0.011	0.012	0.011	0.01
Education (P)	0.014	0.014	0.015	0.017	0.017	0.017	0.016	0.017	0.012	0.012	0.014
Human health and social work activities (Q)	0.009	0.009	0.009	0.01	0.01	0.011	0.012	0.013	0.009	0.008	0.008
Arts, entertainment and recreation (R)	0.035	0.035	0.037	0.042	0.046	0.047	0.05	0.054	0.049	0.047	0.051
Other service activities (S)	0.012	0.011	0.011	0.012	0.012	0.013	0.013	0.013	0.007	0.008	0.01
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 Morocco: 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)	0.7441	0.7518	0.7943	0.8045	0.8032	0.8026	0.7913	0.8016	0.8105	0.7947	0.7283
Telecommunications (J61)	0.9467	0.9472	0.9244	0.92	0.9087	0.9073	0.9064	0.9104	0.9094	0.906	0.873
Computer programming, consultancy, and information service activities (J62-63)	0.9557	0.9603	0.8969	0.8991	0.8933	0.8935	0.8861	0.8927	0.8868	0.8925	0.8727
Professional, scientific and technical activities (M)	0.9509	0.9502	0.9178	0.9167	0.918	0.9178	0.9147	0.919	0.9238	0.9161	0.8788
Administrative and support service activities (N)	0.9548	0.9588	0.881	0.884	0.8779	0.8765	0.8733	0.8788	0.8794	0.873	0.8403
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.662	0.659	0.6186	0.6474	0.642	0.6187	0.5781	0.5949	0.6408	0.616	0.5961
Water transport (H50)	0.5596	0.5293	0.3509	0.4132	0.4321	0.4399	0.4193	0.4303	0.3776	0.3034	0.1187
Air transport (H51)	0.5518	0.5516	0.4339	0.4919	0.49	0.4603	0.4378	0.4465	0.5264	0.4455	0.297
Warehousing and support activities for transportation (H52)	0.8773	0.8884	0.7731	0.7733	0.7664	0.7538	0.747	0.7673	0.7481	0.7315	0.7031
Postal and courier activities (H53)	0.7623	0.7627	0.7582	0.7807	0.7747	0.756	0.7364	0.7448	0.7505	0.7197	0.6525
Financial and insurance activities (K)	0.9517	0.9564	0.9233	0.9326	0.9255	0.9253	0.9213	0.929	0.9359	0.9275	0.8949
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.8689	0.8658	0.8279	0.8437	0.8381	0.8383	0.8325	0.8415	0.8485	0.8287	0.7857
Accommodation and food service activities (I)	0.8809	0.8962	0.8616	0.8779	0.872	0.875	0.8662	0.869	0.8629	0.8533	0.8187
Real estate activities (L)	0.9874	0.9874	0.9499	0.9536	0.9539	0.9535	0.9576	0.9601	0.9624	0.9594	0.9343
Public administration and defence; compulsory social security (O)	0.9224	0.926	0.8748	0.8799	0.8752	0.8761	0.8747	0.885	0.9143	0.9023	0.8818
Education (P)	0.9607	0.9601	0.9461	0.9453	0.9429	0.9392	0.9377	0.9405	0.9397	0.9266	0.9251
Human health and social work activities (Q)	0.9217	0.9249	0.8888	0.904	0.9072	0.9003	0.892	0.8964	0.9037	0.8877	0.8485
Arts, entertainment and recreation (R)	0.8763	0.8852	0.8522	0.8681	0.8656	0.8627	0.8578	0.8647	0.8717	0.8607	0.8169
Other service activities (S)	0.8806	0.8849	0.8311	0.8352	0.8298	0.8244	0.8204	0.8247	0.8238	0.8117	0.771
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 Morocco: 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)	0.4031	0.3955	0.391	0.4066	0.3888	0.3786	0.382	0.3902	0.3721	0.3628	0.3723
Telecommunications (J61)	0.1292	0.1303	0.1362	0.1428	0.1457	0.1446	0.1497	0.1509	0.1524	0.1565	0.1586
Computer programming, consultancy, and information service activities (J62-63)	0.5293	0.5343	0.5437	0.6107	0.6315	0.6959	0.6945	0.6942	0.5768	0.6832	0.5926
Professional, scientific and technical activities (M)	0.481	0.4818	0.4923	0.46	0.4418	0.438	0.4261	0.4298	0.4321	0.4259	0.416
Administrative and support service activities (N)	0.5907	0.5957	0.5962	0.5952	0.5839	0.5641	0.564	0.5656	0.5959	0.5957	0.5627
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.2615	0.2583	0.2624	0.2219	0.2094	0.2087	0.2515	0.2375	0.2482	0.2495	0.2544
Water transport (H50)	0.3477	0.296	0.2876	0.2938	0.2834	0.3168	0.3679	0.3328	0.2847	0.3239	0.2899
Air transport (H51)	0.5016	0.5057	0.5217	0.461	0.4427	0.4435	0.3954	0.4007	0.5528	0.6222	0.6058
Warehousing and support activities for transportation (H52)	0.3732	0.3625	0.3699	0.3803	0.4302	0.4193	0.4313	0.395	0.4344	0.4175	0.4047
Postal and courier activities (H53)	0.7172	0.7197	0.6971	0.6556	0.6607	0.6654	0.6611	0.6564	0.6589	0.6674	0.6483
Financial and insurance activities (K)	0.2783	0.2725	0.2792	0.2933	0.3	0.3005	0.2955	0.3074	0.3222	0.314	0.302
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.221	0.2216	0.2251	0.2302	0.2279	0.2254	0.2283	0.2285	0.239	0.229	0.23
Accommodation and food service activities (I)	0.2481	0.2469	0.2292	0.2232	0.2303	0.2058	0.205	0.2051	0.202	0.2083	0.1324
Real estate activities (L)	0.0128	0.0128	0.0132	0.0162	0.0171	0.0158	0.0162	0.0161	0.0121	0.0128	0.0131
Public administration and defence; compulsory social security (O)	0.8345	0.8323	0.809	0.8048	0.7874	0.7746	0.7605	0.7675	0.7868	0.7749	0.7639
Education (P)	0.852	0.8542	0.865	0.8598	0.8492	0.8464	0.8374	0.8292	0.7379	0.7547	0.7499
Human health and social work activities (Q)	0.7177	0.7211	0.7252	0.732	0.7301	0.7251	0.7196	0.7324	0.7458	0.7479	0.7452
Arts, entertainment and recreation (R)	0.3492	0.3527	0.3572	0.3668	0.3811	0.3771	0.3805	0.3427	0.3977	0.428	0.4317
Other service activities (S)	0.3566	0.3562	0.3526	0.3711	0.3778	0.3735	0.3863	0.3799	0.4234	0.4646	0.4713
Activities of households as employers; undiff. goods- and services- (T)	0.9998	1	0.9999	0.9998	0.9999	0.9992	0.999	0.9991	0.9995	0.9995	0.9975

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

Table 16 Morocco: 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)	0.2901	0.2902	0.2947	0.3044	0.2943	0.2878	0.2831	0.2904	0.2862	0.2775	0.2609
Telecommunications (J61)	0.1532	0.1543	0.1535	0.1598	0.1604	0.1585	0.1607	0.1639	0.167	0.1721	0.1676
Computer programming, consultancy, and information service activities (J62-63)	0.4849	0.4958	0.4635	0.5127	0.526	0.5755	0.5722	0.5745	0.4838	0.5675	0.4918
Professional, scientific and technical activities (M)	0.4485	0.4494	0.4391	0.411	0.3976	0.3942	0.3825	0.3873	0.3916	0.383	0.36
Administrative and support service activities (N)	0.5206	0.5328	0.4895	0.4877	0.478	0.463	0.4604	0.4642	0.4847	0.4815	0.4415
Enabling Services											
Transportation and storage (H)											
Land transport and transport via pipelines (H49)	0.1818	0.1776	0.1705	0.1564	0.1468	0.1406	0.1522	0.1495	0.168	0.1619	0.1578
Water transport (H50)	0.2135	0.1943	0.1062	0.1256	0.1284	0.1412	0.1523	0.1436	0.1129	0.0999	0.0374
Air transport (H51)	0.2576	0.2617	0.1895	0.2035	0.203	0.1916	0.1685	0.1731	0.2592	0.2421	0.1574
Warehousing and support activities for transportation (H52)	0.3377	0.3363	0.2838	0.2884	0.3155	0.3049	0.3099	0.2962	0.3137	0.2984	0.2818
Postal and courier activities (H53)	0.5048	0.514	0.4614	0.4526	0.4553	0.4487	0.4348	0.4371	0.4399	0.4248	0.3789
Financial and insurance activities (K)	0.2784	0.275	0.273	0.2845	0.288	0.2874	0.2819	0.2947	0.3093	0.3007	0.2822
Local Services											
Wholesale and retail trade; repair of motor vehicles and motorcycles (G)	0.1986	0.1989	0.2048	0.2089	0.2061	0.2029	0.2027	0.2053	0.2153	0.2031	0.1923
Accommodation and food service activities (I)	0.2029	0.2076	0.1882	0.1842	0.1895	0.1729	0.1706	0.1725	0.1708	0.1708	0.1202
Real estate activities (L)	0.04	0.043	0.0541	0.0545	0.0552	0.0531	0.0497	0.0504	0.0495	0.0507	0.0547
Public administration and defence; compulsory social security (O)	0.7007	0.7099	0.6231	0.6193	0.6071	0.6025	0.5943	0.6088	0.6632	0.6455	0.6323
Education (P)	0.7889	0.7905	0.7711	0.7595	0.7487	0.7408	0.7338	0.7279	0.6462	0.6457	0.6585
Human health and social work activities (Q)	0.6364	0.6419	0.5804	0.6013	0.6049	0.5931	0.579	0.5914	0.6092	0.598	0.5704
Arts, entertainment and recreation (R)	0.3148	0.3217	0.3014	0.3095	0.3174	0.3125	0.3125	0.2912	0.33	0.3447	0.33
Other service activities (S)	0.3047	0.308	0.2868	0.2964	0.2994	0.294	0.2999	0.2979	0.3231	0.3417	0.3331
Activities of households as employers; undiff. goods- and services- (T)	0.9998	1	0.9999	0.9998	0.9999	0.9992	0.999	0.9991	0.9995	0.9995	0.9975

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

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