National Productivity Board

National Productivity Report MALTA 2025

Firm-Level Productivity in Malta:
Evidence, Structural Drivers, and a National Reform Agenda



National Productivity Report - Malta

2025

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MINSTER'S FOREWORD

Foreword by Hon Keith Azzopardi Tanti,
Minister for European Funds, Social Dialogue
and Consumer Protection

For many years, our economy has grown at an impressive pace. We expanded our labour force, diversified our sectors, and strengthened our presence in global markets. We created jobs, improved living standards, and supported families through some of the most uncertain global events in recent history. These achievements did not happen by chance; they were the result of timely decisions, discipline, and a strong sense of national purpose.

But it is equally true that the conditions that drove our growth over the past decade are changing. The world is moving faster, competition is sharper, technology is more disruptive, and the expectations of our people are rising. As a small island state, we cannot afford complacency. We cannot rely on the same engines of growth and expect them to carry us as they did before. We must anticipate, adapt, and prepare. This is where productivity becomes central, not as a technical term, but as the bridge between where we are today and where we aspire to be in the decades ahead.

This National Productivity Report arrives at exactly the right time. It gives us an honest assessment of our economic foundations, our strengths, our weaknesses, and the opportunities that lie before us. It tells us how our firms are performing, how technology is being adopted, how skills are evolving, and where inefficiencies may be holding us back. Most importantly, it tells us that productivity is not something that we can leave for another day. It must be a priority today if we want Malta to remain competitive, resilient, and socially cohesive.

From the perspective of social dialogue, the findings of this report carry even greater weight. Productivity is not created in isolation. It emerges from people; from their capabilities, the quality of their work, the systems that support them, and the relationships between employers, workers, and institutions. It emerges from trust, collaboration, and shared vision. Social dialogue is therefore not parallel to the productivity agenda; it is one of its core pillars. When employers, unions, government, and civil society work together in good faith, productivity becomes not only achievable but sustainable.

The report shows that Malta has strong foundations. We have an economy that has proven its resilience time and again. We have a workforce that is adaptable, creative, and determined. We have sectors that are world-class, from advanced manufacturing to digital services. We have entrepreneurs who take risks, families who strive for a better future, and a society that values stability and solidarity.

At the same time, the report is clear: structural challenges exist, and they must be robustly addressed. Our economy remains dominated by micro enterprises that work incredibly hard yet often lack the tools, technology, time, or training to raise productivity in a meaningful way. Skills gaps persist. Technology adoption is uneven. Management capability varies widely. And, critically, firm growth does not always reflect firm performance. These patterns will not fix themselves. They require deliberate action.

This is the context in which the Government's long-term direction, shaped by Vision 2050, becomes essential. Vision 2050 is not merely a document; it is a statement of values and ambition. It tells us that Malta must be a country capable of sustaining strong growth while ensuring a good quality of life for its people. A country where economic progress does not come at the expense of environmental sustainability. A country where modernisation is not something to be feared but embraced. A country where every worker, regardless of their background or occupation, has the opportunity to grow.

The Budget for 2026 further reinforces this direction. Through its social measures, support for families, investment in infrastructure, strengthening of public services, and targeted economic initiatives, the Government is making it clear that it understands the broader context. We know that, more than ever, we need an economy that works for everyone. The Budget is therefore more than a financial plan; it is a commitment to stability, fairness, and opportunity.

Yet stability alone is not enough. To secure the Malta we want for our children, we must raise the productivity of our economy in a way that is inclusive and fair. This means supporting businesses in adopting technology, investing in skills, improving management practices, and modernising operations. It means creating an environment where good firms can grow, where effort is rewarded, where innovation is encouraged, and where workers feel valued and supported. It means ensuring that productivity gains translate into better wages, better workplaces, and better living standards.

This is not a task for the Government alone. Productivity is a shared responsibility. It requires leadership from employers who invest in their people. It requires commitment from workers who embrace training and change. It requires active involvement from unions that champion fair conditions while recognising the importance of competitiveness. And it requires a Government that listens, facilitates, and supports.

For this reason, social dialogue will play a central role in implementing the recommendations of this report. The upcoming years will require us to strengthen the way we work together, not only during moments of crisis but as part of everyday governance. We must build a culture where consultation is not a procedural requirement, but a method of nation-building. Where different voices come together to shape decisions that affect us all. Where trust is built steadily through honesty, transparency, and shared determination.

Ultimately, the purpose of this report is not simply to analyse where we are, but to guide where we are going. It provides the evidence on which we must now build a coherent, long-term productivity strategy; one that strengthens our SMEs, supports our workers, modernises our services, and prepares our economy for the demands of the next generation. It challenges us to think differently: to move from expansion to capability, from short-term fixes to long-term transformation, from fragmented effort to national alignment.

As the Minister responsible for Social Dialogue, I want to assure our social partners, our business community, and our workers that the Government is committed to this agenda. We recognise the importance of working together, and we stand ready to engage constructively, openly, and consistently. We want a Malta that remains strong, competitive, and fair; not only for today, but for the decades to come.

I commend the National Productivity Board for this rigorous and forward-looking report. I invite all stakeholders to read it with an open mind and a shared sense of purpose. Productivity is not an economic target; it is a national mission. If we embrace it together, Malta can continue to prosper, grow, and lead with confidence.

Hon. Keith Azzopardi Tanti
Minister for European Funds,
Social Dialogue and Consumer Protection



CHAIRPERSON'S INTRODUCTION

Ms Maria Micallef,
Chairperson, Malta National Productivity Board

Foreword

by Productivity is a subject that often sits quietly behind the more visible conversations about growth, investment, wages and competitiveness. Yet, in reality it is the thread that binds all of these together. When productivity rises, prosperity becomes more broadly shared. When it stalls, ambition becomes harder to sustain. This report is therefore grounded in a simple truth: for a small country like Malta, productivity is not an abstract economic concept but a central determinant of our future wellbeing.

Over the past decade, Malta has enjoyed a period of exceptional economic performance. New sectors have emerged, employment has grown strongly, and the country has successfully positioned itself within global value chains that seemed out of reach only a generation ago. These achievements reflect the determination of our people, the adaptability of our businesses, and the foresight of previous policy choices. They demonstrate what Malta is capable of when it aligns direction, investment, and national effort.

But strong past performance does not guarantee resilience in the future. Every successful economy eventually arrives at a moment where the sources of its earlier growth begin to evolve. Malta has reached such a moment. The economic model that supported our rapid expansion has delivered its gains, yet it now faces natural constraints. Our workforce cannot grow indefinitely, our land and infrastructure have physical limits, and global competition has become fiercer and more complex. We must continue to grow, but we must now grow differently.

This is why productivity matters. It is the mechanism through which small states secure long-term prosperity without relying on continual expansion. It allows us to create more value with the talent and resources we already possess. It strengthens the competitiveness of our enterprises, improves the quality of work, supports higher wages, and ensures the sustainability of public finances. Productivity is not a goal in isolation; it is the foundation that enables all other goals.

The work presented in this report combines macroeconomic analysis, firm-level evidence, sectoral patterns, skills and technology insights, and international comparison.

The findings will challenge us, and they should. They reveal an economy that is strong and resilient, but whose underlying productivity performance is uneven. Yet the message of the report is not one of pessimism. It is a message of opportunity. Malta has the ingredients to build a productivity system that reflects the best of what small states can achieve: agility, coherence, shared purpose, and the ability to align institutions around strategic direction. The country's scale is an asset. Policy can be targeted. Programmes can be personalised. Collaboration can be meaningful. When Malta decides to act, it can do so with speed and cohesion.

This foreword is not the place to detail the recommendations contained in the report, but it is the place to affirm their importance. They recognise that productivity is shaped by structural conditions, by firm

capabilities, by the quality of management and skills, by the ease of doing business, and by the coherence of our institutional environment. They acknowledge that many of Malta's enterprises are small, and that improving productivity requires meeting them where they are, understanding the realities they face, and supporting them in practical, tangible ways. They also recognise that Malta must aspire to grow more medium-sized enterprises, strengthen sectoral ecosystems, and modernise its services economy.

Above all, the recommendations recognise that productivity is a long-term national mission. It cannot be the project of one ministry, one agency, or one administration. It requires alignment across government, collaboration with employers' bodies and unions, commitment from businesses, and trust from the public. It requires evidence, transparency, and evaluation. And it requires the courage to make decisions that will deliver benefits not only for today, but for the Malta of the next generation.

As Chairperson of the National Productivity Board, I am deeply conscious of the responsibility that comes with this role. Our mandate is to provide independent analysis, honest assessments, and clear recommendations. This report is intended not as an academic exercise, but as a contribution to Malta's national direction. It invites policymakers, businesses, and citizens to engage in a shared conversation about the kind of economy we want to build. An economy that remains competitive within Europe. One that offers meaningful opportunities to its people. One that can adapt to new technologies without leaving workers behind. One that protects its quality of life and invests in its future. Productivity is the pathway that makes this possible.

Finally, I would like to express my gratitude to all those who contributed data, expertise, feedback and insight throughout this process. Productivity is not shaped by institutions alone; it is shaped by the collective effort of an entire country. This report is an invitation to strengthen that collective effort.

The road ahead will require ambition, consistency, and courage. But Malta has always succeeded when it has looked forward. If we commit to this agenda, if we pursue it with clarity and determination, we can build a prosperous, sustainable, and resilient economy capable of meeting the challenges of the decades to come. In presenting this report, as Chairperson of the National Productivity Board, I look forward to its meaningful contribution to the work of strengthening Malta's economic foundations and securing a prosperous future for all.

Ms Maria Micallef
Chairperson,
National Productivity Board - Malta

EXECUTIVE SUMMARY

Malta's economic progress over the past two decades reflects a remarkable story of transformation, resilience, and continuous reinvention. The country has evolved from a narrowly structured economy into one of Europe's most dynamic small states, achieving sustained growth, record employment, and significant sectoral diversification. Yet, as this National Productivity Report demonstrates, the foundations underpinning this period of expansion are shifting. Malta now stands at a critical juncture where the drivers of its past success cannot sustain the ambitions of the future.

This Executive Summary distils the core insights of the report. It outlines the purpose of this national assessment, synthesises the key findings across macroeconomic analysis, structural trends, and firm-level data, and presents the central policy recommendations that flow from this evidence. The summary is structured to support policymakers, social partners, businesses, and civil society in understanding where Malta stands today and what must be done to secure long-term competitiveness and shared prosperity.

Purpose of the Report

The 2025 National Productivity Report has a clear and strategic purpose: to provide Malta with an independent, evidence-driven diagnosis of its productivity performance and to offer a coherent policy framework capable of strengthening the country's economic foundations in the decades ahead. The National Productivity Board's mandate is to analyse structural challenges, monitor productivity trends, and advise on long-term competitiveness. This report fulfils that mandate by combining macroeconomic context, international comparison, and ñ crucially - detailed firm-level evidence which sheds light on how productivity is created, distributed, and constrained across the Maltese economy.

The objective is not only to identify gaps but also to frame a national conversation about how productivity can be raised fairly, sustainably, and inclusively. The report focuses especially on Malta's unique economic structure, dominated by micro and small enterprises, and examines what this means for economic performance, wage growth, skills development, and resilience. It also emphasises that productivity does not emerge from macroeconomic policies alone, but from the daily realities of businesses: their capabilities, their technology adoption, their processes, their management, and their ability to compete and grow.

The analysis recognises Malta's achievements but also acknowledges the structural pressures emerging from demographic trends, global competition, shifting labour markets, and the demands of technological transformation. The aim is to equip the country with the insight and policy direction necessary to prepare for the next phase of economic development.

A Mind Map of the Report and its Findings

Framing & diagnosis

FRAMING

The report is anchored in a clear objective: to provide an evidence-based diagnosis of Malta's productivity and translate this into a coherent national reform agenda. It deliberately shifts the lens from aggregate indicators to enterprise-level dynamics, recognising that productivity is ultimately created within firms through capabilities, technology adoption, management quality, and workforce skills. This approach reflects Malta's economic structure, where SMEs dominate, and ensures that policy is grounded in the realities of how businesses operate and grow.

MACRO-MICRO DIAGNOSIS

Malta's economy has delivered exceptional growth, high employment, and sectoral diversification, outperforming European peers. However, this model has relied heavily on labour expansion, inward migration, and sectoral scaling. These drivers are now reaching natural limits due to labour shortages, spatial constraints, and rising infrastructure pressures.

At the same time, firm-level analysis reveals significant productivity dispersion, with large differences in performance across firms and sectors. Productivity is not evenly distributed; it reflects firm capabilities rather than macro conditions alone. This creates a structural inflection point where future growth must come from raising productivity rather than expanding inputs.

Structural characterisation

STRUCTURAL REALITY

Malta's economy is characterised by a dual structure:

- A highly productive, export-oriented FDI sector operating at global standards
- A large base of domestically oriented micro and small firms with lower productivity

This duality shapes national outcomes. High-productivity firms drive value creation, exports, and innovation, but the majority of workers are employed in lower-productivity SMEs. This limits the diffusion of productivity gains across the economy and constrains inclusive growth. Bridging this divide is central to long-term resilience and competitiveness.

STRUCTURAL CONSTRAINTS

- Micro-firm dominance limits scale, investment, and formal management
- Missing middle reduces productivity diffusion
- Weak reallocation prevents productive firms from scaling
- Skills gaps reduce absorptive capacity
- Low digital adoption limits efficiency

These structural factors anchor national productivity performance.

CORE INSIGHTS

- Frontier firms outperform laggards by large multiples across sectors.
- Gaps are driven by capabilities, technology, and management, not size.
- Dispersion has widened over time, increasing economic duality.

Transformational path

THE NEED FOR TRANSFORMATION

Malta's economy is evolving towards a service-led model, with three defining trends:

- Tourism and related sectors remain major drivers of growth
- Knowledge-intensive sectors, particularly ICT and professional services, are expanding rapidly
- Industrial sectors are increasing output without proportional labour growth, indicating productivity gains

While overall value added per worker has increased significantly, these gains are uneven across sectors. The challenge is to ensure that employment growth shifts towards higher-productivity activities while raising performance in lagging sectors.

THE SME TRAP

SMEs face structural barriers:

- Limited scale and investment
- Weak management systems
- Skills and talent constraints
- Slow technology adoption

Many remain in low-productivity equilibria, constraining national performance.

STRATEGIC SHIFT

The model must evolve:
From labour-driven growth → **productivity-led growth**

From sector focus → **firm capability building**

From frontier strength → **broad-based upgrading**

A NATIONAL PRODUCTIVITY MISSION

The synthesis leads to a clear conclusion: productivity must be treated as a national mission. Sustained progress requires alignment across government, businesses, workers, and institutions. It requires moving from short-term interventions to long-term transformation, ensuring that productivity gains are inclusive and widely shared. The ultimate objective is to build an economy that is more resilient, more innovative, and capable of delivering higher living standards without relying on continuous expansion.

Integrated poliocy framework

System-Level Enablers

The framework emphasises building the institutional infrastructure required for productivity:

- Data systems and observatories to monitor firm performance
- Simplification of regulation to reduce friction for SMEs
- Sector-specific standards and codes to raise baseline performance

Firm-Level Capability Building

A strong focus is placed on upgrading firm capabilities:

- Standardised diagnostics to identify productivity gaps
- Management and leadership development programmes
- In-work skills programmes linked to productivity outcomes

Investment and Scaling Mechanisms

The framework introduces targeted financial tools:

- Vouchers for digital adoption and innovation
- Dedicated finance windows for scaling firms
- Priority support for high-performing firms

Sectoral Transformation Programmes

Sector-specific interventions aim to drive productivity:

- Services productivity missions and accelerators
- Manufacturing modernisation programmes
- Supply chain resilience and upgrading funds

Key Diagnosis: Macro & Micro Realities

The starting point of the report is Malta's macroeconomic transformation. Over the last decade, Malta has been among the fastest-growing economies in the EU. Employment increased rapidly, labour market participation strengthened, and new sectors - ICT, aviation services, digital gaming, advanced manufacturing - became pillars of national performance. These achievements reflect strategic policy choices, adaptability, and strong social partnership.

This structural transformation is shown in the way different sectors have grown with high-inward investment, high labour mobilisation and strong inward migration. This model has delivered clear benefits, but it now faces natural limits. Labour supply is becoming tighter, land and spatial constraints are increasingly evident, infrastructure is under pressure, and public services face mounting demands. The macroeconomic narrative therefore points to a structural inflection point: labour-driven growth cannot continue indefinitely, and future prosperity must derive from higher productivity. At the micro level, the analysis reveals a more complex picture. Malta's economy exhibits productivity dispersion across firms and sectors, presenting a clear opportunity for productivity enhancements.

s the report demonstrates, productivity outcomes emerge not only from macroeconomic conditions but from the behaviour and capabilities of individual firms. This dual macro-micro perspective is essential for designing effective policy.

Structural Constraints Shaping Malta's Productivity

The structural analysis across Chapters 3 to 5 identifies several interconnected constraints that shape Malta's productivity trajectory. Understanding these is essential for interpreting the empirical results and designing the reform agenda.

A Micro-Firm-Dominated Economy

Malta's business structure is highly skewed: micro firms represent the overwhelming majority of enterprises. While micro businesses bring agility, personal service, and entrepreneurial spirit, they often lack the capabilities associated with higher productivity: formal management, digital systems, process optimisation, economies of scale, and investment capacity. Because micro firms employ such a large share of the population, their structural limitations heavily influence national performance.

The Scarcity of Medium-Sized Firms

Initial analysis highlights a pattern of a ìmissing middle.î Medium-sized firms in most countries act as productivity anchors: they invest in technology, support supply chains, innovate, and scale internationally. Their limited presence in Malta reduces diffusion of best practices and narrows pathways for smaller firms to grow.

Weak Reallocation Mechanisms

Perhaps the most significant structural finding is the negative covariance term in the decomposition analysis. It indicates that productive firms are not consistently gaining market share, highlighting possible market distortions that need to be investigated further.

Skills Bottlenecks & Limited Absorptive Capacity

Skills gaps - particularly in digital, technical, and supervisory roles - limit firms' ability to adopt new technologies. Micro firms provide limited training opportunities, weakening the absorptive capacity required for innovation diffusion.

Technology Adoption Gaps

Digital adoption is uneven. Large firms often operate with advanced systems, but many smaller firms continue to rely on manual processes. This limits efficiency, quality, and competitiveness.

These structural constraints form the backdrop to the detailed findings in Chapters 4 and 5.

The SME Productivity Challenge

The core theme of the report is that Malta's productivity outcomes are shaped by its SME base. Small and micro firms are the backbone of the economy, but they face several persistent challenges:

- Limited economies of scale
- Informal management systems
- Low investment capacity
- Difficulty attracting and retaining skilled workers
- Limited training and professional development
- Slow technology adoption
- Operational pressures that leave little time for strategic planning

These constraints are structural rather than behavioural. Small firms often want to modernise but lack the levers to do so. The evidence from Chapter 5 shows clearly that improving SME productivity is central to improving national productivity.

This requires targeted, practical, and well-sequenced policy measures.

Policy Framework: The 13 Recommendations

Based on the full body of evidence, Chapter 6 presents a coherent, layered productivity framework. This rests on thirteen recommendations which constitute the core policy message of the report and should be viewed as mutually reinforcing interventions.

Below is a narrative summary of each recommendation.

1 **Establish a National SME Productivity & Competitiveness Observatory**

A central data infrastructure to monitor firm dynamics, track productivity trends, and provide real-time intelligence for evidence-based policymaking.

2 **Introduce a National Services Productivity Code**

A national initiative aimed at domestic services sectors - such as hospitality, retail, personal services, administrative services, and parts of logistics ñ which sets clear, sector-specific operational and digital standards designed to lift baseline productivity and modernise business practices across these industries.

3 **Implement a Zero-Friction State Programme for SMEs**

Transformational changes to simplify and streamline administrative and compliance processes for SMEs, particularly benefitting micro firms with limited managerial bandwidth, to increase capacity for productivity-enhancing activities.

4 **Introduce a Standardised SME Productivity Diagnostic**

A standardised productivity diagnostic geared for SMEs as a consistent and practical tool to help firms understand their own performance gaps while providing policymakers with valuable data to guide interventions.

5 **Deliver a National Management and Leadership Development Programme**
Highly actionable and practical training programmes addressing key capability gaps that undermine firm-level productivity on the basis of a management skills census amongst Maltese firms.

6 **Introduce a Sector-Targeted Productivity Upgrade Voucher**
Accessible financial support to drive digital adoption and innovation at firm level, based on a curated list of technologies with demonstrated productivity effects in specific sectors.

7 **Implement an In-Work Skills for Productivity Programme**
A national initiative to expand training participation among SME workers, funding targeted training linked to explicit productivity outcomes.

8 **Establish a Scale-Up Malta Finance Window**
Tailored support for firms investing in expansion, automation, digitalisation, or export readiness.

9 **Launch a Services Sector Productivity Accelerator (SSPA)**
The delivery of intensive, cohort-based support to firms in key service industries, combining diagnostic assessments, capability building, digital adoption support, process redesign, and continuous coaching.

10 **Establish a High-Productivity Expansion Priority (HPEP)**
A mechanism developed to direct effective financial and non-financial support to high-performing firms or those demonstrating strong productivity improvements.

11 **Launch a Supply Chain Resilience and Upgrading Fund**
A dedicated fund established to increase the capacity and resilience of firms to deal effectively with external supply chain shocks.

12 **Launch a Services sector Productivity Mission**
The development and delivery of practical, capability-oriented interventions to improve productivity and competitiveness across service sectors by exploiting synergies between them and ensuring the implementation of productivity enhancing measures.

13 **Launch a Manufacturing Modernisation Programme for SMEs**
A co-funding mechanism aimed at supporting and incentivising productivity-enhancing investments across manufacturing firms, with a focus on automation, robotics, advanced productivity software, digital quality systems, and energy-efficient machinery.

These thirteen recommendations form an integrated architecture for improving productivity. They target structural weaknesses, strengthen firm capabilities, modernise sectors, and create the enabling environment required for long-term competitive growth.

Closing Reflections

This National Productivity Report provides Malta with a clear, evidence-based understanding of its productivity landscape. It recognises the country's strengths, acknowledges its structural challenges, and outlines a coherent pathway for raising productivity in a fair, inclusive, and sustainable manner.

The findings show that Malta's economic success has been remarkable, but its future will depend on moving from expansion to capability. Productivity is not a narrow economic metric; it is the foundation of competitiveness, wages, fiscal resilience, and opportunity. The recommendations presented here offer a practical road map for strengthening the economy's foundations and equipping SMEs with the tools they need to modernise, scale, and thrive.

The next phase of Malta's development will require determination, leadership, and partnership. Productivity is a shared national mission - one that involves government, businesses, workers, and society as a whole. If Malta commits to this mission with clarity and purpose, it can build a more resilient, innovative, and prosperous economy for the decades ahead.



CHAPTER

1

INTRODUCTION

Productivity growth is a fundamental driver of long-term economic prosperity, competitiveness, and social well-being. While national productivity debates often focus on macroeconomic aggregates, such as GDP per hour worked or total factor productivity at the industry level, there is a growing consensus that understanding the microeconomic drivers of productivity is essential for shaping effective policy (Bartelsman and Doms, 2000).

This dual economy structure presents unique challenges for productivity policy. The export-oriented foreign direct investment (FDI) sector - concentrated in areas such as advanced manufacturing, aviation services, iGaming, and financial services - operates within global value chains and often matches or exceeds international productivity benchmarks. In contrast, the domestic SME sector, which forms the backbone of Malta's employment base, tends to exhibit lower adoption rates of technology, weaker management capabilities, and more limited access to finance, innovation networks, and skills (National Productivity Board, 2022).

Addressing this productivity gap requires going beyond macro-level interventions. It calls for a granular understanding of firm-level dynamics, including organisational practices, level of digitalisation, workforce skills, innovation activities, and leadership quality – all of which have been shown to be decisive in determining productivity performance (Syverson, 2011; Bloom et al., 2016).

The 2025 edition of Malta's National Productivity Report therefore adopts a microeconomic lens, with a particular focus on enterprise-level contributors to productivity in SMEs. This perspective not only reflects the reality of Malta's economic structure but also aligns with global research emphasising the role of firm heterogeneity in shaping aggregate productivity outcomes (Andrews et al., 2015).

1.1 Why a Microeconomic Lens?

A microeconomic lens focuses on the performance, behaviour, and characteristics of individual firms rather than treating the economy as a homogenous whole. This approach is increasingly recognised as crucial for understanding productivity growth, as aggregate measures can conceal wide disparities between firms in the same sector or region (Syverson, 2011; Andrews et al., 2015).

In productivity analysis, firm heterogeneity is not a statistical anomaly but a defining feature of modern economies. Studies across OECD countries show that even within the same industry the most productive firms can be up to five times more productive than the least productive (OECD, 2023). This productivity dispersion has persisted and in some sectors has actually widened over time, with a small group of "frontier firms" driving technological adoption and innovation while the majority lag behind (Andrews et al., 2016).

Malta's economic performance over the past decade has been impressive with very strong economic growth and low unemployment levels. Given that most enterprises are SMEs, it would be very useful for policy makers to focus on the enterprise level to better understand:

- How technology adoption differs across firm sizes and sectors (Coyle, 2023; Massini et al., 2025)
- The role of management practices, leadership, and organisational capital in shaping productivity outcomes (Feng et al., 2025; Jˆrden, 2024)
- The link between workforce skills, training, and productivity gains (Grimshaw et al., 2023; Henley, 2022)
- How innovation and R&D investment contribute to firm-level growth (Jones, 2023)

This micro-level focus also enables a clearer assessment of the barriers that SMEs face in improving their performance, such as limited access to finance for innovation (Lavery et al., 2024), slower adoption of digital tools (Massini et al., 2025), and weaker integration into international markets.

Furthermore, a microeconomic lens responds to the growing emphasis on place-based and sector-specific policy interventions, recognising that the drivers of productivity are not uniform across the economy. Firm-level data allows for targeted measures, such as improving digital readiness in low-tech sectors, enhancing management capabilities in family-owned firms, or boosting skills in service-oriented SMEs (The Productivity Institute, 2025).

A microeconomic lens also brings workers into the productivity narrative in a direct and tangible way. Productivity is not an abstract measure; it determines the scope for wage growth, job security, and working conditions. Higher productivity firms have the ability to pay higher wages and offer better non-wage benefits. Therefore, policies that support SME productivity growth can have direct positive effects on workers' livelihoods, career progression, and well-being (Procter et al., 2025; Henley, 2022).

Finally, this perspective supports the role of social dialogue in productivity policy. Social dialogue - involving employers, workers, and their representatives - can facilitate the adoption of productivity-enhancing practices, smooth the introduction of new technologies, and ensure that productivity gains are shared more equitably (Dickinson et al., 2024; Driffield et al., 2021). In economies with a high prevalence of SMEs, social dialogue can be a vital mechanism to build trust, improve employee engagement, and align workplace practices with broader economic goals.

1.2 Enterprise-Level Productivity: An Underexplored Dimension

While productivity measurement at the national and sectoral levels has a long tradition in economic analysis, enterprise-level productivity - the study of productivity at the scale of individual firms - has historically been under-explored in both research and policymaking (Bartelsman and Doms, 2000; Syverson, 2011). This is partly due to limitations in data availability, as firm-level datasets are often fragmented, confidential, or inconsistent across countries. However, advances in administrative data linkage, firm surveys, and microdata analysis have made it increasingly possible to examine the determinants and distribution of productivity within economies (OECD, 2023; Coyle et al., 2023).

The micro perspective reveals a striking fact: productivity is not evenly distributed across firms, even within the same sector. Research shows that in most advanced economies, a small number of high performing ìfrontier firmsî operate at global standards, while the majority of firms exhibit significantly lower productivity levels (Andrews et al., 2015; Andrews et al., 2016). These differences are not marginal ó productivity in frontier firms can be several times higher than that of laggard firms, even when they operate in identical markets and face similar input costs (Syverson, 2011).

In Malta, the productivity landscape mirrors this global pattern but is further shaped by the structural duality of the economy. A small cohort of highly productive, foreign-owned firms in sectors such as aviation services, pharmaceuticals, iGaming, and financial services contribute disproportionately to value added and export earnings (National Productivity Board, 2022). Meanwhile, the vast majority of enterprises are micro or small businesses serving the domestic market, often in low-tech service industries such as retail, hospitality, and personal services. These firms tend to face constraints in innovation, digital adoption, management capability, and access to skilled labour (OECD, 2023; Massini et al., 2025).

The under-exploration of enterprise-level productivity in the Maltese context is significant for several reasons. Firstly, macro-level productivity measures can give the impression of stability or incremental improvement yet hide the underlying divergence between firm cohorts. Aggregate statistics, for example, may be buoyed by the strong performance of a handful of large exporters, masking stagnation or decline in productivity among the broader SME base (Coyle et al., 2023). Secondly, without detailed firm-level analysis, it is difficult to design targeted policies to address the specific barriers that different types of firms face. An SME in the tourism sector may require a completely different set of interventions - such as digital marketing and service quality improvements - compared to a small manufacturer seeking to upgrade production processes and integrate into export markets (Massini et al, 2025).

A focus on enterprise-level productivity also forces recognition of the multi-dimensional nature of productivity performance. It is not solely determined by technological inputs or capital intensity; organisational practices, leadership, workforce skills, and innovation culture play decisive roles (Bloom et al., 2016; Feng et al., 2025). For instance, The Productivity Institute (2025) found that differences in management quality can contribute to the productivity gap between high- and low-performing firms, even after controlling for sector and size. Similarly, evidence from OECD countries highlights that firms with strong managerial and organisational capabilities are better able to absorb and implement new technologies, translating them into productivity gains (Andrews et al., 2015).

Another reason why enterprise-level productivity has been under-explored is the difficulty of integrating it into policymaking frameworks. Policymakers are often constrained by data timeliness, confidentiality, and comparability challenges. In Malta, while administrative data exists on turnover, employment, and financial performance, it is not routinely linked to detailed information on technology use, innovation activities, management practices, or skills investment at the firm level (National Productivity Board, 2022). Addressing this data gap is critical to moving from broad policy statements to evidence-based, targeted interventions.

From a strategic perspective, a better understanding of enterprise-level productivity is also crucial for navigating Malta's economic resilience in an uncertain global environment. High-productivity firms tend to be more innovative, export-oriented, and adaptable, characteristics that are essential in responding to shocks such as supply chain disruptions, shifts in global demand, or technological change (Coyle et al., 2023). In contrast, low-productivity firms are more vulnerable to competitive pressures and external shocks, with potential knock-on effects for employment and regional economic stability.

Finally, exploring productivity at the enterprise level strengthens the case for social dialogue as a mechanism for improvement. By involving employers, employees, and trade unions in discussions about productivity-enhancing measures, firms can co-create strategies for technology adoption, training, and workplace innovation that factor in both business objectives and worker well-being (Dickinson et al., 2024; Driffield et al., 2021). This collaborative approach is particularly valuable in smaller economies like Malta, where trust, cooperation, and the diffusion of best practices can have a significant impact on aggregate outcomes.

In sum, while national and sectoral productivity analysis remains essential, it is at the enterprise level where the real drivers - and barriers - to productivity growth are found. Understanding these dynamics is indispensable for shaping policies that can close the gap between frontier and laggard firms, enhance resilience, and ensure that productivity gains translate into broad-based improvements in living standards.

1.3 Malta's Dual Economy: FDI-driven Export Sector vs Domestically Oriented Micro-Enterprises

The Maltese economy is often characterised by a distinct dual structure, in which a relatively small but highly productive foreign direct investment (FDI)-driven export sector coexists with a large base of domestically oriented micro and small enterprises (NPB, 2022). This structural composition is not unique to Malta, but the scale and implications are amplified by the country's small size, open economic model, and dependence on specialised niche markets. The resulting productivity patterns are shaped by differences in ownership, market orientation, capital intensity, technological adoption, and workforce skills - all of which have significant policy implications.

1.3.1 The FDI-driven export sector

Malta's FDI-driven sector is concentrated in a few high-value-added industries, including aviation maintenance, pharmaceuticals, electronics manufacturing, iGaming, and financial services. These sectors have been deliberately cultivated through targeted policy measures - such as competitive corporate tax rates, sector-specific regulation, and infrastructure investments - to position Malta as a hub for global firms seeking access to European markets.

These industries typically operate at the global productivity frontier, employing advanced technologies, sophisticated management practices, and highly skilled international workforces (Coyle et al., 2023). In many cases, productivity levels in these firms are several multiples higher than the national average, reflecting both their scale and their integration into global value chains (Andrews et al., 2016). For example, in manufacturing, foreign-owned plants in Malta exhibit higher total factor productivity (TFP) and labour productivity than their domestic counterparts, owing to greater capital intensity, higher research and development (R&D) spending, and superior organisational capabilities.

The export orientation of these firms provides resilience against domestic demand fluctuations, while their integration into multinational networks facilitates technology transfer, knowledge spillovers, and training opportunities for local workers (Bartelsman and Doms, 2000).

1.3.2 The domestic micro-enterprise base

In contrast, most Maltese enterprises are micro-firms, primarily serving the domestic market.

The productivity challenges in this segment are multi-faceted. Many micro-enterprises operate in low-tech, low-margin markets with limited scope for economies of scale or rapid innovation. Investment in digital tools, process optimisation, and workforce training tends to be low, often due to resource constraints, lack of awareness, or short-term survival pressures (Massini et al., 2025; Procter et al., 2025). Management practices in this cohort also vary widely, with evidence suggesting that a lack of structured business planning, performance monitoring, and employee engagement can act as significant productivity bottlenecks.

Labour market dynamics further reinforce the gap. Domestic micro-enterprises often rely on lower-wage, lower-skilled employment, making it harder to attract and retain talent, particularly when competing with high-productivity firms in the export sector that can offer better pay, career progression, and training opportunities. This creates a cycle in which low productivity constrains wage growth, which in turn limits the ability to invest in skills and innovation.

1.3.3 The importance of bridging the gap

Understanding and addressing the productivity divide between the FDI-driven and domestic sectors is essential for broad-based economic resilience. High productivity in a narrow segment of the economy can deliver fiscal revenues, foreign exchange earnings, and high-value jobs, but if the bulk of the workforce remains in low-productivity employment, the economy's overall capacity to sustain wage growth, innovation, and competitiveness is constrained (Andrews et al., 2016).

Enterprise-level analysis can illuminate where the gaps are widest, what drives them, and how policy interventions might encourage more convergence. For instance, digital adoption initiatives, workforce upskilling programmes, and peer learning networks can help domestic firms move closer to frontier performance. Social dialogue can also play a bridging role, bringing together stakeholders from both segments to co-design productivity-enhancing measures that balance competitiveness with fair work and inclusive growth (Dickinson et al., 2024; Driffield et al., 2021).

Finally, the dual economy lens is essential for setting realistic productivity expectations. It highlights that aggregate gains will be limited if improvements are confined to the already high-performing minority of firms. Raising the productivity of the broad domestic enterprise base is therefore not only an economic imperative but also a social one, ensuring that the benefits of Malta's growth model are shared more widely.

1.4 Conclusion

The exploration of productivity through a microeconomic lens reveals a critical truth: firm-level realities are the building blocks of national performance. Productivity is not an abstract aggregate; it is the cumulative result of decisions, capabilities, and interactions within thousands of enterprises.

At the enterprise level, the capacity to adopt technology, innovate, invest in skills, and apply effective management practices can transform not just output per worker, but also resilience to shocks and ability to scale. For many Maltese SMEs, particularly microenterprises, these factors remain underdeveloped, constrained by limited resources, narrow market reach, and tighter management bandwidth. Evidence from multiple productivity studies indicates that such structural limitations often reinforce path dependency, where small firms remain trapped in low-investment, low-productivity equilibria unless external interventions or market shifts create incentives for change (Feng et al., 2025).

This micro-level heterogeneity matters because it determines the distribution of productivity gains across the economy. High-productivity firms tend to pay higher wages, invest more in worker training, and adopt better working conditions, which can contribute to inclusive economic growth when such firms form a significant share of the business population (Grimshaw et al., 2023). Conversely, when productivity growth is concentrated in a narrow segment of the economy - as is often the case in small, open economies with large FDI enclaves - the benefits may be less widely shared, leaving large parts of the workforce in lower-wage, lower-productivity employment.

The dual economy dynamic also has implications for macroeconomic stability and long-term resilience. The export-oriented sector, often dominated by foreign multinationals, is highly integrated into global value chains and can bring significant spillovers in terms of technology transfer, skills, and innovation. However, its performance is also sensitive to external shocks, such as shifts in international trade policy, global demand cycles, or corporate restructuring decisions taken abroad. The domestically oriented SME sector, on the other hand, is more insulated from such global shifts but remains vulnerable to domestic demand fluctuations, input cost pressures, and regulatory constraints. Productivity improvements in this segment are therefore crucial for economic stability, as they underpin a large share of local employment and domestic value creation.

Critically, the microeconomic drivers of productivity cannot be seen in isolation from macroeconomic forces. Aggregate productivity growth is shaped by sectoral composition, investment cycles, labour market dynamics, and institutional frameworks. The interplay between firm-level capabilities and macro-level conditions determines the pace and inclusiveness of productivity growth. For instance, supportive macroeconomic policies can create the enabling environment for SMEs to invest and innovate, while firm-level improvements can strengthen the overall competitiveness and resilience of the economy.

The challenge for Malta, therefore, is not only to raise productivity in aggregate but to broaden the base of productivity growth. That means creating pathways for micro and small enterprises to move up the productivity ladder, enhancing linkages between the FDI-driven export sector and the domestic SME base, and ensuring that productivity gains translate into improved wages, skills, and working conditions. Achieving this requires a coherent strategy that connects the micro with the macro - one that recognises the unique features of Malta's economic structure while aligning with global trends in technology, trade, and skills.

The next chapter of this report turns to the macroeconomic assessment of productivity in Malta. It will examine long-term productivity trends, sectoral contributions, and the macroeconomic drivers and constraints that shape the country's performance. By connecting the granular, firm-level insights outlined here with the broader macroeconomic picture, the report will provide a foundation for targeted, evidence-based policy interventions aimed at strengthening productivity across all segments of the economy.

This integrated perspective is essential for ensuring that productivity growth in Malta is both sustainable and inclusive, delivering benefits not just to a few high-performing firms, but to workers and communities across the whole economy.

CHAPTER

2

PRODUCTIVITY ANALYSIS

MACRO FOUNDATIONS AND FRAMEWORK ASSESSMENT

This chapter provides a comprehensive macroeconomic analysis of Malta's productivity landscape, establishing the structural context within which enterprise-level dynamics operate. Building on the microeconomic perspective introduced in Chapter 1, this analysis examines how aggregate performance indicators reflect - and potentially obscure - the underlying firm-level heterogeneity that characterises Malta's dual economy. The chapter begins with an assessment of Malta's recent macroeconomic performance, benchmarked against comparable European economies, before developing a multi-dimensional productivity framework that captures the institutional, structural, and policy drivers of competitiveness. Critically, the analysis demonstrates both the insights and limitations of macroeconomic approaches, making the case for the enterprise-level perspective that follows in subsequent chapters.

2.1 Macroeconomic Context and Performance

Malta's macroeconomic performance continues to demonstrate the characteristics of a small, open economy that is successfully integrated into global value chains, while maintaining domestic economic dynamism. However, beneath these aggregate indicators lie structural tensions that reflect the dual economy framework outlined in Chapter 1 - where high-productivity, export-oriented foreign direct investment (FDI) firms coexist with a large base of domestically oriented micro and small enterprises operating at significantly lower productivity levels.

2.1.1 Economic Growth

Malta's economic growth trajectory exemplifies the resilience and volatility typical of small island economies highly integrated into global markets. Latest data published by the NSO covering 2025 shows that following a pandemic-induced contraction of 3.8% in 2020 the economy demonstrated remarkable bounce-back capacity with growth of 16.3% in 2021. This recovery pattern aligns with findings from the literature on small state economics, where external shocks tend to be amplified but recovery can be equally rapid when global conditions improve (Briguglio et al., 2009).

The European Commission's Autumn 2025 Economic Forecast projects that Malta’s real GDP growth is to remain robust, though slowing, at 3.8% in 2026 and 3.5% in 2027, reflecting capacity constraints and higher prices in the tourism sector along with labour shortages. Net exports and investment are estimated to positively contribute to growth.

The latest projections by the Central Bank of Malta (2026:Q1) indicate that Malta’s growth is expected to stabilise at just under the 4% mark throughout the forecast horizon 2026-2028 reflecting a normalisation of growth, albeit higher than projected European averages, confirming Malta’s robust economic performance and standing.

Malta's economic performance significantly outpaces its European peers, positioning it amongst the continent's fastest-growing economies.

2.1.2 Price Stability and Inflation Dynamics

Malta's inflation experience during the recent global price surge illustrates both the vulnerabilities and policy responses characteristic of small open economies. In 2025, HICP inflation averaged 2.4%, unchanged from the previous year. While the contribution of services inflation increased, this was offset by a lower contribution from food inflation.

According to the latest projections by the Central Bank of Malta, HICP inflation is projected to decrease to 2.3% in 2026, reflecting a decline in services inflation. Overall inflation is expected to ease further to 2.1% in 2027 and 2.0% in 2028, also driven primarily by lower services inflation.

The government's decision to maintain fixed retail energy prices represents a significant fiscal intervention that has provided price stability for both households and businesses. The persistence of services inflation - projected to remain the primary contributor to overall price growth - reflects tight labour market conditions and the strong domestic demand noted above.

Malta's inflation trajectory aligns closely with broader European trends whilst benefiting from targeted policy interventions.

2.1.3 External Balance and Trade Integration

Malta's external position demonstrates the characteristics of a successful small trading economy. During the third quarter of 2025, the current account surplus increased when compared to the same quarter of 2024. This mostly reflected higher net receipts from services and, to a much lesser extent, a narrower merchandise trade deficit. These outweighed higher net outflows on the primary income account and a shift in the secondary income account from net inflows to outflows. In the year to September 2025, the current account balance registered a surplus equivalent to 6.8% of GDP. This compares with a current account surplus of 1.8 % of GDP in the euro area.

The strength of services exports reflects Malta's positioning within global value chains, particularly in financial services, iGaming, aviation services, and professional services. Tourism receipts have fully recovered from pandemic levels, with record highs being achieved in 2025. This performance underscores the resilience of Malta's service-oriented export model but also highlights concentration risks in sectors vulnerable to regulatory changes or shifts in global demand.

The trade balance dynamics also reflect the structural characteristics of Malta's dual economy. While FDI-driven export sectors generate substantial foreign exchange earnings, the domestically oriented SME sector remains largely import-dependent for intermediate goods and capital equipment, limiting its contribution to export performance.

2.1.4 Labour Market Performance and Constraints

Malta's labour market exhibits the tight conditions characteristic of economies experiencing rapid growth combined with demographic constraints.

The seasonally adjusted unemployment rate stood at 3.2% in December 2025 remaining unchanged when compared with December 2024. This performance represents one of the lowest unemployment rates in the European Union and reflects both strong labour demand and successful labour market policies.
However, these aggregate figures mask significant structural challenges that relate directly to productivity performance.

The European Commission's 2025 Malta Country Report highlighted significant labour shortages reported by employers in key sectors ñ 68.5% in services, 41.6% in manufacturing, and 36.2% in construction - indicating a fundamental constraint on productivity growth (European Commission, 2025a). This skills gap is particularly acute in high-value sectors such as financial services, technology, and advanced manufacturingópprecisely those sectors where productivity spillovers to the broader economy could be greatest.

Despite the tight labour market, the nominal wage growth per employee is forecast to moderate but still exceed inflation, slowing from 5.9% in 2025 to 2.9% in 2027 according to the European Commission's Autumn 2025 Forecast.

Malta's labour market performance positions it among Europe's strongest performers, though challenges mirror those faced by other dynamic small economies.

2.1.5 Education

Malta's education system exhibits both significant achievements and persistent challenges when viewed against its European peers, reflecting broader patterns of small state educational development alongside unique institutional characteristics. The system demonstrates particular strength in addressing early school leaving, whilst facing ongoing difficulties in tertiary education attainment and skills alignment with economic needs.

Malta has achieved remarkable progress in reducing early school leaving, positioning it amongst Europe's most improved performers in this critical indicator. Malta recorded one of the largest decreases in early school leaving rates among EU countries between 2013 and 2023, with a reduction of 7.1 percentage points, ranking third after Portugal (-10.9 pp) and Spain (-9.9 pp). By 2024, Malta's early school leaving rate had fallen to 9.5% - just above the EU27 average of 9%, marking substantial progress towards the EU target of below 9% by 2030 (Eurostat)[1].

This performance places Malta in a competitive position relative to its European comparators, though significant gaps remain with leading countries. Ireland achieved the lowest early school leaving rate among comparator countries at 2.8% in 2024, whilst Cyprus and Italy recorded rates above Malta. The Netherlands demonstrated strong performance with early school leavers achieving employment rates above 50%, indicating effective school-to-work transitions[2].

1. European Commission. Eurostat. Early leavers from education and training by sex. (edat_lfse_14). Accessed on 2026-01-10. https://ec.europa.eu/eurostat/databrowser/view/sdg_04_10/default/table.

2. European Commission. Eurostat. Early leavers from education and training by labour status. (edat_lfse_14). Accessed on 2026-01-10. https://ec.europa.eu/eurostat/databrowser/view/edat_lfse_14/default/table?lang=en

Malta's tertiary education performance demonstrates steady improvement, though it continues to lag behind leading European economies. Malta achieved 47.1% tertiary education attainment among 25–34-year-olds in 2024, meeting the EU's 2030 target. This represents substantial progress from lower historical levels, positioning Malta above the EU average of 44.1%.

> **However, comparative analysis reveals significant disparities with leading performers. Ireland leads European tertiary attainment at 65.2%, followed by Luxembourg (63.8%) and Cyprus (60.1%), indicating that Malta's performance, though improved, remains substantially below these levels. The Netherlands achieved 55.1% tertiary attainment, whilst Italy recorded only 31.6%, highlighting Malta's middle-tier positioning among European countries [3] .**

Malta faces significant challenges in aligning its educational outputs with economic demands, particularly in the fields of science, technology, engineering, and mathematics (STEM), which are critical for knowledge economy development.

The Digital Education Strategy 2024-2030, adopted in May 2024, represents a comprehensive response to these challenges, emphasising digital literacy as a fundamental 21st-century skill and addressing gender disparities in computer science through female role models and industry partnerships (Malta Digital Skills Platform, 2024; CEDEFOP, 2024).

2.1.6 Fiscal Position and Sustainability

Malta's fiscal position reflects the challenge of maintaining counter-cyclical capacity while addressing structural spending pressures. According to the European Commission, in 2025, the deficit is forecast to decrease to 3.2% of GDP, reflecting an increase in indirect tax revenue as a result of favourable economic conditions and tourism, though changes in income tax brackets will reduce personal income tax intakes. The deficit is set to decline to 2.8% of GDP in 2026, with strong revenue growth despite slower economic expansion. By 2027, based on unchanged policies, the deficit is expected to decline slightly to 2.6% of GDP.

The public debt-to-GDP ratio is expected to broadly stabilise at around 47.3% over the forecast horizon. This relatively low debt burden provides fiscal space for productivity-enhancing investments, though recent ratings agency assessments have noted concerns about governance indicators that could affect investor confidence.

Energy subsidies represent a significant fiscal cost but have provided macroeconomic stability during a period of global commodity price volatility (Ministry of Finance, 2024). The challenge moving forward will be complementing these measures with more targeted support that promotes energy efficiency and economic diversification.

3. European Commission. Eurostat. Population in private households by educational attainment level. (edat_lfse_03). Accessed on 2026-01-10. https://ec.europa.eu/eurostat/databrowser/view/edat_lfse_03_custom_20650556/default/table.

2.2 Sectoral Analysis: Structural Transformation and Productivity Patterns

Sectoral dynamics and structural transformation in Malta's economy

Malta's economy expanded strongly between 2020 and 2025, but the expansion has been uneven across sectors. Employment increased from 268,200 workers in 2020 to 338,200 in 2025, representing 26.1% growth, while gross value added increased from €13.1 billion to €22.6 billion, representing 71.7% growth. A sectoral decomposition is given in Table 1.

Table 1 - Sector contribution to total value-added growth (2020–2025)

Sector	GVA 2020 (€m)	GVA 2025 (€m)	Increase (€m)	Share of total GVA growth
Trade, transport, accommodation & food	1,505	4,309	+2,804	29.7%
Information & communication	1,269	2,952	+1,683	17.8% (due to a reclassification)
Professional, scientific, admin services	2,201	3,865	+1,664	17.6%
Public administration, education & health	2,182	3,491	+1,309	13.9%
Real estate activities	921	1,841	+920	9.8%
Industry (excluding construction)	1,146	1,648	+503	5.3%
Financial & insurance activities	1,263	1,632	+368	3.9%
Construction	609	829	+220	2.3%
Agriculture	113	115	+2	0.0%
Arts, recreation & other services	1,940	1,899	-41	-0.4% (due to a reclassification)

Table 1: Sector contribution to total value-added growth (2020-2025)

This divergence between employment growth and value-added growth suggests that the economy has been generating substantially higher value per worker. However, the distribution of this expansion varies significantly across sectors.

Examining the latest annual movements alongside the five-year structural trend provides insight into which sectors are currently driving growth and how Malta's economic structure has evolved since 2020.

Trade, transport, accommodation and food services

The trade, transport, accommodation and food services sector remains one of the most significant contributors to Malta's economic expansion. Malta has rebounded strongly from a tourism perspective post-pandemic and has been reaching new records in terms of arrivals and expenditure.

Between 2020 and 2025, employment in the sector increased from 71,300 to 91,700 workers, representing 28.7% growth. Over the same period, value added increased from €1.5 billion to €4.3 billion, representing 186.3% growth.

The scale of value-added expansion indicates that this sector has become one of the most important contributors to Malta's overall economic growth during the period.

The 2024–2025 movement continues to reinforce this structural trend. Value-added continued to increase strongly in the most recent year, while employment also expanded further. This indicates that tourism-related activities remain a central driver of both output and employment growth.

From a structural perspective, the sector has therefore increased both its economic weight and labour share, making it one of the defining pillars of Malta's current economic model.

Information and communication

The information and communication sector has been one of the fastest-growing sectors in the Maltese economy.

Employment increased from 11,200 workers in 2020 to 15,700 in 2025, representing 39.7% growth. Over the same period value added increased from €1.27 billion to €2.95 billion, representing 132.6% growth. This is mainly driven also by the reclassification of certain gaming activities into this NACE category.

This means the sector added €1.68 billion in additional value added over five years while expanding employment by approximately 4,400 workers.

The most recent year continues to show strong value-added growth, indicating that the sector remains a key source of economic dynamism.

The gap between value added growth and employment growth suggests that the sector is capable of scaling output without proportional increases in labour. This is typical of digital sectors where productivity gains and technological intensity play an important role. Structurally, ICT has therefore become one of Malta's most important high-value growth sectors.

Professional, scientific, administrative and support services

Professional and administrative services represent one of the largest contributors to employment growth.

Employment increased from 46,700 workers in 2020 to 64,200 in 2025, representing 37.3% growth. Over the same period value added increased from €2.20 billion to €3.87 billion, representing 75.6% growth.

This means the sector added approximately 17,500 workers and €1.66 billion in value added over five years.

The most recent year continues to show strong expansion in both employment and value added, indicating that the sector remains a central driver of economic activity.

From a structural perspective, this sector plays a key enabling role in the economy by supporting financial services, international business services and digital industries. It is now imperative to focus more on productivity improvements.

Real estate activities

Real estate activities show some of the strongest growth rates in the dataset.
Employment increased from 2,800 workers in 2020 to 4,700 in 2025, representing 65.0% growth. Value added increased from €921 million to €1.84 billion, representing 99.9% growth.

In absolute terms, the sector generated nearly €920 million in additional value added over the period.

The most recent year continues to show strong value-added growth alongside moderate employment expansion. This reflects the capital-intensive nature of the sector, where economic value is influenced by property markets, rents and investment flows.

Structurally, the sector has increased its economic importance as a contributor to national value added.

Construction

Construction also expanded significantly over the period. Employment increased from 16,100 workers in 2020 to 20,500 in 2025, representing 27.2% growth. Value added increased from €608 million to €829 million, representing 36.2% growth.

The sector therefore added approximately 4,400 workers and €220 million in value added.
The most recent year shows continued expansion in both employment and output, suggesting that domestic investment and housing demand remain strong. However, the difference between employment growth and value-added growth is smaller than in sectors such as ICT or professional services, indicating more labour-intensive activity.

Industry excluding construction

Industry excluding construction shows a very different pattern. Employment increased only slightly from 25,500 workers in 2020 to 27,900 in 2025, representing 9.7% growth. However, value added increased from €1.15 billion to €1.65 billion, representing 43.9% growth.

This means the sector generated approximately €500 million in additional value added while adding only about 2,500 workers.

The most recent year shows continued increases in value added despite relatively limited employment expansion.

This divergence suggests productivity improvements driven by capital investment, technological upgrading or shifts toward higher value industrial activities.

Manufacturing

Manufacturing follows a similar pattern to industry overall.

Employment increased from 23,300 workers to 25,500, representing 9.8% growth. Value added increased from €942 million to €1.31 billion, representing 39.4% growth. This means manufacturing added approximately €370 million in value added while expanding employment by around 2,300 workers.

The latest annual data continues to show moderate value-added growth with limited employment expansion, reinforcing the interpretation that manufacturing growth has been driven more by productivity improvements than labour expansion.

Financial and insurance activities

Financial services expanded at a more moderate pace compared with other sectors.
Employment increased from 14,000 workers in 2020 to 17,000 in 2025, representing 21.1% growth. Value added increased from €1.26 billion to €1.63 billion, representing 29.2% growth. This means the sector generated approximately €370 million in additional value added†over the five-year period.

The most recent year shows continued moderate growth in value added, suggesting stable but less rapid expansion compared with sectors such as ICT.

Public administration, education and health

Public services also expanded significantly. Employment increased from 58,900 workers in 2020 to 69,600 in 2025, representing 18.2% growth. Value added increased from €2.18 billion to €3.49 billion, representing 60.0% growth.

This means the sector generated €1.31 billion in additional value added and added 10,700 workers over five years.

The most recent year continues to show strong value-added growth alongside moderate employment increases, reflecting expanding demand for public services.

Arts, recreation and other services

Arts, recreation and other services show a weaker structural performance.

Employment increased from 18,100 workers in 2020 to 22,700 in 2025, representing 25.2% growth. However, value added declined slightly from €1.94 billion to €1.90 billion, representing a 2.1% decrease.

This is due to a reclassification effect whereby several gaming activities were reclassified under information technology.

Interpreting Malta's sectoral transformation

Looking across sectors, three structural patterns emerge from the data.

First, tourism-related sectors remain central to Malta's economic model, with trade, transport, accommodation and food services increasing value added by €2.8 billion between 2020 and 2025, the largest increase across the economy.

Second, knowledge-intensive services are expanding rapidly, particularly ICT and professional services, which together added more than €3.3 billion in value added over the same period.

Third, industrial sectors are increasing output without significant labour expansion, suggesting productivity improvements.

The combination of these trends indicates that Malta's economy is evolving toward a service-led model characterised by strong tourism activity, expanding knowledge-based services and steady industrial productivity gains.

The value added per worker table provides insight into how productivity has evolved across Malta's economy. On average, value added per worker increased from approximately **€49,000 in 2020 to €66,800 in 2025**, representing a **36 percent increase**. This indicates that overall economic expansion has been accompanied by a significant increase in output per worker.

However, productivity gains are uneven across sectors. The most substantial improvement occurred in **trade, transport, accommodation and food**, where value added per worker more than doubled, reflecting the strong increase in sector output relative to employment.

The **information and communication sector** also recorded substantial productivity gains, with value added per worker rising from about **€113,000 to €189,000**. This reinforced its position as one of the economy's most productive sectors, although part of the increase resulted from the reclassification of gaming activities between NACE categories. This reclassification also accounts for the decline seen in arts-related services.

Table 2 - Value added per worker (productivity proxy)

Sector	VA per worker 2020 (€)	VA per worker 2025 (€)	Change
Agriculture	31,900	27,500	↓ decline
Industry excl. construction	45,000	59,000	↑ strong increase
Manufacturing	40,500	51,400	↑ increase
Construction	37,700	40,300	↑ slight increase
Trade, transport & tourism	21,100	47,000	↑ strong increase
Information & communication	113,200	188,600	↑ very strong increase (due to a reclassification)
Financial services	90,000	96,000	↑ moderate increase
Real estate	325,000	394,000	↑ strong increase
Professional services	47,100	60,200	↑ strong increase
Public administration, health & education	37,100	50,100	↑ strong increase
Arts & recreation	107,300	83,900	↓ decline (due to a reclassification)

Table 2: Value added per worker (productivity proxy)

The central challenge going forward will be ensuring that employment growth increasingly occurs in sectors capable of generating strong value-added growth, allowing Malta to sustain both productivity improvements and long-term income growth.

2.3 Productivity Framework Analysis

To systematically assess Malta's productivity determinants, this analysis employs a multi-dimensional framework that disaggregates productivity drivers across four key pillars: Market and Resource Allocation, Accumulation of Factors of Production, Internationalisation, and Technological & Sociological Change. The model shown in Figure 1 decomposes the main elements of productivity into various sub-elements, primarily foundational, direct, and indirect channels.

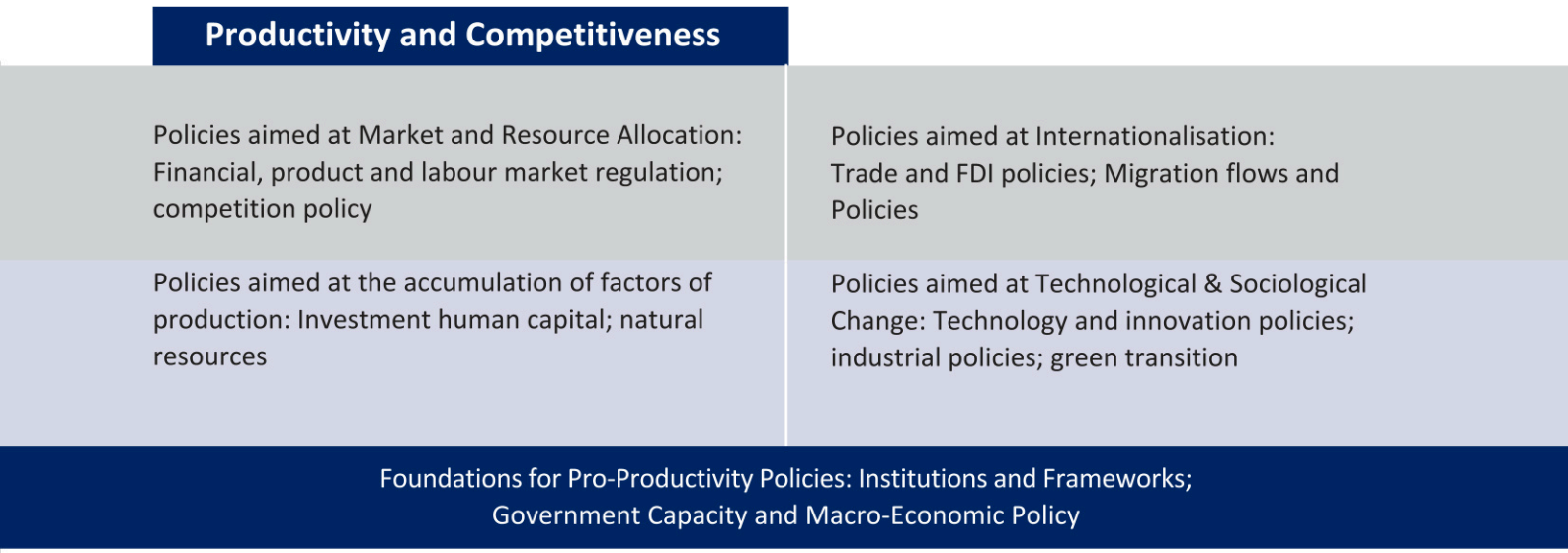


Figure 1 - Malta's Productivity and Competitiveness Framework (Source: authors)

The indicators selected for each element and their definition are reported below.

2.3.1 Indicators to measure Market and Resource Allocation

The indicators selected reflect the policies that attract resources or condition their use, focusing primarily on financial resources and competition policy.

- ***Market dominance*** – As reported in the Global Competitiveness Report by the World Economic Forum, Market Dominance demonstrates whether markets are dominated by a few business groups or spread among many, showing a level of maturity and competition in markets. The higher the value, the higher the spread.

- ***Regulatory Quality*** – The Regulatory Quality indicator reflects the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The estimate of governance ranges from -2.5 to 2.5 (-2.5 being a weak governance performance and 2.5 a very strong governance performance). The percentile rank among all countries ranges from 0 to 100 (lowest and highest rank). This statistic is reported by the World Bank in its Worldwide Governance Indicators.

- ***Financial System Index*** – This index originates from the World Economic Forum's Executive Opinion Survey, whereby respondents are asked to rate aspects of financial services and infrastructure using a scale from 1 (lowest) to 7 (highest). These aspects include domestic credit to the private sector, financing of SMEs, venture capital availability, market capitalisation, insurance premiums, the soundness of banks, non-performing loans, credit gap and banks' regulatory capital ratio:

- ***Bank non-performing loans to total gross loans*** – The percentage of non-performing loans to total gross loans as reported by the World Bank.

- ***Cost of borrowing for households and non-financial corporations*** – A composite index reflecting the cost of borrowing as reported by the European Central Bank.

2.3.2 Indicators to measure Accumulation of Factors of Production

The selected indicators reflect the policies related to the main factors of production, with a primary focus on human capital, capital and entrepreneurship.

- ***Youth not in education, employment, or training (NEET)*** – This indicator corresponds to the percentage of the population of a given age group and sex who is not employed (or inactive) and not involved in further education or training (formal or non-formal education or training in the four weeks preceding the survey).

- ***Adult participation in learning*** – This indicator measures the Participation rate in education and training of adults aged 25 to 64.

- ***Early school leavers in the young population*** – This indicator refers to those aged 18 to 24 who are not in education and are deemed early leavers.

- ***Gender Inequality Index*** – This index measures gender inequalities in three essential aspects of human development: reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by the proportion of parliamentary seats occupied by women and the proportion of adult women and men aged 25 years and older with at least some secondary education; and economic status, expressed as labour-market participation and measured by the labour force participation rate of women and men aged 15 years and older. The Index ranges between 0 and 1, with higher values indicating greater inequality. This index is published by the UNDP.

- ***Business investment as a share of GDP*** – This represents, in percentage terms, the contribution of business investment to the country's GDP and thereby underscores the ease with which businesses can flow investments to the economy, as well as the appetite and the possibility to do so.

2.3.3 Indicators to Measure Internationalisation

The selected indicators reflect the impact of current policies on enabling and facilitating internationalisation and trade flows.

- ***FDI inflows and outflows*** – Net values refer to the value of FDI flows (inflow or outflow) less the values of FDI disinvestments.

- ***Herfindahl-Hirschman Product Concentration Index*** – This Index measures the dispersion of trade value across an exporter’s products. The index ranges from 0 to 1, with a higher value indicating that trade is concentrated in fewer products, which may be interpreted as a greater potential vulnerability to trade shocks. Measured over time, a fall in the Index indicates increasing diversification in an exporter’s trade profile and, hence, lower vulnerability.

- ***Net International Investment Position (NIIP)*** – The International Investment Position (IIP) is a statistical statement that provides an aggregate view of the net financial position (assets minus liabilities) of a country vis-à-vis the rest of the world. It allows for a stock-flow analysis of the external position of a country. The more negative the NIIP to GDP, the more the country becomes vulnerable to volatility in international financial markets.

- ***Trade Openness*** – This statistic reflects the total imports of goods and services compared to the level of GDP.

- ***Air connectivity ranking and efficiency of air transport services*** – The Airport Industry Connectivity Index (AICI) measures the overall level to which an airport is connected to the rest of the World, either by direct flights or indirect connections via other airports. The index is a composite of the number of destinations, the frequency of services and the quality of connections (i.e. whether services are direct or via hubs).

2.3.4 Indicators to measure Technological & Sociological Change

These indicators were selected to provide an understanding of the impact of existing policies on technological and social change, with particular reference to poverty, digitisation, and innovation.

- ***Business Dynamism Rankings*** – This index assesses the factors and institutions identified by empirical and theoretical research as determining productivity improvements, which is, in turn, the main determinant of long-term growth and an essential factor in economic growth and prosperity.

- ***Gini coefficient*** – The Gini coefficient measures the extent to which income distribution within a country deviates from a perfectly equal distribution. A coefficient of 0 expresses perfect equality, where everyone has the same income, while a coefficient of 100 expresses full inequality, where only one person has all the income. The Gini coefficient of equalised disposable income measures the extent to which the distribution of equalised disposable income after social transfers deviates from a perfectly equal distribution.

- ***Global Innovation Index (GII) business sophistication rankings*** – This index assesses how conducive firms are to innovation activity and hence gauges the ability of businesses to foster their productivity, competitiveness, and innovation potential with the employment of highly qualified professionals and technicians.

- ***European Innovation Scoreboard Index (EISI)*** – This index categorises Member States into four innovation groups based on their scores: Innovation Leaders, Strong Innovators, Moderate Innovators and Emerging Innovators.

- ***Private sector expenditure on R&D*** – As a subset of the EISI.

- ***Innovative SMEs*** – as a subset of the EISI (the percentage of SMEs introducing product and process innovation).

- ***Digital Economy and Society Index*** – The Digital Economy and Society Index (DESI) is based on about 30 indicators in five dimensions: connectivity, human capital, use of internet services, integration of digital technology, and digital public services.

Table 3 reports the resulting dashboard for these indexes. This dashboard shows how the productivity framework's four elements are at different success and progress levels.

Regarding ***market and resource allocation***, Malta is on the right trajectory with the financial system index and the bank non-performing loans to total gross loans, as Malta has registered improvements in the four-year and year-on-year trends. Conversely, in terms of regulatory quality, Malta is achieving year-on-year losses. In contrast, in terms of the composite index of the cost of borrowing, the cost of borrowing has increased over the past four-year period. Yet, the country still manages to remain in a relatively better position than the EU average.

Moving to the ***accumulation of factors of production***, the indexes address the accumulation of human capital and the free movement of capital resources for investment. This is one of the framework's strongest pillars where Malta is seen to achieve sustained improvements. Whilst the overall trend has been positive for the indexes reported under this element, except for ëbusiness investment as a share of GDP,' four of six indexes fall below the EU average.

The ***internationalisation element*** of the productivity framework offers a mixed bag of outcomes, with two elements achieving short-term and long-term improvement: net FDI flows and trade openness. Malta registered stability on the HH product concentration index without improvements or deterioration. Malta's outcomes deteriorated regarding air connectivity ranking and the Net International Investment Position.

Technological and sociological change captures indexes relating to technological advancements, research and innovation, and dynamic societal changes, which influence future growth, particularly equality. This element of the productivity framework leaves Malta lagging behind its EU counterparts in most indexes, most notably in innovation and research expenditure indexes. Malta faces a negative trend as compared to the EU average however it continued to register a steady improvement. Indeed, Malta registered improvements in the eight years preceding 2023. The European Innovation Scoreboard 2023 states:

For five Member States performance improved between 10 and 15 percentage points: Croatia, Belgium, Poland, Malta, and Sweden. For twoMember States performance improved by less than 10 but more than 8.5 percentage points: Spain and the Netherlands.

MALTA is a Moderate Innovator with performance at 85.8% of the EU average. Performance is below the average of the Moderate Innovators. Performance is increasing at a rate higher than that of the EU (8.5%-points). The country's performance gap to the EU is becoming smaller. SMEs are introducing business process innovations, a sub-part of the EISI index. We also note that the Gini coefficient for Malta continues to increase and depart further from the EU average, demonstrating further divergence between the rich and poor segments of society.

Element	Driver of productivity	Relative to EU average	2020	2021	2022	2023	4yr average	4 yr trend	Yr on yr trend
Market and Resource Allocation	Regulatory Quality	NA	1.2	0.8	0.7		0.9		
	Financial System Index	NA	28	29	32		29.7		
	Bank non-performing loans to total gross loans	NA	3.7	5.2	3.5		4.1		
	Cost of borrowing for households and non-financial corporations		3.8	3.4	4.4	4.8	3.9		
Accumulation of Factors of Production	Youth not in education, employment or training		9.7	10.5	7.6	7.6	8.9		
	Adult participation in learning		10.8	13.8	13	16.4	13.5		
	Early school leavers in the young population		13	10.9	10.3	10.2	11.1		
	Gender Inequality Index		63.4	65	65.6	67.8	65.5		
	Business investment, as a share of GDP		21.0	22.9	24.2	18.6	21.7		
Internationalisation	FDI inflows and outflows		-43.1	-37.8	-33.2	99.5 -	3.7		
	Herfindahl-Hirschman Product Concentration Index	NA	0.04	0.04	0.04		0.0		
	Net International Investment Position	NA	114.6	104.8	99.9	92.9	103.1		
	Trade Openness		159.2	148.5	152.7	147.3	151.9		
	Air connectivity ranking and efficiency of air transport services	NA			2173.0	1341.0	1,757.0		
Technological & Sociological Change	Business Dynamism Rankings	NA	64.0	66.0	73.0		67.7		
	Gini coefficient		30.3	31.2	31.1	33	31.4		
	Global Innovation Index business sophistication rankings	NA	13.0	14.0	16.0		14.3		
	European Innovation Scoreboard Index		106.0	101.6	101.4	98.7	101.9		
	R&D expenditure in the business sector		24.1	23.3	27.8	28.6	26.0		
	Innovative SMEs		119.0	119.0	101.1	101.1	110.1		
	Digital Economy and Society Index		51.5	54.5	60.9		55.6		

Better than EU average | Worse than EU average | Improving trend | Worsening trend | No change in trend

Table 3 - Productivity dashboard (Source: authors)

2.3.5 Market and Resource Allocation Efficiency

The efficient allocation of resources across firms and sectors represents a fundamental driver of aggregate productivity, particularly relevant in small economies where resource constraints are binding. Malta's performance across indicators of financial market development, regulatory quality, and competition intensity reveals a mixed picture.

Financial System Development: Malta's financial system exhibits relative sophistication, as evidenced by the Financial System Index, which has shown improvement over recent years. The banking sector maintains strong fundamentals, with a loan-to-deposit ratio of 60% compared to the EU average of 106%, indicating ample liquidity (Fitch Ratings, 2025). However, access to equity financing and venture capital remains limited, particularly for SMEs seeking to scale or innovate - a constraint that the enterprise-level analysis will explore in detail.

Regulatory Quality: Malta's regulatory environment has shown some deterioration according to World Bank governance indicators, with concerns about bureaucratic efficiency and transparency. The cost of regulatory compliance disproportionately affects smaller firms, as Altomonte & Aquilante (2013) demonstrate in their analysis of European SMEs. This regulatory burden may be hindering the reallocation of resources toward more productive uses.

Competition Policy: While Malta maintains generally competitive markets, certain sectors - particularly non-tradable services - exhibit limited competitive intensity. This is consistent with Syverson's findings that competitive pressure is a key driver of productivity improvements at the firm level (Syverson, 2004).

2.3.6 Accumulation of Factors of Production

The accumulation and quality of productive factors - particularly human capital and physical capital - represent a second crucial productivity driver, especially important for economies seeking to move up the value chain.

Human Capital Development: Malta faces significant challenges in human capital formation that directly affect productivity potential. Despite high education expenditure (12.6% of total public expenditure in 2024)[4], outcomes lag EU averages. Early school leaving rates have improved dramatically, decreasing from 21.4% in 2010 to 9.5% in 2024. However, as at Q3 2024 a concerning 39.1% of the population aged 15 years and over still had only a secondary level education or less[5]. The skills gap represents a binding constraint on productivity growth, particularly in high-value sectors. Adult participation in learning (18.6% in 2024) is above the EU27 average (13.5%) but remains far below the 2030 national target of 57.6%[6]. This limits the capacity for workforce adaptation to technological change. This challenge is particularly acute for SMEs, which often lack the resources to invest in employee training and development.

Investment Performance: Business investment as a share of GDP has shown volatility, reflecting both global uncertainties and domestic constraints. While foreign-owned firms maintain high investment rates, domestic SMEs face financing constraints that limit their ability to modernise equipment and adopt new technologies. This investment gap contributes to productivity differentials between firm categories.

2.3.7 Internationalisation

For small economies, integration into global markets provides opportunities to overcome domestic scale constraints while accessing knowledge spillovers and competitive pressures that drive productivity improvements.

Trade Openness: Malta maintains very high trade openness, with trade flows significantly exceeding GDP. However, this openness is concentrated in specific sectors, with most SMEs remaining domestically oriented. The Herfindahl-Hirschman Product Concentration Index indicates some diversification of export products, but concentration in services exports creates both opportunities and vulnerabilities.

FDI Flows: Malta continues to attract substantial FDI inflows, particularly in financial services and technology sectors. However, the spillover effects to domestic enterprises appear limited, consistent with the dual economy model. This pattern highlights the importance of policies that can enhance absorptive capacity among domestic firms.

4. National Statistics Office. (2025, December 18). Expenditure of General Government Sector by Function: 2024. NR 236/2025.
5. National Statistics Office. (2025, December 11). Labour Force Survey: Q3/2025. NR 230/2025.
6. European Commission. Eurostat. Adult Participation in learning by sex. (trng_lfse_01). Accessed on 2026-02-02.https://ec.europa.eu/eurostat/databrowser/view/sdg_04_60/default/table?lang=en&category=t_educ.t_educ_part

Air Connectivity: Malta's geographical position and air connectivity facilitate international business relationships, though connectivity rankings have shown some decline. For a service-based economy, maintaining and improving connectivity infrastructure is crucial for productivity growth.

2.3.8 Technological and Sociological Change

The capacity to generate, adopt, and diffuse technological innovations represents an increasingly important productivity driver in knowledge-based economies.

Innovation Performance: The European Innovation Scoreboard categorises Malta as a "Moderate Innovator." This innovation gap may explain the limited the capacity of domestic firms to transition to higher-value-added activities.

Digital Transformation: The Digital Economy and Society Index (DESI) shows Malta performing reasonably well on connectivity and digital public services but trailing in business digitalisation. This digital divide between leading and lagging firms may be contributing to productivity disparities.

Inequality and Social Cohesion: The Gini coefficient has increased over recent years, indicating growing income inequality. While some inequality may reflect productivity differentials between high and low-performing sectors, excessive inequality can undermine social cohesion and human capital development, ultimately constraining productivity growth.

2.4 The Limits of Macroeconomic Analysis: The Case for Enterprise-Level Investigation

The macroeconomic analysis presented above, while essential for understanding aggregate trends and policy contexts, reveals fundamental limitations when applied to productivity analysis in structurally heterogeneous economies like Malta. These limitations are not merely analytical conveniences but represent substantive barriers to effective policy design and implementation.

2.4.1 The Aggregation Problem

Macroeconomic indicators inevitably aggregate across firms with vastly different productivity levels, potentially obscuring the sources of both strong performance and persistent weaknesses. In Malta's case, the dual economy structure means that aggregate productivity statistics may be dominated by a small number of high-performing FDI firms while masking stagnation or decline among the majority of domestic enterprises. This aggregation problem is particularly acute for productivity measurement. As Bartelsman & Doms (2000) demonstrate in their seminal review, aggregate productivity statistics can improve even when most firms experience productivity decline, provided that resources are reallocated toward more productive firms. Conversely, aggregate stagnation may mask significant productivity improvements among subsets of firms.

2.4.2 Policy Design Challenges

Macroeconomic analysis provides limited guidance for the design of targeted interventions. While the framework analysis above identifies broad areas of concern - such as skills gaps, innovation deficits, and regulatory burdens - it cannot specify which types of firms face which specific constraints, or how policy interventions might be most effectively targeted.

The enterprise-level heterogeneity documented in the productivity literature suggests that generic SME support policies are likely to be inefficient, potentially supporting low-productivity firms while failing to address the specific barriers facing high-potential enterprises (Hsieh & Klenow, 2009). Without firm-level analysis, policymakers risk implementing broad-brush approaches that fail to address root causes.

2.4.3 Spillover and Linkage Effects

Macroeconomic analysis cannot adequately capture the mechanisms through which productivity improvements in one part of the economy may (or may not) spill over to other parts. In Malta's context, understanding whether and how the high productivity of FDI firms translates into benefits for domestic SMEs requires firm-level investigation of supplier relationships, labour mobility, and knowledge transfer mechanisms.

Similarly, the role of local entrepreneurship in creating productive firms that can eventually scale and compete internationally cannot be assessed through aggregate statistics alone. The enterprise-level analysis in subsequent chapters provides the granular insight necessary to understand these dynamic processes.

2.4.4 Resilience and Adaptability

Small economies like Malta face particular vulnerabilities to external shocks, and resilience depends heavily on the adaptability of individual enterprises. Macroeconomic indicators may suggest stability or growth while masking underlying fragilities in specific firm populations or sectors.
The COVID-19 pandemic provided a stark illustration of this dynamic, with aggregate economic recovery potentially obscuring the permanent exit of less resilient firms and the emergence of new, more adaptable enterprises. Understanding these micro-level dynamics is essential for assessing economic resilience and designing policies that support adaptive capacity.

2.5 Conclusion

Malta's macroeconomic performance showcases the successes and tensions characteristic of small, open economies that have successfully integrated into global markets. Strong growth, relatively low unemployment, and fiscal stability provide a solid foundation for prosperity, while structural challenges in human capital development, innovation capacity, and economic diversification highlight areas that require policy attention.

The productivity framework analysis reveals that Malta's challenges are not primarily macroeconomic but reflect deeper structural and institutional factors that operate at the enterprise level. While the macroeconomic context provides essential background, understanding the sources of productivity differentials and the barriers to improvement requires investigation of firm-level dynamics, capabilities, and constraints.

The dual economy structure that emerges from this analysis - with high-productivity FDI firms coexisting alongside a large base of lower-productivity domestic SMEs - cannot be adequately understood or addressed through macroeconomic policy alone. Instead, it requires the granular, enterprise-level perspective that the following chapters provide.

This transition from macro to micro analysis is not merely methodological but represents a fundamental shift in how we understand productivity determinants. As the subsequent chapters will demonstrate, productivity

is not an abstract aggregate but the cumulative result of decisions, capabilities, and constraints at the enterprise level. Only by understanding these micro-foundations can policymakers design interventions that effectively address Malta's productivity challenges while building on its competitive strengths.

> **The macroeconomic foundations established in this chapter serves as the essential context within which enterprise-level dynamics operate, also pointing to the limitations of macro analysis in providing the rationale for the detailed firm-level investigation that follows. Together, these perspectives offer a comprehensive understanding of Malta's productivity landscape and the pathways toward enhanced competitiveness and sustainable growth. Chapter 3 now takes the analysis down to enterprise-level, introducing this perspective as a critical dimension of any meaningful discussion on national productivity.**

CHAPTER

3

INTRODUCTION TO ENTERPRISE PRODUCTIVITY

Enterprise productivity, the efficiency with which individual firms transform inputs into outputs, has emerged as a critical focus for understanding national productivity performance. While aggregate productivity metrics remain vital for macroeconomic assessment, these measures often mask significant heterogeneity between firms, even within the same sector or region (OECD, 2023). A microeconomic lens reveals that a small proportion of 'frontier firms' drive much of the aggregate productivity growth, while a long tail of 'laggard firms' experiences stagnant or declining productivity (Van Ark et al., 2023). This dispersion underscores the importance of examining productivity at the enterprise level.

The enterprise-level perspective allows for a nuanced analysis of the determinants of productivity that are invisible in national statistics. For instance, differences in management practices, technology adoption, organisational know-how, workforce skills, and access to finance often explain more of the variance in firm productivity than sectoral or geographic factors alone (Feng et al., 2025). The approach also aligns with the growing recognition in the policy community that interventions to raise productivity must be tailored to firm capabilities, resources, and operating environments (Jorden et al., 2024).

From an analytical standpoint, enterprise productivity is often measured through total factor productivity (TFP) and labour productivity at the firm level. Firm-level TFP accounts for multiple inputs - labour, capital, and intermediate goods - and isolates changes in efficiency from changes in input quantities (Martin & Riley, 2023). Labour productivity, calculated as output per worker or per hour worked, is easier to measure but can be influenced by changes in capital intensity rather than underlying efficiency. The coexistence of high-productivity and low-productivity firms within the same industry points to systemic differences in capabilities and practices, not simply sectoral endowments.

In small open economies such as Malta, the microeconomic perspective is especially important due to the dual-economy structure. The foreign direct investment (FDI)-driven export sector; typically comprising large, capital-intensive firms; often demonstrates productivity levels at or above the global frontier, while domestically oriented micro-enterprises dominate in number but exhibit comparatively low productivity. Understanding why such gaps persist, and how knowledge and capability spillovers can be enhanced, is central to a productivity strategy.

This enterprise-level lens also highlights the central role of workers in productivity outcomes. Productivity improvements can arise from enhanced skills, better work organisation, and higher engagement levels, but these depend on both firm investment and the quality of social dialogue between employers and employees (Henley, 2022).

The relevance of enterprise productivity extends beyond economics. Higher productivity at the firm level can translate into better wages, improved job security, and greater capacity for investment in innovation and sustainability (Procter et al., 2025). Conversely, persistent low productivity can trap firms in a cycle of low wages, low investment, and limited competitiveness. Recognising this dynamic, many advanced economies have shifted towards policies that aim to lift productivity across the entire distribution of firms, not just the frontier.

By focusing on the microeconomic underpinnings of productivity, this chapter lays the groundwork for understanding the drivers and barriers specific to Malta's enterprise landscape. The subsequent sections review the literature on the key determinants of enterprise productivity, identifying the mechanisms through which firm characteristics, capabilities, and environments shape performance.

3.1 Structural Firm Characteristics

Structural firm characteristics, such as size, age, and market position, fundamentally shape the capacity of enterprises to generate sustained productivity gains. These features influence how firms deploy resources, adopt new technologies, access finance, attract talent, and exploit market opportunities. In Malta, where the enterprise base is dominated by micro and small firms, structural constraints often limit the ability to achieve productivity-enhancing scale economies or to invest in organisational capabilities (Roper, 2023). Understanding these characteristics is critical for developing tailored interventions that reflect the dual nature of the Maltese economy, in which a small number of foreign-owned, export-oriented enterprises coexist with a large mass of domestically oriented micro-enterprises (Coyle et al., 2023). This section examines key dimensions of firm structure; size, life-cycle stage, and competitive environment; that act as both enablers and barriers to enterprise productivity.

3.1.1 Firm Size and Economies of Scale

Firm size is one of the most consistent predictors of productivity performance at the enterprise level, reflecting the capacity to spread fixed costs, invest in technology, and benefit from specialisation (Syverson, 2011; OECD, 2023). Larger firms typically have higher productivity due to the presence of economies of scale in production, distribution, and administration. These firms can amortise investments in digital infrastructure, R&D, and workforce training across a broader revenue base, yielding higher returns on capital expenditure (Jones, 2023). Moreover, scale enables the adoption of advanced management practices, such as data-driven decision-making and structured performance monitoring, which are linked to superior productivity outcomes (Feng et al., 2025).

However, the productivity advantages of larger scale firms are not universal. For certain sectors, particularly knowledge-intensive services, diseconomies of scale may emerge if organisational complexity slows decision-making or dilutes managerial oversight (Driffield et al., 2021). Furthermore, the structure of Malta's SME base, with 93% of firms employing fewer than 10 workers, creates a national productivity profile heavily weighted towards micro-enterprises that lack the internal capacity to exploit scale efficiencies [7]. Evidence from the UK's Productivity Institute suggests that size-related productivity gaps can be exacerbated by limited management capabilities and restricted access to finance in smaller firms (Van Ark et al., 2023).

In Malta, the presence of a dual economy accentuates this divergence. Foreign-owned export manufacturers and ICT service providers operate at larger scales, often integrating into global value chains and leveraging advanced production systems, while domestically oriented micro-firms serve fragmented local markets with lower productivity potential (Coyle et al., 2023). Policy approaches to closing this size-productivity gap must recognise that scaling up is not purely a matter of firm ambition but is conditioned by market structure, skills availability, and financing models (Procter et al., 2025).

Ultimately, firm size shapes the strategic options available to enterprises: larger firms have the structural resilience to pursue high-risk, high-reward innovation strategies, while micro-firms often remain constrained to incremental process improvements. Without addressing structural barriers to scale, the aggregate productivity of Malta's SME sector will remain bounded by the limits of micro-enterprise performance.

3.1.2 Firm Age and Life-Cycle Effects

Firm age is a critical determinant of productivity performance, influencing resource endowments, organisational routines, and adaptability to change. Young firms often display high growth potential and an ability to exploit

7. National Statistics Office. (2025, July 08). Structural Business Statistics: 2023. NR 120/2025. Further details on the scope and composition of the Structural Business Statistics maintained by the National Statistics Office are provided in Annex 1.

new market niches due to their flexibility and innovative capacity (Coad et al., 2014). Start-ups and scale-ups can adopt the latest technologies and organisational practices without the inertia that may constrain older incumbents (Massini et al., 2025). Their capacity for rapid experimentation and disruptive innovation enables them to challenge established market leaders, particularly in sectors where technological change is rapid and entry barriers are low (Coyle, 2023).

However, young firms also face liabilities of newness, including limited financial resources, weaker brand recognition, and an absence of established customer relationships (Aldrich and Auster, 1986). These constraints can hinder productivity growth if firms cannot secure sufficient investment or achieve a minimum viable scale before competitive pressures erode their market position (Van Ark et al., 2023). Survival rates in the early years are typically low, and the productivity gap between surviving and failing firms reflects both selection effects and differences in managerial capability (Syverson, 2011).

Mature firms, by contrast, benefit from accumulated experience, established networks, and brand equity. They often exhibit higher average productivity levels due to refined operational processes, better access to finance, and embedded relationships with suppliers and customers (Feng et al., 2025). Yet, they are also more vulnerable to organisational rigidities, path dependency, and resistance to change, particularly in rapidly evolving technological landscapes (Jones, 2023). These features can result in declining productivity growth over time if firms fail to adapt to shifting market and technological conditions.

The life-cycle trajectory of productivity is therefore non-linear. Evidence from firm-level studies suggests a pattern of rapid growth and innovation in the early years, stabilisation in maturity, and potential decline without active reinvestment in capital, technology, and organisational renewal (Driffield et al., 2021; Coyle et al., 2023). The determinants of these trajectories include leadership quality, access to skilled labour, competitive intensity, and the ability to engage with international markets (Procter et al, 2025).

Recognising the interplay between age, adaptability, and productivity is essential for designing targeted interventions. Young firms may require policies that improve access to finance and mentorship, while mature firms may benefit from incentives to upgrade technology and refresh organisational capabilities to sustain productivity growth.

3.1.3 Capital Investment and Technology Adoption

Capital investment and the adoption of new technologies are central drivers of enterprise-level productivity growth. While the two are closely linked, as new technologies often require complementary physical capital, they operate through distinct channels. Physical capital investment expands production capacity and can directly improve efficiency, while technology adoption changes how inputs are transformed into outputs, often altering the very structure of production (Jorgenson and Stiroh, 2000; OECD, 2023). The interplay between the two is critical, as the productivity benefits of technology are frequently contingent upon the scale and quality of complementary capital investment (Jones, 2023; Massini et al., 2025).

Physical Capital

Investment in physical capital, such as machinery, equipment, infrastructure, and production facilities, has long been recognised as a primary source of labour productivity growth (Martin & Riley, 2023). At the firm level, higher capital intensity enables enterprises to mechanise labour-intensive processes, reduce unit costs, and improve product quality. In manufacturing and service sectors alike, capital deepening can raise the efficiency of workers by providing them with better tools, environments, and support systems (Roper, 2023).

However, the returns to capital investment are not uniform. They depend on factors such as the alignment of capital with skill levels, the age and quality of the capital stock, and the firm's capacity to maintain and utilise assets effectively (Van Ark et al., 2023). Firms with modern, well-maintained equipment and skilled operators can achieve significantly higher output per worker than those with outdated or poorly matched assets (Procter et al., 2025).

Moreover, capital investment often exhibits complementarities with organisational and process innovations. For example, the introduction of advanced manufacturing systems or logistics infrastructure requires new workflows, training, and performance monitoring systems to realise productivity gains (Feng et al., 2025). Without these complementary changes, the full benefits of capital deepening are unlikely to materialise.

Technology Adoption and Diffusion

Beyond physical assets, the adoption of new technologies, including digital platforms, automation, artificial intelligence (AI), and data analytics, plays a transformative role in firm productivity (Coyle, 2023). Technology adoption allows firms to reduce transaction costs, improve decision-making through better data, and access new markets via digital channels (Massini et al., 2025). AI-enabled tools, for instance, can optimise supply chains, forecast demand, and personalise customer engagement, driving both efficiency and revenue growth.

Yet, the diffusion of technology across firms is highly uneven. Leading firms often adopt and integrate cutting-edge tools quickly, achieving significant productivity advantages, while lagging firms may struggle due to cost constraints, skill shortages, or uncertainty about returns (Procter et al., 2025; OECD, 2023). This creates a 'productivity gap' between frontier firms and the rest, which can persist and widen over time (Andrews et al., 2016).

Importantly, the impact of technology adoption is mediated by complementary capabilities such as managerial skills, workforce readiness, and change management capacity (Feng et al., 2025). Digital tools alone do not guarantee productivity gains; firms must adapt organisational structures, workflows, and culture to fully leverage new technologies (Jörden, 2024).

Finally, the pace of technological change means that adoption is not a one-off decision but a continuous process of upgrading and integrating innovations into operations. Firms that maintain adaptive capacity - the ability to experiment, learn, and pivot in response to technological developments - are better positioned to sustain long-term productivity growth (Jones, 2023).

3.1.4 Organisational Know-How, Management Practices, and Innovation

While capital investment and technology adoption provide the tools for productivity, it is organisational know-how, effective management practices, and innovation capability that determine whether those tools are used to their fullest potential. Research consistently shows that differences in management quality explain a substantial share of the productivity gap between firms, even within the same industry and country (Bloom and Van Reenen, 2007; Feng et al., 2025).

Organisational know-how encompasses the tacit and codified knowledge that underpins effective coordination, decision-making, and problem-solving within firms (Driffield et al., 2021). This includes standard operating procedures, performance monitoring systems, knowledge-sharing mechanisms, and the ability to integrate learning from both internal operations and external sources. Firms with strong organisational capital are better equipped to identify inefficiencies, adapt to changing market conditions, and capture returns from technological investments (Procter et al., 2025).

Management practices play a pivotal role in translating resources into productivity gains. The World Management Survey finds that firms with structured performance monitoring, clear target-setting, and merit-based promotion achieve consistently higher productivity levels (Bloom et al., 2016). Good management enhances resource allocation, minimises waste, and ensures that strategic goals cascade effectively through the organisation. Poor management, by contrast, can neutralise the potential benefits of advanced technology or high-quality capital investment (Coyle, 2023).

Innovation, both incremental and radical, is a key pathway to sustained productivity growth. Incremental innovation focuses on improving existing products, processes, and services, often yielding steady efficiency gains over time. Radical or disruptive innovation, such as the introduction of entirely new business models or technologies; can transform competitive dynamics and create step changes in productivity. Importantly, innovation is not confined to R&D-intensive sectors; service firms, SMEs, and traditional industries can also innovate through new processes, customer experiences, and organisational structures (Jones, 2023).

A critical aspect of innovation capability is absorptive capacity: the ability to identify, assimilate, and apply knowledge from external sources. Firms with high absorptive capacity are more likely to adopt best practices from industry leaders, integrate insights from research institutions, and leverage supplier and customer feedback for continuous improvement (Massini et al., 2025).

Ultimately, organisational know-how, strong management, and innovation form the 'soft infrastructure' of productivity. They enable firms not only to utilise existing resources efficiently but also to adapt, evolve, and grow in the face of competitive and technological change (Fleming, 2023). Without these capabilities, even well-capitalised and technologically advanced firms may fail to realise their productivity potential.

3.1.5 Regulation and Compliance

Regulation forms a critical part of the institutional framework in which firms operate, shaping incentives, costs, and operational flexibility. Well-designed regulation can raise productivity by ensuring fair competition, protecting intellectual property, safeguarding workers, and enforcing quality and safety standards. Conversely, poorly designed or overly burdensome regulation can impose compliance costs that disproportionately affect smaller firms, limit innovation, and slow productivity growth (Van Ark et al., 2023).

Regulatory quality, including clarity, consistency, and proportionality, is a central determinant of its impact on enterprise productivity. Ambiguous or frequently changing rules create uncertainty, leading firms to delay investment or divert resources to risk mitigation rather than innovation and growth (Sen, 2024). Compliance requirements that are not proportionate to firm size or risk profile can create structural disadvantages for micro and small enterprises, where administrative burdens absorb a higher share of managerial capacity (Grimshaw et al., 2023).

Competition policy is a key element of the regulatory environment. Effective enforcement against anti-competitive behaviour fosters a dynamic market where productivity-enhancing firms can grow, and inefficient ones are incentivised to improve or exit (Martin & Riley, 2023). On the other hand, weak enforcement or regulatory capture can entrench incumbents, reducing the incentives for productivity-enhancing investment (Coyle et al., 2023).

Regulation also plays an important role in setting incentives for innovation and technology adoption. For example, strong intellectual property protections can encourage R&D investment, while open data policies can spur digital innovation across sectors (Massini et al., 2025). In some cases, targeted regulation, such as environmental performance standards or digital reporting requirements, can act as a catalyst for process innovation, driving firms to reconfigure production in more efficient ways (Coyle, 2023).

However, the regulatory environment must balance the pursuit of public policy objectives with the need to avoid stifling entrepreneurial agility. This is particularly relevant in the context of emerging technologies and AI, where regulatory frameworks are still evolving. Adaptive, principles-based approaches can provide firms with flexibility while ensuring accountability and public trust (Procter et al., 2025).

In sum, regulation and compliance are not merely background conditions for productivity; they are active levers that can either unlock or constrain firm-level potential. The challenge lies in designing rules that protect societal interests, maintain competitive markets, and provide predictable, proportionate frameworks that enable firms to innovate and grow.

3.1.6 Workforce Upskilling within Firms

While national education systems and vocational training policies set the foundation for human capital, enterprise-level workforce development is a decisive factor in determining productivity outcomes. Firms that invest in continuous upskilling and reskilling of their employees are better positioned to adapt to technological change, introduce process innovations, and improve service delivery (Grimshaw et al., 2023).

Unlike general human capital, which is transferable between employers, firm-specific skills; including proprietary processes, use of specialised equipment, and organisational knowledge; directly contribute to efficiency gains and competitive advantage (Driffield et al., 2021). The development of such skills requires deliberate investment in training programmes, mentorship systems, and on-the-job learning opportunities, which often pay off in higher productivity, lower staff turnover, and improved quality outcomes (Feng et al., 2025).

Evidence from productivity research indicates that firms with structured training strategies achieve higher returns on technology investment because skilled employees are better able to integrate new tools into workflows and exploit their full potential (Coyle, 2023; Massini et al., 2025). Without complementary workforce upskilling, technology adoption risks generating only limited productivity gains; a pattern observed in the so-called ‘productivity paradox’ of digitalisation (Procter et al., 2025).

Workforce development is also a critical enabler of organisational innovation. Employees who possess advanced problem-solving, teamwork, and digital skills can more effectively contribute to process improvements

and incremental innovation, particularly when supported by a culture of learning and participation (Fleming, 2023). This underscores the role of social dialogue; structured engagement between management and workers; in identifying training needs and aligning skill development with strategic priorities (Roper, 2023).

However, investment in workforce upskilling is uneven across firms, with SMEs typically underinvesting due to cost constraints, limited managerial capacity, and uncertainty about returns (Henley, 2022). Public policy can play a role in addressing these barriers through co-funding schemes, tax incentives, and support for collaborative training initiatives within supply chains or industry clusters.

In the long run, firms that integrate workforce upskilling into their core strategy are better equipped to respond to market shifts, technological disruption, and evolving customer expectations. At the microeconomic level, this capability is not just a driver of productivity; it is a determinant of long-term enterprise resilience and competitiveness.

3.1.7 Use of Digital Tools, Data, and AI

The integration of digital tools, data analytics, and artificial intelligence (AI) into enterprise operations has become one of the most significant drivers of productivity growth in the last two decades. By enabling automation, predictive decision-making, and enhanced customer engagement, digitalisation offers firms opportunities to improve efficiency, reduce costs, and unlock new revenue streams (Massini et al., 2025; Coyle, 2023).

However, research consistently shows that the productivity benefits of digital adoption are not automatic. Real gains are achieved when technology deployment is paired with organisational change, workforce upskilling, and process re-engineering (Procter et al., 2025). This supports the 'complementarity hypothesis,' which asserts that digital tools require corresponding managerial and skills-based capabilities to realise their full potential (Feng et al., 2025).

Digital technologies range from relatively simple tools, such as cloud-based collaboration platforms and customer relationship management systems, to advanced AI applications in forecasting, process optimisation, and personalised service delivery. Firms that embed these tools into core operations can accelerate product development cycles, enhance supply chain visibility, and enable data-driven decision-making at all levels (Driffield et al., 2021; Fleming, 2023).

A critical productivity lever lies in the use of data analytics. Firms that capture, store, and analyse operational and customer data can identify inefficiencies, optimise pricing, predict maintenance needs, and tailor offerings to market demand (Jones, 2023). The arrival of generative AI further expands these possibilities, allowing firms to automate content creation, customer interactions, and elements of research and development (WEF 2025).

Yet, there remains a digital divide among enterprises. Large, FDI-driven firms tend to lead in digital adoption, benefiting from economies of scale and greater investment capacity, whereas micro and small enterprises often fall behind due to financial constraints, lack of expertise, and uncertainty about technology returns (Roper, 2023; Henley, 2022). This gap risks entrenching productivity disparities within economies, as technologically advanced firms pull further ahead.

Policymakers have increasingly emphasised the need for supportive ecosystems; including affordable broadband, cloud infrastructure, and advisory services; to enable SMEs to harness digital tools effectively (Van Ark et al., 2023). For enterprises, the imperative is clear: in an economy where data is an asset and AI is a capability multiplier, digital transformation is not merely an option but a prerequisite for sustained productivity growth.

3.1.8 Sources of Financing for Capital Investment, Technology, and Innovation

Access to finance is a critical enabler of enterprise productivity, shaping a firm's ability to invest in physical capital, adopt new technologies, and pursue innovation. Without sufficient and timely funding, even well-managed enterprises with strong market opportunities may struggle to capture productivity gains.

Financing directly affects the pace and scope of technology adoption. Firms with robust internal cash flows or external funding options are better positioned to invest in frontier technologies such as advanced manufacturing systems, artificial intelligence, or data analytics platforms. These investments can yield efficiency improvements, quality enhancements, and scalability, all of which feed into higher output per unit of input. Conversely, financing constraints can trap firms in a cycle of low productivity, where limited resources restrict investment, leading to stagnant performance and reduced competitiveness.

The relationship between finance and productivity is also mediated by the type of investment. While physical capital investment has long been associated with productivity growth, intangible assets; including software, design, organisational capital, and brand development; are increasingly important drivers (Corrado et al., 2018). However, intangibles often face financing barriers due to their lack of collateral value, making them riskier for traditional lenders. This gap underscores the importance of alternative financing channels, such as venture funds, corporate partnerships, and government-backed innovation financing schemes, which can de-risk strategic investments.

Well-functioning financial systems also facilitate firm entry and exit, enabling resources to flow toward more productive enterprises. By providing targeted finance for innovation and technology adoption, capital markets and policy interventions can help firms break through structural barriers to productivity growth. In this way, access to finance is not merely a support function but a central lever in the productivity ecosystem.

3.2 Conclusion

The determinants of enterprise productivity are multifaceted and deeply interconnected, spanning firm characteristics, strategic choices, and the external operating environment. This chapter's literature review highlights that productivity performance emerges not from isolated factors, but from the cumulative interaction between scale, capital intensity, organisational capabilities, skills, technology adoption, regulatory frameworks, supply chain positioning, and financial capacity.

Firm size and economies of scale provide a structural foundation for productivity, enabling cost efficiencies and resource optimisation. Yet scale alone is insufficient without complementary investment in capital, both tangible and intangible. Technology adoption and digital transformation;

when integrated effectively with workforce capabilities and robust management practices; have the potential to deliver step-change improvements in efficiency and innovation output. These gains are amplified when organisational cultures embrace continuous improvement, knowledge sharing, and adaptability.

Equally important are the institutional and market conditions under which firms operate. Regulatory stability and efficient compliance frameworks can foster a business environment conducive to sustained investment, while excessive administrative burdens can dampen productivity potential. Workforce development at the firm level; going beyond national human capital formation to embed job-specific, adaptive skills; ensures that technology and process upgrades translate into real productivity outcomes.

Supply chain integration and export orientation connect firms to larger markets, enabling specialisation and knowledge spillovers. However, such benefits require sufficient absorptive capacity, which is often contingent on a firm's financial strength. As explored in this chapter, access to finance is a critical enabler of productivity. The ability to secure funding for capital investment, technology adoption, and innovation directly shapes a firm's capacity to modernise, compete, and scale. Financial constraints can therefore act as binding bottlenecks, preventing otherwise capable firms from realising productivity gains.

> **Taken together, the evidence underscores that enterprise productivity is an outcome of both firm-internal strategies and the broader enabling environment. The next chapter builds on this microeconomic perspective by shifting to a macroeconomic assessment of productivity in Malta. This will examine aggregate trends, structural features of the Maltese economy, and sectoral dynamics, providing the context in which the enterprise-level drivers explored here operate. By linking firm-level determinants to national productivity performance, the analysis will highlight the interdependencies between microeconomic capabilities and macroeconomic outcomes, setting the stage for targeted policy interventions.**

CHAPTER

4

ENTERPRISE STRUCTURES AND PRODUCTIVITY POTENTIAL

The patterns of structural transformation outlined in the previous chapter underline how shifts across sectors and industries create the foundations for productivity growth. Yet sectoral change alone cannot explain the full variation in outcomes across economies. The internal composition of enterprises, their ownership models, and their capacity to scale all play a decisive role in shaping long-term productivity potential. Understanding enterprise structures is therefore essential to move beyond aggregate trends and to identify the levers that determine whether transformation translates into sustained competitiveness.

Enterprises in Europe are remarkably diverse, ranging from micro-enterprises with only a handful of employees to large multinational firms that dominate global value chains. Each category contributes differently to productivity. Micro and small firms are the backbone of employment creation and are often deeply embedded in local ecosystems, but they tend to face structural constraints in accessing finance, technology, and skilled labour. Medium-sized enterprises occupy a pivotal position, often combining the flexibility of smaller firms with the managerial depth and innovative capacity required to expand into regional and international markets. Foreign direct investment (FDI) firms, on the other hand, can act as anchors of productivity by injecting capital, advanced practices, and access to global demand, though their integration with domestic suppliers and clusters varies widely.

Equally important is the distinction between tradable and non-tradable sectors. Tradable activitiesóparticularly manufacturing and knowledge-intensive servicesóexpose firms to global competition and push them to innovate, specialise, and achieve scale. Non-tradable sectors, which encompass much of retail, construction, and local services, often operate under more sheltered conditions, leading to different dynamics of efficiency and growth. The balance between these two spheres influences the resilience of an economy and the extent to which productivity gains diffuse beyond the frontier.

> **Within this landscape, economies of scale and scope emerge as crucial determinants of potential. Firms able to expand production efficiently, diversify across related activities, and access broader markets are far better positioned to invest in innovation and organisational capital. These dynamics shape not only firm performance but also the collective trajectory of national productivity.**

This chapter builds on the structural perspective developed earlier by examining how enterprise typologies, sectoral orientation, and the capacity to leverage scale and scope combine to influence productivity outcomes. It explores how the interplay between firm characteristics and market structures defines the possibilities for transformation, and why strengthening enterprise potential is central to Europe's long-term productivity agenda.

4.1 Typology of Enterprises: FDI Firms, SMEs, and Micro-Enterprises

Understanding the composition of enterprises is central to analysing productivity potential across Europe. The European business landscape is dominated by micro and small firms, which account for

over 99 per cent of all enterprises, just under two-thirds of employment, and more than half of value added (European Commission, 2025c). While these firms play a vital role in employment creation and local economic resilience, their productivity often trails that of larger enterprises due to resource constraints, limited access to finance, and weaker management practices (Criscuolo et al., 2020).

By contrast, foreign direct investment (FDI) firms and multinational enterprises tend to operate at the technological frontier. They benefit from economies of scale, advanced managerial systems, and global market access, often acting as conduits for technology transfer and knowledge spillovers (OECD, 2021). However, the extent to which these spillovers translate into wider productivity gains depends on absorptive capacities within domestic SMEs (Bartelsman, 2019).

This typology underscores a dual challenge: fostering the growth and dynamism of SMEs and micro-enterprises, while leveraging the potential of FDI firms to diffuse innovation and best practice across the wider enterprise base. Addressing this balance is critical to Europe's long-term productivity trajectory.

4.1.1 Micro-Enterprises

Micro-enterprises, defined in the EU as firms employing fewer than 10 persons and generating annual turnover or balance sheet totals below €2 million, make up the vast majority of Europe's business population [8] . Their numerical dominance translates into an important role in employment, local service provision, and social cohesion. According to the European Commission's Annual Report on SMEs 2024/2025, micro-enterprises account for 30.1% of total employment and generate around one-fifth of value added in the EU economy. Despite their prevalence, the productivity performance of micro-enterprises remains a persistent concern in the literature, with structural barriers constraining their ability to scale and innovate.

One recurring theme is the productivity gap between micro-enterprises and larger firms. Research highlights that micro-enterprises tend to operate below the productivity frontier due to a combination of limited managerial capacity, restricted access to finance, and relatively low investment in research, development, and digitalisation (Criscuolo et al., 2014). Their small scale reduces opportunities for economies of scale and scope, leaving them vulnerable to market fluctuations and competitive pressures. At the same time, many micro-enterprises operate in non-tradable or low-productivity service sectors, where the scope for efficiency gains is more constrained.

Another challenge identified in the literature is the survival and growth trajectory of micro-enterprises. High rates of firm creation among micro-enterprises are matched by high exit rates, contributing to a ìchurnî dynamic in the business population. While this dynamism can stimulate competition and labour reallocation, evidence suggests that only a small fraction of micro-enterprises grow into small or medium-sized enterprises, limiting their aggregate contribution to productivity growth (Coad et al., 2014). The phenomenon of ìstunted growthî is often linked to financing constraints, regulatory burdens, and the absence of management practices that support scaling.

Nevertheless, micro-enterprises also embody significant strengths. They play a crucial role in regional development, especially in peripheral and rural areas, where they often constitute the backbone of local economies. Their flexibility and adaptability allow them to respond quickly to niche market demands, while

8. European Commission. Eurostat. Enterprise statistics by size class and NACE Rev.2 activity (from 2021 onwards. (sbs_sc_ovw). Accessed on 2026-01-15. https://ec.europa.eu/eurostat/databrowser/view/sbs_sc_ovw__custom_19076841/default/table?page=time:2024.

their embeddedness in local communities fosters resilience during periods of economic stress. During the COVID-19 pandemic, micro-enterprises demonstrated both vulnerability and resilience: many faced acute liquidity challenges, yet others rapidly pivoted business models, leveraging digital tools to maintain activity (OECD, 2021).

Policy debates around micro-enterprises therefore revolve around a dual imperative. On the one hand, improving their productivity requires targeted interventions that address skill gaps, managerial quality, and access to finance, including venture capital and tailored credit instruments (Brown and Lee, 2019). On the other hand, policymakers must recognise the heterogeneity within the micro-enterprise segment, as not all firms have the ambition or capacity to scale. Differentiating between ìsubsistenceî micro-enterprises and ìtransformationalî ones is crucial for designing effective support policies (Schoar, 2010).

In sum, while micro-enterprises represent an indispensable component of Europe's economic fabric, their aggregate productivity contribution is limited relative to their employment share. Unlocking their potential requires not only strengthening their absorptive capacities and supporting digital adoption but also ensuring that high-potential firms can scale into SMEs, thereby contributing more meaningfully to long-term productivity growth.

4.1.2 Small and Medium-Sized Enterprises (SMEs)

Small and medium-sized enterprises (SMEs) are widely recognised as the foundation of the European productive landscape. Their economic weight places them at the core of productivity debates, not only because of their direct contribution to output and jobs, but also because of their role as incubators of entrepreneurial dynamism, innovation, and regional development. At the same time, however, the productivity performance of SMEs remains structurally weaker than that of larger firms, reflecting limitations in access to finance, technology, and global markets (OECD, 2019).

The productivity gap between SMEs and large enterprises is persistent and systemic. Empirical studies show that SMEs consistently record lower levels of labour productivity and total factor productivity (TFP), even after controlling for sectoral composition and market structure (Bartelsman et al., 2019). This gap is partly a function of scale. Larger enterprises benefit from economies of scale, more advanced managerial practices, and greater investment in research and development, while SMEs often remain trapped in local markets with fewer opportunities to expand. Yet, the productivity lag of SMEs cannot be explained by size alone. It also reflects structural barriers, such as the difficulty of attracting skilled labour, limited absorptive capacity for new technologies, and weaker resilience to financial shocks.

Finance is a central constraint. The European Central Bank's survey on the access to finance of enterprises consistently finds that SMEs face tighter credit conditions than larger firms, with higher collateral requirements and higher rejection rates for loan applications [9]. Although public programmes and EU-level instruments such as the InvestEU Fund have sought to alleviate financing gaps, SMEs continue to report limited access to patient capital and equity finance, which restricts their ability to scale and invest in productivity-enhancing activities. This structural challenge is exacerbated in peripheral and smaller economies, where bank-based financial systems dominate and alternative sources of financing remain underdeveloped.

9. This refers to the Survey on the Access to Finance of Enterprises (SAFE) in the euro area conducted every quarter by the European Central Bank.

Digitalisation presents both an opportunity and a challenge for SMEs. The literature indicates that firms that adopt digital technologies experience significant gains in productivity, competitiveness, and market reach (Andrews et al., 2015). However, the diffusion of digital tools among SMEs remains highly uneven. While some SMEs have successfully leveraged e-commerce, automation, and data analytics to expand their customer base and streamline operations, many others fail to gain digital traction, constrained by skills shortages, upfront costs, and limited strategic awareness (OECD, 2021). This divide risks reinforcing the productivity gap between frontier and laggard SMEs, creating a dual economy where a small subset of high-performing firms coexists with a large mass of low-productivity enterprises.

Innovation capacity is similarly polarised. Although SMEs are often portrayed as agile innovators, the evidence suggests that their R&D intensity remains considerably lower than that of large firms. Eurostat data shows that while SMEs account for a significant share of incremental innovation and product differentiation, they contribute far less to breakthrough innovation or radical technological change [10]. Collaborative networks, supply chain linkages, and university-industry partnerships can help overcome these limitations, but participation by SMEs is often fragmented and uneven across regions. Policy interventions that encourage clustering and knowledge spillovers have been shown to raise productivity by enabling SMEs to share resources and integrate into innovation ecosystems (Ketels, 2017).

Internationalisation is another key determinant of SME productivity. Firms that export tend to achieve higher productivity levels, both because exposure to international competition forces efficiency gains and because access to larger markets allows them to exploit economies of scale (Melitz, 2003). Yet only a minority of SMEs in the EU engage directly in exporting, with most remaining domestically focused. Barriers to internationalisation include the costs of regulatory compliance, lack of familiarity with foreign markets, and insufficient networks abroad. Initiatives at the EU level, such as the Single Market Programme, seek to address these challenges, but participation is uneven and disproportionately tilted towards medium-sized firms rather than micro-enterprises.

The heterogeneity of SMEs is critical to understanding their productivity role. Micro-enterprises, which dominate the SME landscape, tend to have particularly low productivity levels and limited capacity for growth. Medium-sized firms, by contrast, often demonstrate stronger innovation potential and are more likely to integrate into global value chains. The policy and academic literature highlights this ìmissing middleî challenge, whereby too few firms manage to scale from small to medium size, and from medium to large, thereby limiting the overall contribution of SMEs to aggregate productivity growth (OECD, 2025).

SMEs also play a pivotal role in regional economic cohesion. In many parts of Europe, SMEs are critical actors in socioeconomic ecosystems at a community level, sustaining employment in areas where large firms are absent. Their contribution to social and territorial cohesion is therefore significant, particularly in peripheral, rural, or less-developed regions. However, this embeddedness can come at the cost of productivity dynamism, as many of these SMEs operate in non-tradable sectors where competitive pressures are limited and productivity growth is subdued. The balance between cohesion and competitiveness remains an enduring challenge for European economies.

10. European Commission. Eurostat. Enterprises, employed persons and turnover by innovation status, NACE Rev.2 activity and size class (CIS2022). (inn_cis13_bas). Accessed on 2026-01-21. https://ec.europa.eu/eurostat/databrowser/view/inn_cis13_bas/default/table?lang=en&category=scitech.inn.inn_cis13.inn_cis13_info

The COVID-19 pandemic starkly exposed the vulnerabilities of SMEs. Compared to large firms, SMEs reported sharper declines in turnover, greater difficulties in managing liquidity, and higher risks of closure (Amin et al., 2023). While government support measures cushioned the immediate shock, the crisis accelerated structural pressures, particularly the need for digital transformation and the adaptation to new business models. The post-pandemic recovery has refocused attention on the importance of strengthening SME resilience, as productivity growth depends on their ability to adapt to technological change, supply chain disruptions, and the green transition.

In conclusion, SMEs embody both the promise and the paradox of Europe's productivity landscape. They are indispensable for employment, innovation, and regional development, yet their productivity remains systematically lower than that of larger enterprises. The literature consistently identifies barriers in finance, skills, innovation capacity, and internationalisation as central to this performance gap. Addressing these barriers is essential to unlocking the full productivity potential of SMEs and, by extension, of the European economy as a whole. This requires not only targeted interventions to ease structural constraints but also broader systemic efforts to ensure that the business environment enables firms to scale, innovate, and compete effectively.

4.1.3 Foreign Direct Investment Firms

Foreign direct investment (FDI) firms occupy a central position in the enterprise landscape, acting as powerful conduits of capital, technology, and knowledge into host economies. Their role within European enterprise structures has long been associated with productivity advantages, reflecting both the internal efficiencies of multinational corporations and the external spillovers they generate across sectors. In the broader narrative of productivity growth, FDI firms provide an important contrast to domestic small and medium-sized enterprises (SMEs) and micro-enterprises, as they typically operate at higher levels of technological intensity, managerial sophistication, and global market integration.

The productivity edge of foreign-owned firms is well established. Evidence from the OECD highlights that multinational enterprises (MNEs) generally exhibit superior labour productivity compared to domestic firms, a pattern largely explained by their capacity to exploit economies of scale, leverage international networks, and embed advanced organisational practices (OECD, 2019). These firms tend to cluster in high-value-added tradable sectors, reinforcing their contribution to aggregate productivity growth. Moreover, the presence of MNEs can accelerate structural transformation by reallocating resources towards more dynamic and competitive industries (OECD, 2019).

Beyond their internal performance, FDI firms are instrumental in generating productivity spillovers within host economies. Studies show that knowledge transfers, supplier upgrading, and worker mobility from multinationals to domestic firms create channels for wider efficiency gains (OECD, 2019; Criscuolo & Timmis, 2017). Supplier linkages, in particular, allow local enterprises to access new standards, technologies, and managerial know-how, strengthening their competitiveness. Worker mobility is another key mechanism, as employees trained in MNEs often move to domestic firms, carrying with them valuable tacit knowledge and international practices.

However, the extent and effect of these spillovers is not uniform across countries or sectors. Evidence suggests that absorptive capacity within domestic enterprises, particularly SMEs, plays a decisive role in determining whether the presence of FDI translates into broad productivity gains (OECD, 2019). In settings where domestic firms lack sufficient human capital, technological readiness, or institutional support, the benefits of FDI can remain concentrated within foreign-owned firms, creating dual economies marked by stark productivity gaps. This underscores the importance of complementary policies that strengthen local firm capabilities to ensure that FDI generates inclusive productivity growth.

Another important dimension of FDI firms relates to their role in global value chains (GVCs). European economies with strong multinational presences are typically better integrated into GVCs, which enhances export performance and facilitates access to international markets (Criscuolo & Timmis, 2017). Participation in GVCs allows domestic suppliers to specialise in niche activities while leveraging the coordination, technology, and scale of MNEs. This integration often drives productivity improvements, though it may also create vulnerabilities where domestic firms become overly dependent on foreign anchors.

The geography of FDI within Europe also reveals important asymmetries. Advanced economies such as Germany, France, and the Netherlands host MNEs that act as regional productivity hubs, while smaller and less developed economies often function as manufacturing or service outposts within wider corporate networks. This has implications for local productivity dynamics, as the degree of autonomy and strategic importance granted to foreign affiliates shapes their capacity to embed and diffuse knowledge locally. In some cases, affiliates remain limited to low-value-added functions, restricting the potential for meaningful spillovers.

The productivity advantages of FDI firms extend beyond quantitative measures to qualitative aspects of enterprise organisation. Recent research emphasises the superior management practices within MNEs, which are often systematically stronger than those of domestic firms (Bloom et al., 2012). These practices, spanning performance monitoring, target setting, and talent management, are transferable assets that influence not only the productivity of MNE affiliates but also that of domestic competitors and partners. The spread of managerial best practices represents one of the less tangible but most significant ways in which FDI shapes enterprise structures and productivity potential across Europe.

At the same time, the presence of FDI firms raises policy questions concerning resilience and dependency. While foreign-owned firms can act as catalysts of growth, their mobility and responsiveness to global corporate strategies mean that host economies face risks of sudden disinvestment or relocation. This is particularly relevant in the context of economic shocks or shifts in global value chains. Such risks underscore the need for host economies to strike a balance between attracting FDI and ensuring the resilience of domestic enterprises.

> **In sum, FDI firms represent both an opportunity and a challenge in the context of enterprise structures and productivity potential. Their superior performance, global integration, and spillover effects position them as essential actors in the productivity landscape of Europe. Yet the extent to which these benefits are diffused across the wider economy depends heavily on domestic absorptive capacity, institutional frameworks, and strategic policy design. Understanding the dynamics of FDI within enterprise ecosystems is therefore critical for assessing the drivers of productivity growth and the long-term resilience of European economies.**

The analysis of enterprise structures underscores the diversity of productivity drivers across micro-enterprises, SMEs, and FDI firms. While micro-enterprises remain integral to Europe's economic fabric, their limited capacity for innovation and market expansion constrains their contribution to aggregate productivity growth. SMEs occupy a more dynamic role, acting as engines of employment and innovation but often hindered by financing gaps, managerial weaknesses, and structural fragmentation. In contrast, FDI firms tend to set higher benchmarks, diffusing knowledge, technology, and international practices, although their benefits are unevenly distributed across sectors and regions. Taken together, this typology reveals a landscape where firm size, ownership structure, and market orientation interact to shape productivity potential in complex ways. These differences cannot be understood in isolation. They are deeply embedded within the wider dynamics of sectors and markets, which determine opportunities for scale, scope, and efficiency. It is to these sectoral dynamics that the next section now turns.

4.2 Sectoral Dynamics: Tradable vs Non-Tradable Sectors

Understanding productivity potential requires moving beyond firm size and ownership structures to examine the broader sectoral context in which enterprises operate. The distinction between tradable and non-tradable sectors is a crucial analytical lens, as it highlights the structural drivers of competitiveness, innovation, and long-term growth. Tradable sectors, encompassing industries whose goods and services compete in international markets, are widely recognised as central to productivity gains, since exposure to global competition encourages efficiency, technological upgrading, and economies of scale. Non-tradable sectors, by contrast, are domestically oriented, often characterised by lower levels of competition and innovation diffusion, yet they remain essential for providing the services and infrastructure that sustain the wider economy.

The balance between these two domains is critical for understanding aggregate productivity trajectories within Europe. Tradable sectors act as growth multipliers through spillovers, supply chain linkages, and knowledge diffusion, while non-tradable activities anchor employment and domestic demand. However, persistent productivity gaps between these sectors raise questions about resource allocation, structural rigidities, and the capacity of economies to fully leverage global value chains. Against this backdrop, the analysis of tradable and non-tradable dynamics offers vital insights into Europe's long-term productivity potential.

4.2.1 Tradable Sectors

Tradable sectors represent the part of the economy most directly exposed to international competition, encompassing manufacturing, agriculture, information technology, and increasingly tradable services such as finance and professional activities. These sectors are widely recognised as the primary engines of long-term productivity growth because competitive pressures encourage innovation, efficiency, and continuous upgrading of capabilities. As Krugman (1994) argued, ìproductivity isn't everything, but in the long run it is almost everything,î and this assertion is most evident in the role played by tradables.

The literature consistently highlights that tradable sectors generate productivity gains not only within firms but across the economy through spillovers. According to the European Commission (2020), tradables are central to innovation diffusion because firms competing in global markets face stronger incentives to invest in research and development (R&D) and adopt advanced technologies. This creates positive externalities,

asproductivity-enhancing practices are transferred to suppliers, service providers, and even labour markets. Baldwin and Robert-Nicoud (2014) emphasise the role of global value chains (GVCs) in magnifying these effects, where integration allows domestic firms to access foreign technologies and know-how, raising their efficiency and competitiveness.

A crucial feature of tradable sectors is their scale potential. Theories of new trade and growth economics highlight that firms competing globally can exploit economies of scale and scope, producing at lower costs per unit and diversifying product lines across different markets (Melitz, 2003). In turn, this scale advantage fosters further investment in productivity-enhancing technologies and organisational innovations. For smaller economies within the European Union, this ability to reach external demand is especially critical, given the limited size of domestic markets.

Tradables are also central to structural transformation. Rodrik (2014) underscores that industrialisation and the development of export-oriented tradable sectors historically drive convergence between advanced and developing economies. In the European context, newer member states in Central and Eastern Europe have experienced significant productivity gains through their integration into the tradable manufacturing base of the Union.

However, reliance on tradable sectors for productivity growth is not without risks and challenges. The volatility of international demand, exposure to geopolitical shifts, and technological disruption can generate vulnerabilities. For instance, the European Commission's Annual Single Market Report (2022) highlights the COVID-19 pandemic's disruption of supply chains, revealing the fragility of overdependence on global networks. Moreover, the green and digital transitions are reshaping tradable industries, requiring substantial investments in decarbonisation, digitalisation, and upskilling. Firms unable to adapt risk falling behind, with consequences for entire economies given the weight of tradables in driving productivity.

Another dimension is the uneven distribution of tradable productivity gains across regions and social groups. Autor, Dorn and Hanson (2013) demonstrate how the expansion of Chinese manufacturing exports had differential effects across US local labour markets, a finding with parallels in Europe. Regions deeply integrated into global manufacturing networks often thrive, while others experience stagnation or decline, leading to spatial inequality and geopolitical economic tensions. This divergence underscores the need for policies that ensure the broad diffusion of productivity benefits beyond core tradable clusters.

Services within tradable sectors are becoming increasingly important. The growing role of knowledge-intensive business services (KIBS), digital platforms, and financial services in cross-border trade combine high value-added with rapid innovation cycles, and their integration into GVCs is transforming the geography of productivity growth. Europe's strength in tradable services, particularly in finance, professional consulting, and creative industries, positions it well for the digital era, yet sustaining competitiveness will require investment in skills, digital infrastructure, and regulatory frameworks conducive to cross-border operations.

The literature also highlights the importance of complementarities between tradable and non-tradable activities. Tradables cannot function in isolation; they rely on efficient domestic logistics, energy provision, education systems, and public services, with productivity improvements in tradables often depending on

removing bottlenecks in non-tradable sectors such as transport and utilities. In this sense, the productivity advantage of tradables is contingent on the quality and efficiency of the broader domestic ecosystem. Looking forward, tradable sectors remain pivotal to Europe's productivity potential, but their capacity to deliver depends on how firms and economies navigate three major challenges. First is the capacity to integrate into the green transition while sustaining competitiveness, which requires massive investments in energy efficiency, climate adaptation, and decarbonisation. Second is digitalisation, with tradables increasingly shaped by artificial intelligence, robotics, and data-driven innovation. Third is resilience, ensuring that future shocksówhether geopolitical or technologicalódo not derail productivity growth. Addressing these challenges will be decisive for whether tradable sectors continue to underpin Europe's long-term convergence and prosperity.

In summary, tradable sectors embody the dual character of risk and opportunity. Their exposure to international markets generates pressures for innovation, scale, and upgrading, while at the same time creating vulnerabilities to global shocks. The literature is clear that no other part of the economy exerts such a powerful and dynamic influence on productivity outcomes. As Europe advances into an era marked by green and digital transitions, the future trajectory of productivity will hinge on the ability of its tradable sectors to adapt, innovate, and diffuse their gains across the wider economy.

4.2.2 Non-Tradable Sectors

The role of non-tradable sectors in shaping productivity dynamics within advanced economies has received increasing attention in recent years. While traditionally viewed as less dynamic than export-oriented industries, non-tradables account for the largest share of employment and value added in most European economies, making them essential to understanding aggregate productivity outcomes. These sectors, which encompass activities such as retail, construction, hospitality, and a wide range of locally oriented services, face distinct structural challenges compared with tradable industries. Their productivity potential is constrained by limited exposure to international competition, lower incentives for innovation, and structural characteristics such as fragmentation and reliance on labour-intensive production methods. At the same time, they are vital for economic resilience and inclusive growth, providing employment opportunities across skill levels and contributing to the quality of life and social cohesion.

The literature points to a consistent productivity gap between tradable and non-tradable sectors. Firm-level data across the EU demonstrate that productivity growth has been disproportionately driven by manufacturing and knowledge-intensive tradables, while services linked to domestic demand exhibit weaker performance (Coyle et al., 2023). Several explanations have been advanced. First, non-tradables face limited scale economies due to geographical constraints; activities such as retail distribution or construction cannot easily expand across borders. Second, many non-tradable markets remain fragmented, dominated by micro and small enterprises with limited resources to invest in advanced technologies or management practices (Feng et al., 2025). Third, barriers to entry and exit, often reinforced by regulation, limit competitive pressures that would otherwise stimulate efficiency gains.

Nonetheless, the potential for productivity enhancement within non-tradables should not be underestimated. Empirical work highlights the central role of management quality, digital adoption, and investment in skills in raising productivity, even in sectors less exposed to global markets (Bloom et al., 2021; Feng et al., 2025).

For example, the digitalisation of logistics, the adoption of e-commerce platforms in retail, or the integration of data-driven business models in hospitality can generate significant efficiency improvements. Moreover, the diffusion of best practices across firms in the sector has been shown to narrow productivity gaps between frontier firms and laggards. This underscores the importance of addressing structural barriers that inhibit knowledge transfer and collaboration, especially for SMEs and micro-enterprises which dominate the sector.

Another defining feature of non-tradable sectors is their heterogeneity. Professional services such as finance, law, and health are classified as non-tradable but often exhibit higher productivity trajectories than consumer services such as accommodation and food. Within the EU, advanced producer services have been a key driver of value added, often clustering in metropolitan hubs and supporting tradable industries through knowledge spillovers. In contrast, personal services remain characterised by low wages, high labour turnover, and limited innovation, creating a dual productivity structure within the non-tradable economy. The challenge for policy and enterprise strategies lies in bridging this divide, enabling broader gains that extend beyond high-value niches.
Labour market characteristics also shape the productivity potential of non-tradables. Many subsectors rely heavily on low-skilled or precarious labour, limiting incentives for firms to invest in workforce training. Evidence shows that firms in these sectors often under-invest in human capital, contributing to persistent productivity gaps relative to tradables. At the same time, non-tradables play a crucial role in providing entry points to employment and supporting social inclusion. This duality underscores the need for a more balanced assessment: while productivity growth in non-tradables may be slower, their contribution to societal wellbeing and labour market absorption is significant.

Recent firm-level analyses indicate that financial constraints are another barrier to productivity growth in non-tradables. Smaller firms in services are less likely to access formal financing or attract equity investment, relying instead on retained earnings and short-term borrowing. This constrains their ability to modernise operations or undertake digital transformation, perpetuating low-productivity equilibria. Evidence also points to uneven diffusion of technology: while some service subsectors have rapidly embraced digital tools, others lag significantly, widening intra-sectoral disparities. Addressing these structural financing gaps could therefore unlock significant latent productivity potential.

> **In summary, non-tradable sectors represent both a challenge and an opportunity for productivity growth. Their limited exposure to international markets and persistent structural constraints explain their relatively modest performance compared to tradables. Yet, with targeted improvements in management practices, digital adoption, and workforce development, substantial gains can be realised. Moreover, given their outsized role in employment and social cohesion, improving productivity in non-tradables is essential for inclusive growth. As the next section will explore, questions of scale, scope, and market access further shape the capacity of both tradable and non-tradable sectors to contribute to aggregate productivity trajectories.**

The distinction between tradable and non-tradable sectors underscores the uneven distribution of productivity potential across modern economies. Tradable sectors, exposed to international competition, tend to drive innovation, efficiency, and export-led growth, while non-tradable sectors remain more insulated, focused on domestic demand and often characterised by fragmented structures and lower productivity growth. Yet both are essential, as the stability of non-tradable industries provides a foundation for the dynamism of tradable activities.

The interplay between these sectors highlights the broader structural challenge: how to enable productivity spillovers across the economy rather than concentrating gains in a narrow set of industries. This points to the critical role of scale and scope advantages, which determine whether firms and sectors can expand, diversify, and effectively compete in both domestic and international markets. The following section explores these dynamics, focusing on economies of scale, scope, and access to markets as key levers for long-term productivity growth.

4.3 Economies of Scale, Scope, and Market Access

A central driver of productivity growth lies in the ability of firms to expand their activities in ways that reduce costs, enhance efficiency, and capture new opportunities. The concepts of economies of scale and economies of scope have long been recognised in economic literature as critical to understanding why some firms and sectors thrive while others stagnate. Economies of scale allow firms to lower unit costs as output increases, unlocking higher margins and competitiveness. Economies of scope, meanwhile, enable firms to diversify production or services, spreading costs across complementary activities and fostering resilience. Both dynamics are shaped by access to markets, whether domestic or international, as the size and integration of markets often determine the extent to which scale and scope can be realised.

For small and open economies, these factors take on particular importance. Limited domestic demand constrains the ability to exploit scale, making integration into global markets essential. At the same time, firms face challenges of capability, infrastructure, and regulatory frameworks that may restrict expansion. Understanding how scale, scope, and market access interact provides vital insights into the structural underpinnings of productivity growth and the strategies required to overcome fragmentation and inefficiency.

4.3.1 Economies of Scale

The concept of economies of scale has been central to theories of industrial organisation and productivity since the early work of Marshall (1920). At its core, economies of scale refer to the cost advantages that firms experience as production expands, leading to reductions in average costs per unit of output. These cost advantages can arise from several sources, including the spreading of fixed costs over larger outputs, improved labour specialisation, more efficient use of capital, and stronger bargaining power in factor markets. For productivity analysis, the existence and extent of economies of scale are crucial in understanding why larger firms often exhibit higher productivity levels than smaller counterparts and why sectors with greater potential for scale tend to dominate economic growth trajectories.

Economies of scale are typically classified into two forms:

Internal economies of scale occur at the level of the individual firm, where expansion of operations leads to cost reductions. These may be technical, such as improved production efficiency from larger plants; managerial, where growth allows for greater specialisation of management tasks; or financial, as larger firms benefit from easier and cheaper access to credit (Krugman, 1980).

External economies of scale, in contrast, occur when the growth of an industry or cluster generates benefits for all firms operating within it. Alfred Marshall (1920) originally identified such externalities, noting how geographic concentration of industries fosters a common labour pool, supplier networks, and knowledge spillovers. In contemporary analysis, this has been linked to agglomeration economies, particularly in urban and regional studies (Duranton and Puga, 2004).

From a productivity perspective, internal economies of scale are more directly observable in firm-level data. Empirical studies show that larger firms often report significantly lower unit costs than smaller ones, not only due to fixed-cost dilution but also because of process innovations and the adoption of advanced technologies (Syverson, 2011). This pattern is reinforced by the fact that larger firms can invest in research and development, build brand reputation, and integrate vertically, all of which reduce transaction costs and improve efficiency. However, the benefits of scale are not unlimited. Beyond a certain threshold, firms may face diseconomies of scale, where complexity, bureaucratic inefficiencies, and communication breakdowns lead to rising costs. Understanding this balance is key to assessing firm-level productivity outcomes and the optimal size of enterprises within specific sectors.

External economies of scale have significant implications for policy, as they highlight the role of collective dynamics rather than individual firm behaviour. The formation of clusters in advanced manufacturing, financial services, or digital industries demonstrates how firms benefit from proximity to suppliers, customers, and knowledge institutions. The literature on clusters, popularised by Porter (1990), emphasises how geographic concentration fosters innovation and productivity by lowering coordination costs and facilitating spillovers. For small economies, such as those in Europe's periphery, tapping into external economies of scale often requires deliberate strategies to link local clusters with broader regional and global value chains.

A critical dimension of economies of scale is their relationship with trade and market access. Krugman's (1980, 1991) trade theory highlighted how increasing returns to scale underpin international trade patterns. In industries where fixed costs are high and marginal costs are low, only firms with sufficient access to large markets can survive and compete. This explains the concentration of certain industries in large economies or within integrated markets such as the European Union. For smaller states, the challenge is particularly acute: limited domestic demand restricts the potential for scale, making external markets indispensable for growth. The European single market thus provides a vital mechanism for smaller member states to overcome scale constraints and integrate their firms into larger production systems.

Economies of scale also interact with technological change. Advances in automation, digitalisation, and artificial intelligence have reshaped the scale thresholds required for competitiveness. While traditional manufacturing sectors benefit from large plants and standardised production, digital platforms and network industries operate on radically different scale dynamics, often characterised by winner-takes-all outcomes due to strong network externalities (Shapiro & Varian, 1999). This creates new challenges for competition policy and market regulation, as the concentration of market power in digital giants raises concerns about both productivity distribution and economic resilience.

Empirical evidence suggests that scale advantages remain a strong determinant of productivity differentials between firms. Syverson (2011) finds that within industries, the productivity gap between the top and bottom deciles of firms can be substantial, with larger firms systematically outperforming smaller ones. These differences cannot be explained by factor endowments alone but are strongly correlated with the ability to exploit economies of scale and scope.

However, economies of scale also have distributional implications. Larger firms' ability to outcompete smaller rivals can lead to market concentration, raising questions about equity and long-term resilience. While some

level of concentration is a natural outcome of increasing returns, excessive concentration risks undermining competition and innovation. This tension is evident in debates on industrial policy, where governments face the challenge of fostering globally competitive firms without stifling smaller enterprises that contribute to diversity, employment, and resilience (Aiginger & Rodrik, 2020).

For small and open economies, achieving economies of scale often depends on integration strategies that transcend national boundaries. Participation in global value chains allows firms to access larger markets, reduce costs through specialisation, and exploit comparative advantages at scale. Yet, reliance on global markets also exposes firms to vulnerabilities, including supply chain disruptions and shifting geopolitical conditions.

In conclusion, economies of scale remain a cornerstone of firm productivity, shaping both individual performance and aggregate outcomes. They explain why larger firms often dominate in productivity metrics and why industries with high fixed costs tend to concentrate geographically and globally. For small and open economies, the challenge lies in overcoming domestic scale limitations through integration, innovation, and clustering strategies. At the same time, policy must ensure that the pursuit of scale does not undermine competition, resilience, and inclusivity. Recognising the nuanced dynamics of economies of scale is therefore essential for understanding productivity growth and for designing policies that balance efficiency with equity.

4.3.2 Economies of Scope

The concept of economies of scope is central to understanding how enterprises enhance productivity by diversifying their activities and leveraging complementarities across products, services, or processes. While economies of scale emphasise cost reduction through volume expansion, economies of scope highlight the efficiency gains arising from variety and shared resources. In the contemporary European economy, where globalisation and digitalisation have blurred traditional sectoral and geographic boundaries, scope economies are increasingly relevant for enterprises of all sizes. They offer firms opportunities to spread fixed costs, exploit shared knowledge bases, and increase market resilience by mitigating overreliance on single products or markets.

The theoretical foundation of economies of scope lies in the work of Panzar and Willig (1981), who formally defined scope as occurring when the joint production of multiple goods is less costly than producing them separately. Since then, the concept has been extensively applied in industrial organisation, innovation studies, and productivity analysis. Literature has shown that scope economies can emerge in several ways: through shared production facilities, common distribution channels, cross-utilisation of R&D, or complementary managerial capabilities. These synergies reduce average costs while enabling firms to expand their product offerings and strengthen competitiveness.

At the enterprise level, economies of scope are closely linked to diversification strategies. Large firms often exploit scope by extending their product lines or integrating vertically, thereby creating internal complementarities across activities. For instance, multinational enterprises (MNEs) operating in both manufacturing and services can share administrative and technological infrastructures, leading to cost savings and innovation spillovers (Markusen, 2002). Similarly, SMEs and micro-enterprises can achieve scope-related benefits through cooperative arrangements such as clusters, joint ventures, or shared platforms, where

resource pooling compensates for individual limitations (Chandler, 1990). Thus, economies of scope are not confined to size but depend on the ability of firms to exploit complementarities in productive activities. From a productivity perspective, scope economies contribute to firm-level efficiency and aggregate economic resilience. Studies in the European context demonstrate that firms engaging in product diversification often exhibit higher total factor productivity (TFP), particularly when diversification is related to their core capabilities (Peneder, 2003). Related diversification allows enterprises to apply existing skills and technologies across multiple outputs, yielding learning effects and innovation synergies. By contrast, unrelated diversification tends to yield weaker scope benefits and can even dilute managerial focus, highlighting the importance of strategic coherence in exploiting scope economies (Teece et al., 1994).

Sectoral dynamics also shape the extent to which economies of scope can be realised. In tradable sectors, particularly manufacturing and knowledge-intensive services, scope arises from combining complementary technologies and expanding product portfolios to address diverse international markets. Research indicates that firms active in global value chains often rely on scope economies to meet differentiated demand and adjust to volatile market conditions (Grossman and Rossi-Hansberg, 2008). In non-tradable sectors such as utilities, retail, or health, scope is frequently realised through bundling services and exploiting customer relationships across multiple offerings. For example, financial service providers create value by cross-selling products, thereby reducing customer acquisition costs and increasing retention.

Innovation and digitalisation amplify the role of economies of scope in contemporary productivity dynamics. Firms increasingly operate in ecosystems where technological platforms enable the integration of diverse services. Literature on digital platforms underscores their ability to generate scope economies by combining complementary products within a single interface, lowering transaction costs for both producers and consumers (Evans, 2016). This has been particularly evident in sectors such as ICT, where modular technologies facilitate multi-product strategies, reinforcing firm competitiveness and adaptive capacity.

Beyond firm-level impacts, economies of scope have important implications for structural transformation and resilience. At the macroeconomic level, diversification across industries and products reduces vulnerability to sector-specific shocks and supports more stable growth trajectories. Evidence from comparative studies of EU member states shows that economies characterised by broader sectoral diversification tend to demonstrate greater resilience during crises, as complementarities across sectors cushion downturns (Imbs and Wacziarg, 2003). In this sense, economies of scope are not only a microeconomic efficiency mechanism but also a contributor to long-term national competitiveness and stability.

Nonetheless, scope economies are not without limitations. Realising these benefits requires managerial capacity, absorptive capabilities, and appropriate institutional support. Smaller firms often lack the organisational resources to coordinate diversified activities, while larger firms may suffer from diseconomies of complexity, where excessive diversification leads to inefficiencies. Moreover, regulatory and market structures can either facilitate or hinder scope exploitation. For example, competition policy in the EU must balance the benefits of multi-product firms with concerns about market concentration and reduced consumer choice.

Overall, economies of scope represent a powerful but nuanced mechanism for enhancing enterprise productivity and resilience. Their contribution is maximised when diversification builds on core competencies, when firms

have sufficient managerial and organisational capacity, and when institutional frameworks encourage resource sharing and innovation. As economies move towards more knowledge-intensive and digitally integrated structures, scope economies are likely to play an increasingly important role in shaping enterprise strategies and national productivity potential.

4.3.3 Market Access

Market access represents one of the most decisive factors shaping enterprise productivity, competitiveness, and growth potential. Firms do not operate in isolation but within networks of suppliers, customers, competitors, and regulatory frameworks, all of which are mediated by the degree of access to domestic, regional, and global markets. The ability of firms to expand beyond local boundaries determines not only their economies of scale and scope but also their capacity to absorb knowledge spillovers, attract investment, and strengthen resilience in the face of shocks (Melitz, 2003).

At the most fundamental level, market access reduces the constraints of small domestic demand by allowing firms to scale operations across broader geographies. This is particularly relevant in the European context, where the Single Market offers a harmonised regulatory environment, reducing transaction costs and enabling firms to treat the region as a unified trading space. Access to larger markets generates incentives for firms to invest in upgrading technology, streamlining processes, and improving productivity to remain competitive. By contrast, firms confined to small or fragmented markets often face diseconomies of scale, high input costs, and limited incentives for innovation (Syverson, 2011).

Market access also plays a crucial role in facilitating participation in global value chains (GVCs). Integration into GVCs allows firms to specialise in particular stages of production while leveraging international networks for efficiency gains. Evidence shows that firms integrated into GVCs experience higher productivity growth due to knowledge diffusion, exposure to international standards, and the adoption of best practices (Taglioni and Winkler, 2016). For SMEs, however, entry into GVCs remains challenging due to high fixed costs, informational barriers, and limited access to finance. The productivity gap between exporting and non-exporting firms across Europe reflects these dynamics: exporters consistently demonstrate stronger performance metrics, including higher total factor productivity (TFP), greater innovation intensity, and more robust employment outcomes (Mayer and Ottaviano, 2007).

Foreign direct investment (FDI) interacts closely with market access. Multinational enterprises often establish subsidiaries to penetrate new markets, creating spillover effects for host economies. Through supply chain linkages, technology transfer, and managerial practices, domestic firms can benefit from FDI presence, provided they are sufficiently integrated and competitive. Market access policies that lower entry barriers for multinationals, while simultaneously supporting local firms to integrate into their value chains, therefore have the potential to amplify productivity gains.

In contrast, restrictions on market access - whether through protectionist measures, excessive regulation, or infrastructural deficiencies - can stifle firm growth. For example, barriers to cross-border trade increase transaction costs, undermine competitiveness, and discourage investment in productivity-enhancing innovations. Similarly, poor transport and logistics infrastructure can create de facto barriers to market access even in liberalised trade environments. This highlights the multifaceted nature of market access, which depends not only on legal and institutional frameworks but also on the quality of physical and digital connectivity.

The digital economy has introduced new dimensions of market access. Digital platforms and e-commerce lower entry barriers for SMEs, enabling them to reach global customers without the need for traditional distribution channels. Studies show that firms leveraging digital tools exhibit faster growth and are more resilient to shocks, including during the COVID-19 pandemic. However, digital divides persist, with SMEs often lagging behind larger firms in the adoption of digital technologies, partly due to resource constraints and skills shortages. Thus, unequal access to digital markets risks widening productivity disparities between firms. Sectoral differences are also evident in the relationship between market access and productivity. Tradable sectors, by definition, benefit more directly from international market integration, while non-tradable sectors remain dependent on domestic demand conditions. Nevertheless, even in non-tradable sectors, market access can enhance productivity through exposure to competition, benchmarking, and knowledge transfer within regional markets. For example, professional and financial services benefit from cross-border provision facilitated by harmonised regulations within the European Union.

Empirical evidence further suggests that firms with broader market access are better positioned to withstand economic shocks. During the Eurozone crisis and more recently during the pandemic, firms integrated into international markets were able to adjust by shifting demand across regions, while domestically oriented firms were more vulnerable to demand collapses (Altomonte et al., 2013). This resilience underscores the importance of market access not only for long-term productivity growth but also for short-term stability. Despite its benefits, market access is not equally distributed across firms. Smaller firms, firms in peripheral regions, and firms operating in less dynamic sectors face disproportionate barriers. Addressing these inequalities is crucial for ensuring that the productivity potential of the enterprise sector is fully realised. Policies facilitating SME participation in international markets, strengthening infrastructure, and reducing non-tariff barriers are central to this agenda. Moreover, enabling firms to overcome information asymmetries and financing constraints can unlock their capacity to engage in cross-border activities and benefit from economies of scale and scope.

In conclusion, market access is a cornerstone of enterprise productivity and competitiveness. It shapes incentives for innovation, facilitates knowledge diffusion, and provides opportunities for scaling operations. At the same time, uneven access reinforces structural divides between firms, sectors, and regions. A comprehensive understanding of market access must therefore go beyond trade liberalisation to include physical and digital connectivity, integration into value chains, and the ability of firms to leverage opportunities in global and regional markets. This sets the stage for the broader discussion of how enterprise structures, sectoral dynamics, and access conditions together define the productivity potential of economies.

4.4 Conclusion

This chapter has explored how enterprise structures, sectoral composition, and the dynamics of scale, scope, and market access shape productivity potential across the European economy. By distinguishing between micro-enterprises, SMEs, and FDI firms, the analysis underscored that size and ownership matter not only for organisational capacity but also for access to knowledge, finance, and global value chains. Sectoral differentiation between tradable and non-tradable activities further highlighted the uneven contribution of industries to aggregate productivity, with tradable sectors generally driving competitiveness through innovation and exposure to international markets, while non-tradable sectors remain central to employment and domestic stability.

The examination of scale and scope demonstrated that firms able to exploit economies of scale and diversify across activities can achieve sustained productivity gains, yet this potential remains unevenly distributed. Market access, both within the Single Market and globally, emerged as a decisive enabler, particularly for SMEs that face structural barriers to entry and limited capacity to internationalise. The comparative perspective outlined in this chapter confirms that productivity performance is not uniform across enterprise types and sectors but instead reflects a complex interplay of structural conditions and institutional environments.

These findings set the stage for the next chapter, which asks whether enterprise size itself can be considered a determinant of productivity. By turning to the specific challenges and opportunities of SMEs and micro-enterprises, Chapter 5 will deepen the analysis of how structural characteristics constrain or enable productivity growth and what this implies for policy interventions

CHAPTER

5

DOES ENTERPRISE SIZE MATTER IN DETERMINING PRODUCTIVITY?

UNDERSTANDING THE CHALLENGES AND OPPORTUNITIES OF SMES and Micro Enterprises

Small and medium-sized enterprises (SMEs) and micro enterprises are the backbone of most economies, accounting for the overwhelming majority of firms and a significant share of employment. In Malta, their importance is even more pronounced: microenterprises alone account for over 90 per cent of businesses, underscoring their central role in shaping the countryís economic fabric. However, despite their scale and prevalence, questions persist about whether smaller enterprises can match the productivity levels of larger firms, and how their characteristics influence growth, innovation, and resilience.

This chapter explores these dynamics not from a theoretical perspective, already addressed in earlier sections, but through an applied lens grounded in Maltaís context and international evidence. It seeks to answer a critical policy question: to what extent does enterprise size matter in driving productivity, and what specific challenges and opportunities arise for SMEs and micro firms?
The productivity gap between smaller and larger firms is well-documented across Europe, often linked to barriers in finance, technology adoption, and human capital. For Malta, with its structurally small domestic market and high prevalence of micro-sized businesses, these issues are particularly acute. At the same time, SMEs possess unique strengths, including flexibility, adaptability, and an ability to exploit niche markets.

By examining both challenges and opportunities, this chapter highlights the dual reality of smallness: while scale can constrain investment, innovation, and market reach, it also fosters entrepreneurial dynamism and resilience. This chapter provides a comprehensive analysis of firm-level data covering 2019-2023, complemented by Total Factor Productivity analysis from CompNet and Global Value Chain participation patterns from the GVCIS survey [11] .

The study reveals that the size-productivity relationship is neither uniform nor linear across Malta's economy. While some sectors exhibit the conventional pattern of larger firms being substantially more productive, others show minimal size effects or even inverted patterns. The chapter ultimately serves as a bridge between understanding structural firm dynamics and identifying pathways for future growth. The discussion builds on EU and OECD findings as well as Maltese evidence, providing a balanced view that can inform targeted policies to enhance SME productivity.

5.1 The Structural Fabric of Malta's Business Economy

Between 2019 and 2023, Malta experienced remarkable enterprise growth alongside concerning patterns of firm size distribution. Total enterprises increased by 51%, from 37,136 to 56,030, while employment grew by a more modest 23%, from 211,644 to 260,233 persons.

While the absolute number of new firms is dominated by the micro-sector, a relative analysis suggests that the medium-sized business model is becoming more predominant. In relative terms, the growth in the number of Small (+70.9%) and Medium (+70.4%) enterprises significantly outpaced that of Large (+65.2%) and Micro (+49.1%) firms. This suggests that despite the "missing middle" in absolute numbers, the medium-sized enterprise is increasingly favoured as a business structure. Despite this relative growth, the absolute number of medium-sized firms increased by only 463 units.

11. Further details on the scope and composition of the CompNet database are provided in Annex 2.

The drop in average enterprise size, particularly among larger firms, likely reflects a shift toward less labour-intensive operations, such as increased automation or a focus on higher value-added services.

Total Enterprise and Employment Growth by Size Class 2019-2023

Size Class	Enterprises 2019	Enterprises 2023	Net Change	Employment 2023	% of Total Employment
Micro (0-9 employees)	33,457	49,894	+16,437 (49%)	76,841	29.5%
Small (10-49 employees)	2,843	4,857	+2,014 (70%)	84,532	32.5%
Medium (50-249 employees)	658	1,121	+463 (70%)	60,093	23.1%
Large (250+ employees)	178	294	+116 (65%)	38,767	14.9%
Total	37,136	56,030	+18,894	260,233	100.0%

Table 4: Total enterprise and employment growth by size class 2019-2023 (Source: NSO Malta, Structural Business Statistics 2019-2023).

The data in Table 4 above reveals a "missing middle" challenge. While micro-enterprises surged by 16,437 units (+49%), medium-sized firms increased by just 463 (+70% in relative terms but small in absolute numbers). This creates a bimodal distribution in which the economy either consists of very small firms or shifts to large-scale operations. 38% of employment is in medium and large firms, performed by 1,415 firms (about 2.5% of all enterprises). This highlights a strong employment concentration despite the relatively small number of mid- to large-sized firms, underscoring Malta's dual economy structure.

Data disclaimers: The 2019 baseline figures exclude NACE industries P, Q, R, and S96. The observed growth over time is partially due to broader data coverage in later years. NSO size classifications are based on both employment and turnover thresholds. Because these thresholds are static and defined in nominal terms, the recent environment of rising price levels means firms may "mechanically" move into a higher size class due to inflated turnover, even without higher volumes of activity or increased employment. This suggests some "upward transitions" across size classes may not represent genuine structural growth.

5.2 The Productivity Ladder: Sectoral Heterogeneity in Size Effects

Labour productivity in the Maltese economy, measured as Gross Value Added (GVA) per employee, reveals significant divergence across industries with an indication of a ìdual-trackî economy.

Labour Productivity by Sector and Size Class (2023, € per employee)

Sector	Micro (0-9)	Small (10-49)	Medium (50-249)	Large (250+)	Total	Large/ Micro Ratio	Large/ Small Ratio
Manufacturing	12,187	20,445	24,807	27,171	**84,610**	2.2	1.3
Information & Communication	17,912	45,824	82,143	109,522	**255,401**	6.1	2.4
Finance & Insurance	79,841	49,532	41,089	53,182	**223,644**	0.7	1.1
Real Estate	45,629	38,244	31,058	23,991	**138,922**	0.5	0.6
Professional Services	28,447	35,621	37,893	41,276	**143,237**	1.5	1.2
Administrative Services	10,234	15,677	18,965	22,108	**66,984**	2.2	1.4
Wholesale & Retail	11,567	17,834	21,445	23,892	**74,738**	2.1	1.3
Transportation & Storage	18,234	28,956	41,672	52,318	**141,180**	2.9	1.8
Accommodation & Food	9,823	14,567	17,234	20,145	**61,769**	2.1	1.4

Table 5: Labour Productivity by Sector and Size Class (2023, € per employee) (Source: NSO Malta, SBS 2023. Labour productivity is calculated as Gross Value Added / Employment)

Information & Communication stands out with a 6.1:1 large-to-micro productivity ratio, reflecting the sector's knowledge intensity, network effects, and capital requirements that favour scale. Large ICT firms achieve €109,522 per employee compared to just €17,912 for micro firms. This difference is primarily driven by the gaming segment that focuses on the business-to-business sector and therefore skews the data.

The data points to particular challenges that are faced by the micro-enterprises and are likely driven by two key factors:

- The Startup Cycle: Malta's growing startup ecosystem is concentrated in high value but initially capital-intensive sectors like Fintech and Life Sciences. Early-stage startups often report high expenses and low-to-zero revenue as they scale, appearing as "low-productivity" or loss-making entities in standard business statistics.
- Structural Heterogeneity: This distortion is not limited to ICT but is a common feature across most micro-enterprises in the domestic economy. Many small businesses operate in low-margin segments where high labour intensity and limited digital adoption keep value-added per worker below the threshold of long-term commercial viability.

This underscores the need for further research to distinguish between micro-enterprises struggling with low margins and 'transformational' startups whose temporary loss-making status masks high future growth potential.

Conversely, Finance & Insurance and Real Estate exhibit inverted patterns, with micro firms showing higher productivity than larger counterparts. However, these figures must be interpreted with caution. In the Real Estate sector, high GVA figures often capture imputed rents rather than pure labour efficiency. Similarly, in the financial sector, while SPEs are removed, the presence of certain legitimate domestic legal units can still inflate labour productivity metrics. These entities may generate GVA through passive income flows rather than active labour, which explains why micro-firms in these categories show an inverted productivity ratio. Consequently, these figures might represent measurement artefacts rather than superior operational performance at the micro-scale.

The productivity data further reveal a "wage-coverage gap" that raises concerns about commercial viability and wage sustainability across a large portion of the economy. In sectors such as Manufacturing, Administrative Services and Accommodation & Food, the value added per worker is close to the national average wage. This implies extremely narrow profit margins and a systemic dependence on low-wage income, as these productivity levels can barely sustain the cost of a single average employee.

The overarching conclusion of this analysis is that while size matters to some extent, the sector matters even more. In low-value-added sectors, size is less important to efficiency outcomes. However, among high-value-added services, enterprise size is a decisive factor in most cases. In sectors where size is a critical driver, large firms often exhibit productivity levels 20% to 40% higher than their small-firm counterparts. These initial findings indicate that policy interventions to support SME productivity must be tailored to the sectoral context rather than applying uniform size-based support measures.

Data disclaimers: The dataset focuses exclusively on the non-financial business economy. "Non-domestic producers" or Special Purpose Entities (SPEs), and legitimate local holding companies that merely hold land or assets without generating income, are excluded from these figures.

5.3 Widening Productivity Gaps and the Dual Economy Challenge

Examining the temporal evolution of productivity gaps reveals divergence trends that intensified through the COVID-19 period and persist into 2023.

Sector	2019	2020	2021	2022	2023
Manufacturing	1.26	1.37	1.6	1.42	1.39
Construction	0.3	0.28	0.33	0.35	0.23
Wholesale and retail trade; repair of motor vehicles	2.26	1.98	1.95	1.66	1.49
Transportation and storage	0.56	-0.18	0.33	0.52	0.94
Accommodation and food service activities	1.21	1.61	1.27	0.94	1.18
Information and communication	1.78	3.29	3.47	5.14	5.48
Professional, scientific and technical activities	0.73	0.9	1.04	1.02	0.99
Administrative and support service activities	0.53	0.98	0.74	0.8	0.9
Education			0.37	0.41	0.28
Human health and social work activities		0.21	0.23	0.18	0.23
Arts, entertainment and recreation		69.33	24.27	4.96	4.35

Table 6: Evolution of productivity gap - Large-to-micro ratio by sector (2019-2023). (Source: NSO Malta, SBS 2019-2023). Ratio calculated as (Large Firm Productivity) / (Micro Firm Productivity).

Although the ICT sector's productivity gap widened from 1.78 in 2019 to 6.11 in 2023, this is mainly due to a reclassification of gaming activities because the prevailing model has shifted towards business-to-business operations, resulting in activities being reclassified from the arts-related NACE category to the ICT category. This is therefore a statistical effect.

Manufacturing shows a steady widening of the gap from 1.57 to 2.23, consistent with increasing capital intensity and automation, which favour larger operations. Conversely, Wholesale & Retail experienced a narrowing of the gap from 2.41 to 2.07, potentially reflecting e-commerce adoption by smaller retailers and digital payment infrastructure that is reducing scale advantages in physical retail. These diverging trends underscore that Malta's productivity challenge is not uniform but concentrated in specific sectors undergoing rapid technological change.

To understand whether Malta's productivity gap is typical, we must benchmark it against comparable small, open EU economies: Slovenia, Estonia, and Cyprus. These nations share Malta's constraints - small domestic markets and the need for export-led growth - but exhibit different structural configurations. Comparative analysis from CompNet reveals that while the productivity ladder exists in all these economies, the steepness varies:

- Slovenia: Displays the steepest gradient with a large-to-micro ratio of 2.76. This reflects Slovenia's strong industrial base, where large manufacturing exporters are deeply integrated into the German supply chain, driving higher productivity than in local services.

- Malta: Follows with a ratio of 2.29. This is notably higher than Cyprus (2.11) and Estonia (2.08).

The fact that Malta's ladder is steeper than Estonia's is significant. Estonia is renowned as a digital leader with a vibrant startup ecosystem. A flatter gradient there suggests that digital capabilities have diffused more effectively to smaller firms, or that the small-firm sector is more dynamic. In Malta, the steeper gradient implies a stronger "dualism": the penalty for being small is higher, and the premium for scaling is greater.

5.4 Productivity Dispersion in Malta: Frontier and Laggard Firms (2019-2022)

5.4.1 Data, Methodology and Interpretation

This analysis examines productivity dispersion within the Maltese economy by comparing the performance of frontier and laggard firms across sectors and over time. Frontier firms are defined as those in the top 10 percent of the productivity distribution within each sector, measured in terms of value-added per worker. Laggard firms represent the bottom 10 percent of that distribution. This approach captures the extremes of firm performance within each sector and provides a clear lens through which to assess the extent of economic duality.

The indicators used span four key dimensions of firm performance: labour productivity, real value-added, real wages, and firm size. Labour productivity is measured as the logarithm of value-added per worker. The ratios for productivity are therefore computed by taking the difference between the mean log values of frontier and laggard firms and exponentiating the result. This yields the relative productivity of frontier firms expressed as a multiple of laggards. The remaining indicators, namely real value-added, wages, and employment, are measured in levels. Their ratios are calculated directly as the quotient of frontier to laggard averages.

The resulting ratios are intuitive in interpretation. A value of two indicates that frontier firms outperform laggards by a factor of two, while higher values signal increasingly large disparities. In particular, very large ratios in value-added reflect the combined effects of productivity, scale, and market positioning, often pointing to strong concentration of economic activity among a small number of leading firms. Taken together, these ratios provide a comprehensive picture of how value creation, efficiency, and rewards are distributed within sectors.

5.4.2 Sectoral dispersion in 2022

The 2022 data reveals a Maltese economy characterised by pronounced and, in some sectors, extreme dispersion between frontier and laggard firms. Across all sectors, frontier firms outperform laggards by wide margins, particularly in terms of productivity and value-added. What stands out most clearly is that productivity gaps are very large even when differences in firm size are relatively modest, indicating that efficiency rather than scale is the dominant driver of performance.

Frontier vs Laggard Firms: Ratio for 2022

	Productivity	Real VA	Real wage	Size (employees)
Manufacturing	13.5	48.7	2.9	3.8
Construction	40.4	11	2.8	0.5
Wholesale & retail trade; repair of motor vehicles & motorcycles	18.2	18.9	2.9	1.2
Transportation & storage	20.1	59.7	5.3	2.9
Accommodation & food service activities	22.2	36.8	2.7	2.7
Information & communication	49.4	352.4	5.7	5
Real estate activities	60.3	98.5	3.3	1.5
Professional, scientific & technical services	30.0	52.9	4.5	1.8
Administrative & support service activities	40.4	4.7	4	0.1

Table 7: Frontier vs laggard firms: ratios for 2022 (Source: CompNet 10th Vintage)

In several sectors, the productivity advantage of frontier firms is striking. In real estate and information and communication, frontier firms are more than forty to sixty times as productive as laggards. Similarly high ratios are observed in construction and administrative services. These figures point to deep structural divides within sectors, where a small group of firms operates at levels of efficiency that are far removed from the rest of the distribution.

The divergence becomes even more pronounced when considering value-added. In information and communication, frontier firms generate over three hundred times the value-added of laggards. Real estate and transportation also exhibit extremely high ratios, reflecting the combined effect of higher productivity and stronger market positioning. It is important to interpret the ICT sector with some caution, as part of this sharp increase reflects a structural shift, including the expansion of high value-added gaming and business-to-business services. Nevertheless, the result is a sector where value creation is highly concentrated among frontier firms.

By contrast, differences in firm size are comparatively limited across most sectors. Frontier firms are typically only between one and five times larger than laggards, and in some cases, such as administrative services and construction, the gap is minimal or even negligible. This reinforces the conclusion that productivity differences are not simply a function of scale, but of capabilities, technology, and management practices.

Wage differentials broadly follow productivity patterns, though they are less extreme. Frontier firms pay between roughly three and six times the wages of laggards, particularly in sectors such as information and communication, transportation, and professional services. This reflects the concentration of skilled labour in more productive firms and suggests a reinforcing dynamic, where higher wages attract better talent, further strengthening frontier performance.

Overall, the 2022 snapshot points to a highly polarised economic structure. A relatively small number of firms accounts for a disproportionate share of value creation, while a large tail of firms operates at significantly lower levels of productivity. The magnitude of these gaps suggests that the Maltese economy is characterised by deep structural differences in firm capabilities.

5.4.3 Firm dynamics over a longer-term horizon (2014–2018–2022)

Examining the evolution of these ratios over time reveals how this structure has developed. The trajectory from 2014 to 2022 is not uniform across sectors, but the overall pattern is one of increasing divergence, particularly in high-growth and knowledge-intensive industries.

Frontier vs Laggard Firms: Ratio for 2014

	Productivity	Real VA	Real wage	Size (employees)
Manufacturing	14.9	50.9	2.9	4.5
Construction	33.1	12.2	2.3	0.4
Wholesale & retail trade; repair of motor vehicles & motorcycles	20.1	23.4	3.4	1.3
Transportation & storage	24.5	79.9	3.5	4.4
Accommodation & food service activities	20.1	36.8	4.7	2.0
Information & communication	40.4	75.4	3.4	2.1
Real estate activities	81.5	41.8	8.2	0.5
Professional, scientific & technical services	22.2	17.5	5.4	0.9
Administrative & support service activities	40.4	6.0	5.4	0.2

Table 8: Frontier vs laggard firms: ratios for 2014 (Source: CompNet 10th Vintage)

In 2014, the Maltese economy already exhibited substantial productivity gaps, but these were generally less extreme than in 2022. Frontier firms were clearly more productive and generated higher value-added, but the scale of dispersion was comparatively contained in most sectors. In manufacturing, retail, and accommodation, the ratios suggest that laggard firms were still relatively connected to prevailing production methods and technologies. While inequality existed, the system retained a degree of balance.

Frontier vs Laggard Firms: Ratio for 2018

	Productivity	Real VA	Real wage	Size (employees)
Manufacturing	16.4	79.1	3.5	8.2
Construction	16.4	8.4	2.6	0.4
Wholesale & retail trade; repair of motor vehicles & motorcycles	18.2	14	3.7	0.8
Transportation & storage	33.1	39.5	3.8	1.2
Accommodation & food service activities	22.2	84.3	3.4	3.9
Information & communication	30.0	108.1	4.4	4.2
Real estate activities	66.7	59.9	6.6	0.9
Professional, scientific & technical services	33.1	41.4	4	1.3
Administrative & support service activities	33.1	7.1	6.3	0.2

Table 9: Frontier vs laggard firms: ratios for 2018 (Source: CompNet 10th Vintage)

By 2018, the picture becomes more mixed. In some sectors, such as manufacturing and wholesale and retail trade, there is evidence of partial convergence. Productivity gaps narrowed slightly, and size differences reduced, suggesting that diffusion mechanisms may have been at work. Firms in these sectors appear to have benefited from stronger competition, integration into supply chains, or incremental adoption of better practices.

However, this convergence was offset by increasing divergence in other sectors. Transportation and professional services, for instance, show rising productivity and value-added gaps, indicating that frontier firms were pulling further ahead. Real estate already exhibited very high levels of dispersion, pointing to strong concentration of value creation. The economy at this stage can be characterised as entering a phase of uneven transformation, where some sectors were converging while others were becoming more polarised.

The shift between 2018 and 2022 marks a more decisive move towards structural divergence. In many sectors, productivity gaps widened significantly, and value-added became increasingly concentrated. This is particularly

evident in information and communication, where the expansion of high value-added activities, such as the B2B gaming segment, led to a sharp increase in both productivity and output ratios. While part of this reflects a compositional change, it also underscores the growing importance of scalable, knowledge-intensive business models in the Maltese economy.

At the same time, sectors such as construction and administrative services show a different pattern. Here, productivity gaps widened even though firm size remained largely unchanged. This suggests that divergence is driven by differences in efficiency and capabilities rather than structural factors such as scale or market concentration. Laggard firms in these sectors appear to have struggled to adopt new technologies or improve practices, leading to an entrenched performance gap.

In more traditional sectors, such as manufacturing and retail, the dynamics are more stable. While gaps fluctuate over time, there is no clear evidence of dramatic divergence. This suggests that these sectors may have stronger mechanisms for diffusion, though they remain far from fully converged.

Wage dynamics over time reinforce the broader pattern. In high-skill sectors, wage premiums at the frontier have increased, reflecting the growing importance of human capital. In other sectors, wage gaps have narrowed or remained stable despite widening productivity differences, suggesting that labour market factors may partially compress wage dispersion.

5.4.4 Synthesis and Implications

Taken together, the evidence from 2014 to 2022 points to a clear structural shift in the Maltese economy. While the early period reflects a relatively balanced system with manageable productivity gaps, the later years reveal a more polarised and dualistic structure. Frontier firms have strengthened their position, particularly in sectors characterised by digitalisation, scalability, and global integration, while a large number of firms remain in low-productivity equilibria.

The overall trend is one of increasing divergence, though not uniformly across all sectors. Some traditional industries show signs of convergence, indicating that diffusion is possible under the right conditions. However, in many sectors, particularly those driving modern economic growth, the gap between frontier and laggard firms has widened significantly.

This suggests that Malta's growth model has been successful in fostering high-performing firms, but less effective in ensuring that productivity gains are broadly shared. The challenge going forward is therefore not only to sustain innovation at the frontier, but to strengthen the absorptive capacity of laggard firms. This includes improving access to skills, technology, finance, and markets, as well as addressing structural barriers that limit firm upgrading.

In conclusion, the Maltese economy is increasingly characterised by the coexistence of highly productive frontier firms and a broad base of underperforming laggards. Bridging this divide will be essential for ensuring that economic growth is not only strong, but also inclusive, resilient, and sustainable.

5.5 Productivity Growth Decomposition: The Negative Covariance Problem

The Foster-Haltiwanger-Krizan decomposition, provided by CompNet, separates aggregate productivity growth into three components: within-firm improvements (existing firms becoming more productive), between-firm reallocation (captures the changing market share of productive firms with a positive indicating that resources are allocated towards firms which are more productive than an economy or industry aggregate), and covariance effects (correlation between productivity and market-share changes capturing the change in the market share of firms changing productivity with a positive figure indicating that firms improving productivity are gaining market share). This reveals whether productivity gains come from internal firm improvements, efficient resource reallocation towards high productivity firms, or gains in market share among firms raising productivity.

Year	Within-Firm Component	Between-Firm (Reallocation)	Covariance (Mkt Share)
2011	-0.053	+0.106	-0.112
2012	**+0.133**	+0.063	-0.102
2013	-0.071	**+0.094**	**-0.123**
2014	+0.019	**+0.052**	**-0.123**
2015	-0.094	**+0.056**	**-0.127**
2016	+0.065	**+0.121**	**-0.150**
2017	-0.008	**+0.128**	**-0.159**
2020	**+0.101**	+0.113	-0.138
2022	**+0.164**	+0.076	-0.102
Average	**+0.038**	**+0.089**	**-0.129**

Table 10: FHK Productivity Decomposition Components 2011-2022.
(Source: CompNet 10th Vintage, FHK decomposition).

The persistently negative covariance term reveals a troubling structural pattern among incumbent firms: in Malta, firms that are actively raising their productivity are losing market share, while those with declining productivity are often gaining it. Across the entire 2011-2022 period, the covariance averaged -0.129, indicating that productivity improvements are inversely correlated with market share growth. This suggests that the market mechanism is failing to reward dynamic behaviour; firms investing in efficiency face barriers to expansion, while resources may be misallocated to stagnating incumbents or low-productivity microenterprises that capture market share despite inferior performance.

In contrast, the between-firm component is consistently positive (+0.089 on average), indicating a healthy baseline allocation where firms with higher static productivity levels tend to hold larger market shares than less productive ones. However, this positive static effect is substantially dampened by the negative covariance. This implies a "static vs. dynamic" disconnect. While resources are concentrated in currently productive firms,

they are not flowing toward the dynamic firms that are successfully upgrading their capabilities. Consequently, the companies best positioned to drive future growth, those actively becoming more efficient, face obstacles that prevent them from scaling up.

The 2022 pattern offers a nuanced picture rather than a clear recovery. While within-firm productivity growth was strong (+0.164, the highest in the series), the covariance term remained negative at -0.102. Although this represents a less severe distortion than the 2017 nadir (-0.159), it confirms that structural misallocation persists, as efficiency gains are still not translating into commensurate market expansion for Malta's dynamic firms.

5.6 Global Value Chain Integration and Productivity Spillovers

Firm participation in global value chains (GVCs) significantly shapes productivity outcomes through multiple channels: access to superior intermediate inputs, technology transfer, competitive pressure driving efficiency improvements, and knowledge spillovers from multinational enterprise operations. Malta's GVC integration patterns, however, reveal productivity concentration in Multinational Enterprise (MNE)-dominated sectors with limited spillovers to indigenous SMEs.

SMEs frequently struggle to integrate into global value chains, where productivity spillovers from trade and investment are often strongest. Barriers include limited information, weak international networks, compliance costs, and the inability to meet quality and certification standards demanded by lead firms (WTO, 2016). Microenterprises are particularly disadvantaged, as they often lack the scale and resources to meet export requirements. As a result, SMEs tend to operate in non-tradable sectors or low-productivity segments of value chains, missing out on opportunities to learn, innovate and upgrade through exposure to international competition.

While many Maltese firms do engage in international trade, recent evidence suggests that both the depth and nature of this integration may limit its productivity-enhancing potential, creating structural constraints that reinforce rather than reduce the productivity gap between SMEs and larger, internationally integrated firms.

5.6.1 The Structural Pattern of Malta's GVC Integration

Data from NSO's Global Value Chain and International Sourcing survey for 2021-2023, covering 577 enterprises with 50 or more employees, reveals distinctive patterns of integration that have important implications for understanding productivity challenges[12]. The survey provides granular evidence on how Maltese enterprises participate in international production networks, what they source from abroad, and how they have responded to recent supply chain disruptions.

In the manufacturing sector, which generated €554 million in total exports in 2020, ninety per cent of trade flows through enterprise group relationships, either intra-firm or with related parties. For goods exports specifically, 59% occur "within and outside enterprise group," 31% occur strictly "within enterprise group," and only 10% represent arm's length transactions with unrelated parties.

12. National Statistics Office. (2025, December 16). Global Value Chains and Internation Sourcing: 2021-2023. NR 234/2025.

This concentration of trade within multinational networks has direct implications for the SME productivity gap discussed earlier in this chapter. It indicates that most high-value manufacturing activity in Malta occurs within multinational production networks where local operations serve specific functions within broader value chains. The productivity of these operations is embedded within parent company strategies and global optimisation decisions rather than reflecting autonomous firm capabilities. Consequently, the substantial productivity advantage of foreign-controlled firms over domestically owned SMEs, reflects not just superior management or technology, but fundamentally different positions within global production structures.

For domestically owned SMEs, this creates a structural barrier to GVC integration. They are not merely competing with local subsidiaries of multinationals in product markets; they are attempting to break into value chains where relationships are already internalised within multinational corporate structures. The data show that opportunities for arm's-length participation, the mode most accessible to independent SMEs, represent only a small fraction of total trade activity.

The same survey reveals extreme import dependencies across all production factors, which constrain the productivity potential of Maltese enterprises, particularly SMEs. Raw materials are imported at 9.6 times the rate they are exported, machinery and equipment at 12.1 times, and components at 3.1 times. These ratios indicate that Maltese enterprises operate with minimal backward linkages in the domestic economy, creating vulnerability to supply disruptions and limiting opportunities for local supplier development, a traditional pathway for SME upgrading. The dependency extends critically into knowledge-intensive services. Research and development services are imported at 3.5 times the rate they are supplied domestically, engineering and technical services at 3.1 times, and ICT services at 2.7 times. This pattern confirms and quantifies the observation that Maltese enterprises are purchasing innovation, technical expertise, and digital capabilities from abroad rather than developing them internally.

The survey further reveals that products "designed by another enterprise" are sourced at 5.5 times the rate of products designed domestically, while products "designed by the enterprise" itself show a more balanced sourcing ratio of 0.7. This indicates that many Maltese firms, particularly SMEs, operate downstream in value chains, executing production or service delivery based on externally developed designs and specifications. Such positioning typically limits the lower value-added potential of operations and limits the scope for productivity-enhancing innovation at the firm level. It also helps explain why, as noted in section 5.2.2, Maltese firms are proficient at adopting existing digital tools but lack the in-house capabilities required for digital innovation.

5.6.2 Trade Structure and Enterprise Group Dominance

The degree of integration into Global Value Chains is best illustrated by the affiliation of trading entities. Analysis of Malta’s trade flows reveals a profound reliance on Multinational Enterprises (MNEs), distinguishing between "arms-length" trade (independent firms) and "intra-group" trade (flows between subsidiaries of the same parent company).

Exports and Imports by NACE Section and Enterprise Group Status (2020, €000)

Nace section / trade category	Manufacturing	Wholesale	Transport	Prof. Services
Exports of goods				
Outside enterprise group	49,086	662	9,194	17,048
Within the enterprise group only	147,468			
Total goods exports	**478,686**	**17,683**	**9,194**	**131,840**
Exports of services				
Within the enterprise group only				170,291
Total services exports	75,172		**125,115**	**174,849**
Imports of goods				
Outside enterprise group	79,612	**450,208**	126,809	2,757
Within & outside the	**558,537**	176,904	17,172	
enterprise group				
Total goods imports	**642,106**	**666,661**	**408,082**	**14,622**

Table 11: Exports and Imports by NACE Section and Enterprise Group Status (2020, €000). (Source: NSO Malta, GVCIS Survey 2020).

Manufacturing goods exports are heavily dominated by intra-group trade: €282 million in within- and outside-group transactions plus €147 million in purely within-group flows equals €429 million (90%) of total manufacturing goods exports of €479 million flowing through MNE channels. Only €49 million (10%) represents arms-length exports by independent Maltese manufacturers. This concentration indicates that Malta serves as an export platform for multinationals rather than as a base for indigenous export-oriented manufacturing.

Professional services exhibit even greater concentration, with €170 million (97%) of service exports occurring solely within enterprise groups. This pattern is consistent with Malta's role as a host of shared service centres, back-office operations, and regional headquarters that provide services exclusively to affiliated entities rather than competing in open markets.

In contrast, the wholesale sector imports of €667 million reflect Malta's role as a distribution hub, with €450 million in arms-length transactions suggesting significant independent trading activity alongside MNE distribution networks. The transport sector's balanced intra-group structure (both goods and services) reflects the integration of aviation and maritime logistics into global networks.

5.6.3 Intermediate Input Sourcing and Backward Linkages

The sourcing of intermediate goods and services reveals Malta's position in production networks and the strength of domestic supply chains.

Enterprises Purchasing and Supplying Intermediate Goods (2021-2023)

Geographic region / product category	B-F purch.	G-N purch.	Malta average	B-F supp.	G-N supp.
Components for the enterprise's product					
EU	51	32	70%	21	2
Extra-EU	21	14		8	2
Machinery & technical equipment					
EU	69	74	79%	3	7
Extra-EU	22	17		3	2
Raw materials for production					
EU	72	33	70%	8	0
Extra-EU	38	8		7	0

Table 12: Enterprises purchasing and supplying intermediate goods (2021-2023).
Source: NSO Malta, GVCIS Survey 2021-2023. B-F = Industry; G-N = Market Services.

The survey distinguishes between two primary modes of international sourcing: insourcing, sourcing from a foreign affiliate within the same multinational enterprise group, and outsourcing, sourcing from an independent, external provider abroad.

Industrial firms (B-F) show 51 enterprises purchasing components from the EU versus only 21 supplying components to the EU, a 2.4:1 purchasing-to-supplying ratio indicating net importer status and limited backward linkages. Machinery purchases are even more asymmetric: 69 industrial firms and 74 service firms purchase from the EU, while only 3 and 7, respectively, supply machinery, demonstrating Malta's position as a capital goods importer rather than a producer.

Raw material sourcing exhibits 72 EU purchases versus 8 EU supplies (9:1 ratio), placing Malta far downstream in production chains, importing inputs and exporting finished or near-finished products rather than providing intermediate inputs to other EU manufacturers. This weak backward linkage structure limits productivity spillovers from GVC participation since Maltese firms neither develop capabilities to serve demanding MNE customers nor integrate into knowledge-intensive upstream activities.

This distinction in the mode of GVC integration has significant implications for productivity and directly relates to the technology adoption and learning challenges identified earlier in this chapter. An insourcing relationship typically involves deeper collaboration, greater knowledge transfer, and the adoption of the parent company's standards, technologies, and processes. It fosters a more stable, long-term partnership in which the multinational has a vested interest in upgrading its affiliate's capabilities, often providing training, technology transfer, and management support.

An outsourcing relationship, while still a valuable form of internationalisation, is often more transactional and precarious. It may offer fewer opportunities for deep learning and technology spillovers which often represent a greater source of value creation and productivity. The client firm specifies requirements but has less incentive to invest in building the supplier's capabilities. Contract terms can be renegotiated or terminated more easily, creating uncertainty that discourages long-term investments in upgrading.

Therefore, while Maltese SMEs are participating in GVCs, the quality and depth of this integration may be suboptimal for driving the kind of transformative productivity growth seen in more deeply integrated firms. They are "in" the value chain, but often on the periphery, which reinforces the structural challenges they face in moving up the productivity ladder. This positioning makes it difficult for SMEs to access the knowledge spillovers and capability-building that typically drive productivity convergence through GVC participation. This geographic concentration intersects with SMEs' limited adaptive capacity in problematic ways. When supply disruptions occur, whether from Brexit, COVID-19, energy crises, or geopolitical tensions, firms with diversified supplier networks across multiple regions have more options to pivot and maintain operations. Maltese SMEs, locked into predominantly EU-centric sourcing patterns, are more vulnerable to region-specific shocks. Yet as discussed below, their capacity to reorganise in response to such shocks is severely constrained.

Malta's overall sourcing pattern (73% intra-EU) aligns with the EU-27 average but exhibits elevated dependency for Machinery & Equipment (79% intra-EU, 6 percentage points above EU norms)[13]. Given that machinery represents the primary channel for productivity-enhancing technology acquisition, this concentrated reliance on EU suppliers may limit Malta's exposure to cost-competitive or technologically diverse alternatives from global markets.

5.6.4 Supply Chain Constraints and Resilience Responses

The unprecedented disruptions during the 2020-2023 period illuminate both Malta's GVC vulnerabilities and firms' adaptive capacity. Using the last Global Value Chains and International Sourcing survey data issued by the National Statistics Office, covering the period 2021-2023, the following analysis may be drawn up.

Cost pressures dominated constraint severity: 188 enterprises rated general raw material cost increases as "High" importance, 176 rated transportation problems as "High", and 173 rated energy-related costs as "High". These widespread impacts indicate vulnerability to external price shocks given Malta's import dependence and limited domestic substitution capacity. COVID-19 showed balanced severity (153 High, 169 Moderate), while Russia sanctions affected fewer firms (45 High, 212 Not Applicable), reflecting limited direct Russia exposure.

Reorganisation responses reveal EU-centric adaptation: 190 firms pursued new EU suppliers to a moderate extent, compared with 134 pursuing extra-EU suppliers. The higher 'Not Applicable' count for extra-EU diversification (230 vs 220) suggests regulatory alignment benefits, lower coordination costs, or risk aversion to further geographic diversification. The emphasis on "trustworthy supplier" focus (143 moderate, 62 high) indicates relationship-based procurement strategies rather than purely price-driven approaches.

Critically, the majority of firms (220-243 firms) marked most reorganisation actions as 'Not Applicable'. This passive response may reflect small firm size limiting supplier-switching capacity, financial constraints preventing diversification investments, or short-term crisis management rather than strategic GVC repositioning. The concentration of active reorganisation among larger, more resourced firms likely exacerbates productivity divergence between GVC-integrated enterprises and domestically focused SMEs.

13. European Commission. Eurostat. International sourcing, business functions and global value chains. Statistics Explained. Accessed on 2026-01-25. https://ec.europa.eu/eurostat/statistic-explained/index.php?title= International_sourcing,_business_functions_and_global_value_chains.

Assessment of GVC Constraints and Reorganisation Actions (2021-2023, NACE B-N)

Constraint / reorganisation response	Not applicable	Moderate importance	High importance	EU-27 Benchmark (high importance)
Severity of constraints (number of enterprises)				
Increased raw material costs (non-energy, non-transport)	203 (35%)	121 (21%)	188 (33%)	55.6%
Transportation capacity/ time/cost problems	198 (34%)	128 (22%)	176 (30%)	46.7%
Increased energy-related costs of raw materials	214 (37%)	116 (20%)	173 (30%)	61.9%
Supply shortages in existing supply chains	220 (38%)	154 (27%)	129 (22%)	49.1%
Covid-19 limitations and constraints	149 (26%)	169 (29%)	153 (27%)	55.9%
Reorganization actions taken	**Not applicable**	**Moderate extent**	**High extent**	**EU-27 Benchmark (moderate +high importance)**
Found new suppliers or buyers within the EU	220 (38%)	190 (33%)	58 (10%)	29.2% nearshoring
Found new suppliers or buyers outside the EU	230 (40%)	134 (24%)	29 (5%)	18.0% far shoring
Focused on the most trustworthy/reliable suppliers	227 (39%)	143 (25%)	62 (11%)	30.1% consolidation
Increased number of suppliers from existing source countries	243 (42%)	133 (23%)	22 (4%)	16.9% expansion

Table 13: Assessment of GVC constraints and reorganisation actions (2021-2023, NACE B-N). (Source: NSO Malta, GVCIS Survey 2021-2023, Eurostat (2025). "Global value chain disruptions and enterprise responses in the EU." Statistics Explained. Dataset: gvc_effgvc., authors' calcultaions)

Cross-EU comparison contextualises Malta's passive reorganisation response. Eurostat's 2021-2023 Global Value Chain survey found that 83.1% of EU enterprises did not expand their supplier networks. Malta's 38-42% 'Not Applicable' response rate across supplier diversification actions represents approximately half of the EU's non-reorganising firms and specifically identifies those facing structural infeasibility, which renders conventional reorganisation strategies less viable. This pattern is significantly elevated above broader EU norms, where non-reorganisation often reflects strategic choice rather than structural impossibility. EU benchmarking data shows that 61.9% of EU enterprises experienced increased energy costs, 55.6% faced higher non-energy costs, 49.1% reported supply shortages, and 46.7% experienced transport constraints. Malta's elevated percentage of firms rating transport as 'High' (30.5%) reflects the 'Island Penalty' whereby geographic isolation creates severe binary constraint patterns [14].

14. European Commission. Eurostat. Enterprises by type of global value chains effect and their importance. (gvc_effgvc). Accessed on 2026-01-22. https://ec.europa.eu/eurostat/databrowser/view/gvc_effgvc/default/table.

Perhaps the most striking finding for understanding SME productivity constraints concerns enterprise responses to supply chain disruptions during 2021-2023. The survey asked firms about the level of importance they assigned to various constraints on global supply and value chains, and separately, about the extent of changes or reorganisation they undertook to overcome these constraints.

The results reveal a substantial gap between the severity of constraints and organisational responses. While 30-33% of enterprises rated various constraints, including general cost increases (32.6%), transportation problems (30.5%), and energy-related costs (30%), as having "High" importance, only 4-11% undertook "High" levels of reorganisation of their global value chain participation. The majority of firms either did not reorganise at all or made only moderate adjustments, despite facing severe constraints.

COVID-19 presents an even starker picture. It was the most pervasive constraint, affecting 74% of surveyed enterprises to some degree (only 25.8% rated it "Not Applicable"). Of those affected, 26.5% rated its impact as "High" and 29.3% as "Moderate." Yet reorganisation responses remained limited, with the modal response being either "Not Applicable" or "No" reorganisation.

This "reorganisation paradox" has important implications for understanding the SME productivity challenge. It suggests that Maltese enterprises, particularly SMEs, lack the flexibility to optimise their value chain positioning in response to changing conditions. Several factors appear to explain this limited adaptive capacity, each connecting to constraints identified earlier in this chapter.

First, the dominance of multinational integration means that restructuring decisions often reside with parent companies rather than local management. A domestically owned SME might wish to reorganise its supplier relationships, but if its primary customers are foreign multinationals with specified suppliers and processes, its room for manoeuvre is constrained. The multinational decides whether and how to reorganise; the SME must accept the consequences.

Second, Malta's small domestic market and geographic concentration in EU supply relationships limit the availability of alternative sourcing arrangements. An SME experiencing supply problems with an Italian supplier cannot easily switch to a domestic alternative because such alternatives often do not exist at the required scale or specification. Pivoting to an Asian supplier may be theoretically possible but requires navigating new logistics, quality standards, payment terms, and regulatory requirements; these barriers are often prohibitive for resource-constrained SMEs. The greater prevalence of microenterprises highlights this constraint in Malta.

Third, many of the constraints firms face, particularly transportation costs, stem from Malta's island geography and small market status. These are factors that individual firms, especially SMEs, cannot mitigate through reorganisation. A Maltese SME cannot negotiate significantly better shipping rates than its competitors because no SME commands sufficient volume, highlighting the importance of transhipment operations through the freeport to lower the cost of merchandise and transport. These structural costs must simply be absorbed, explaining why many firms chose not to reorganise: reorganisation would not solve the fundamental problem.

Limited adaptive capacity can have significant repercussions on productivity. Firms that cannot reorganise to improve efficiency in the face of cost shocks will experience declining productivity even if their operational performance remains unchanged. This creates a ratcheting effect where each successive crisis, Brexit, COVID-19, energy price spikes, geopolitical tensions, adds another layer of costs and constraints that firms absorb rather than adapt around, progressively degrading their productivity performance relative to more flexible competitors in other markets.

While these structural constraints impose significant productivity penalties that individual firms cannot overcome, coordinated policy interventions at the national and sectoral level can substantially mitigate their impact. Section 5.9 explores these policy opportunities, demonstrating how coordinated approaches to transportation infrastructure, renewable energy systems, and supply chain resilience can reduce structural cost burdens while enhancing Malta's competitive positioning.

5.6.5 GVC conclusions

These GVC integration patterns help explain several of the SME productivity challenges identified earlier in this chapter and reinforce the dual economy structure established in the previous chapter. The extreme dependency on imported knowledge-intensive services (R&D, engineering, ICT) provides quantitative confirmation of the skills and innovation gaps discussed in this chapter. Maltese SMEs are not building internal capabilities in these areas because they are systematically outsourcing them, often because they lack the scale and resources to develop them internally.

The predominance of arm's-length outsourcing relationships, rather than deeper insourcing partnerships, means that Maltese SMEs participating in GVCs are less likely to receive the knowledge transfers, technology spillovers, and capability-building support that typically drive productivity convergence. They execute tasks within value chains but remain peripheral to the core innovation and strategic functions.

The structural rigidity revealed by the low reorganisation response, despite severe constraints, confirms that many of the productivity challenges facing SMEs are not easily addressed at the firm level. They reflect Malta's small-economy status, its geographic position, and its integration model within European production networks. These are constraints that require systemic, rather than firm-level, solutions.

Finally, the dominance of multinational integration in high-productivity sectors (90% of manufacturing trade flowing through enterprise groups) helps explain the persistent productivity gap between foreign-controlled firms and domestic SMEs. Foreign subsidiaries are not just better managed or more technologically advanced; they operate within fundamentally different structures, internalised value chains with captive access to parent company resources, technologies, and markets. Domestic SMEs are attempting to compete from outside these structures, facing the full force of market transactions for inputs, knowledge, and market access that multinationals internalise.

This does not mean that GVC integration is unimportant for SME productivity; indeed, the evidence suggests it is critical. However, it does mean that the pathway to productive GVC participation for Maltese SMEs is not straightforward. Policies that simply encourage "more exporting" or "more internationalisation" may be insufficient if they do not address the structural barriers that keep SMEs in peripheral, low-value-added positions within value chains.

The solution lies in deliberately transforming Malta's high-productivity sectors into genuine industrial clusters with strong backward and forward linkages to the domestic economy. Cluster development policies can promote greater productivity without necessarily requiring firm-level growth by maximising the use of existing resources and creating productive opportunities for local SMEs.

The objective is not to replicate the MNE model for SMEs, which would be neither feasible nor desirable given resource constraints. Rather, it is to create ecosystem-level capabilities that enable SMEs to specialise effectively while accessing complementary resources through cluster networks. This approach addresses Malta's "missing middle" challenge differently, not by forcing all firms to scale to 50+ employees, but by enabling smaller firms to achieve productivity gains through horizontal collaboration and vertical integration into local value chains anchored by larger enterprises.

By developing stronger inter-firm linkages, Malta can make more productive use of its limited resources while reducing vulnerability to external shocks. The passive reorganisation responses documented in Section 5.6.4 suggest that individual firms cannot address supply chain resilience on their own; cluster-level coordination mechanisms and shared infrastructure become essential for systemic resilience and productivity enhancement.

5.7 Challenges Facing SME Productivity Enhancement

Malta's SMEs face interconnected barriers that constrain productivity growth and limit scaling capacity. These challenges operate at multiple levels, firm-specific capability gaps, market structure impediments, and institutional/regulatory factors, requiring coordinated policy responses.

5.7.1 Access to Finance and Growth Capital

Malta's financial ecosystem has continued to evolve, with successive policy measures aimed at improving access to finance for businesses, particularly SMEs and innovative enterprises. The 2025 Budget introduced a comprehensive package of measures to stimulate investment and innovation, including accelerated tax incentives for investments in artificial intelligence, digitalisation, automation and cybersecurity, a 175% tax deduction for eligible research and innovation expenditure, continued support through the Malta Government Venture Capital Fund, the Seed Investment Scheme, and enhanced access to the European Digital Innovation Hub and High-Performance Computing infrastructure for SMEs and start-ups. These initiatives complement existing EU-funded financial instruments and business support schemes designed to facilitate business growth and innovation.

Notwithstanding these positive developments, financing constraints continue to affect a proportion of SMEs. Equity financing remains relatively limited, with venture capital and growth equity markets still less mature than those in many comparable economies. While banks continue to represent the principal source of external finance, lending decisions remain largely collateral-based, which may constrain asset-light service firms, technology companies and innovative start-ups whose value is primarily derived from intellectual property and future growth potential. As Beck and Demirg¸Á-Kunt (2006) demonstrate, access to finance remains one of the most significant determinants of SME growth, with smaller firms facing greater financing constraints than larger enterprises that can access a broader range of capital market instruments.

5.7.2 Technology Adoption and Digital Capability

Since the publication of the National Productivity Report (2022), Malta has made significant progress in strengthening its digital ecosystem, with an increasing policy focus on the adoption and development of artificial intelligence (AI). This commitment was further reinforced through the latest Budget, which announced a €100 million investment package aimed at accelerating Malta's AI ambitions, supporting businesses in adopting AI solutions, fostering research and innovation, strengthening digital infrastructure, and developing the skills required for an AI-driven economy. Together with other initiatives supporting digitalisation and innovation, these measures have created a more enabling environment for enterprises to embrace digital transformation and improve productivity.

Notwithstanding this progress, the findings of the National Productivity Report remain relevant for a segment of enterprises, particularly SMEs, where challenges persist in translating digital strategies into operational change, securing the necessary financial and human resources, and integrating advanced digital technologies into core business processes. As highlighted by the European Commission (2021), while Maltese SMEs are often innovative in niche markets, their innovation potential continues to be constrained by resource limitations, short-term business pressures and limited absorptive capacity. The adoption of advanced technologiesóparticularly artificial intelligence, alongside big data analytics and cloud computingótherefore remains a key opportunity to enhance productivity, competitiveness and long-term economic resilience (OECD, 2021).

5.7.3 Human Capital and Skills Shortages

Labour market tightness constrains SME productivity growth through multiple channels. Skilled worker scarcity drives wage inflation without corresponding productivity gains, particularly acute in niche technical domains. Medium-sized firms report difficulty recruiting experienced managers, forcing reliance on less qualified staff or over-promoting from within. Training investments face free-rider problems: firms underinvest, fearing poaching, while employees hesitate to fund their own development due to job mobility. The result: workforce skills lag technological possibilities, with sophisticated equipment underutilised due to gaps in operator capability.

Larger firms typically offer more structured training, career pathways and higher wages, enabling them to attract and retain skilled workers. In contrast, SMEs often face difficulties in recruiting highly qualified staff due to resource constraints, weaker employer branding and limited training budgets. This creates a vicious cycle in which lower skills constrain innovation, digital adoption and management practices, further depressing productivity.

5.7.4 Management Practices and Organisational Capabilities

The transition to professional management represents a critical threshold at which family businesses must either professionalise, often requiring ownership dilution, or remain constrained at a smaller scale. Research has consistently shown that managerial quality is closely linked to firm productivity (Bloom & Van Reenen, 2007). SMEs, however, tend to score lower on measures of management capability, particularly in strategic planning, performance monitoring, and human resource practices.

5.7.5 Global Value Chain Integration Barriers

Section 5.7 documented weak backward linkages and MNE dominance. Indigenous SMEs face entry barriers to sophisticated GVCs, including certification requirements; relationship-specific investments in specialised equipment or processes to serve particular customers; coordination costs for managing complex logistics and quality systems; and information asymmetries, where potential suppliers lack knowledge of procurement opportunities. These barriers create a two-tier system in which MNE suppliers operate in globally integrated networks, while domestic firms serve local markets with limited technology transfer.

5.7.6 Regulatory and Administrative Burdens

While Malta's regulatory environment ranks favourably in international comparisons, SMEs face disproportionate compliance costs due to scale diseconomies. Employment regulations, tax compliance, sector-specific licensing, and reporting requirements impose similar absolute costs on firms regardless of size, creating higher per-employee burdens for smaller operations. The World Bank Enterprise Survey for 2024 indicates that Maltese small enterprises spend 8.7% of management time on regulatory compliance and medium sized enterprises spend 9.1%, compared with 8.1% for large firms.

The institutional environment plays a crucial role in shaping SME productivity. Excessive regulatory burdens, high compliance costs, and complex tax systems disproportionately affect smaller firms, as they lack the capacity to navigate bureaucracy compared to larger enterprises.

5.8 Opportunities for Productivity Enhancement

Despite substantial challenges, Malta's SMEs can exploit specific opportunities that leverage the country's institutional strengths, EU integration, and technological changes reshaping business models.

5.8.1 Digitalisation as Equaliser

Cloud computing, software-as-a-service, and digital platforms substantially lower technology adoption costs and enable micro-firms to access enterprise-grade capabilities previously restricted to large operations. A micro consulting firm can now deploy CRM, project management, and collaboration tools for €100-200/month; these goods and services would have required €100k+ investments a decade ago. E-commerce platforms enable market expansion without the need for physical presence investments. The key opportunity lies in supporting SME awareness and adoption through demonstration projects, subsidised trials, and peer-learning networks that showcase productivity gains from digital tool adoption.

OECD (2019) notes that e-commerce platforms and digital marketplaces are reducing entry costs and enabling SMEs to reach customers across borders. The European Commission (2020) emphasises that the Digital Single Market creates particular opportunities for smaller firms to access pan-European customer bases without the traditional costs of physical expansion.

5.8.2 Innovation Ecosystems and Knowledge Spillovers

Malta's compact geography and concentrated business community create potential for rich knowledge spillovers if appropriately structured. High-productivity sectors, including gaming, fintech, aviation maintenance, and pharmaceuticals, currently operate as relatively isolated enclaves with limited backward linkages to the

domestic economy. However, developing these into true industrial clusters through deliberate policy interventions, supplier development programs, SME certification support, knowledge-sharing platforms, and MNE-SME matchmaking, could unlock significant productivity gains. Such cluster development policies would transform passive outsourcing relationships into active partnerships, enabling local SMEs to capture more value from international activities while leveraging Malta's compact geography for knowledge spillovers.

University of Malta and MCAST research capabilities, while limited in scale, can provide targeted technical assistance to SMEs facing specific technical challenges. Peer learning networks among non-competing firms enable best-practice diffusion, with successful models from Ireland and Denmark showing productivity improvements of 15-20% from structured peer exchanges.

The European Commission (2021) highlights that SMEs often excel in niche markets where their flexibility and proximity to customers provide competitive advantages. While they may lack resources for large-scale R&D, SMEs can leverage design-driven innovation, customisation capabilities, and rapid adaptation to changing market needs

5.8.3 EU Integration and Market Access

Single Market access provides scale opportunities unavailable in Malta's small domestic market. Service sectors particularly benefit from freedom of establishment and cross-border service provision. EU funding through Cohesion Policy, Horizon Europe, and Digital Europe Programme offers co-financing for productivity investments. The key is overcoming information barriers and administrative capacity constraints that prevent SMEs from engaging with EU opportunities, simplifying application processes and supporting proposal development can unlock access.

5.8.4 Green Transition as Productivity Driver

The National Productivity Report (2024) highlighted the dual transition as being critical for long-term productivity improvements. The green transition can support the creation of new innovations, business models as well as productivity enhancements. Policy support through green financing instruments, technical assistance for environmental management systems, and public procurement favouring sustainable suppliers can accelerate green-productivity synergies.

5.8.5 Transport, Logistics and Supply Chain Resilience

Malta's island geography and small market size create inherent logistics challenges that individual firms cannot overcome through reorganisation or negotiation. Individual SMEs lack the volume to negotiate competitive shipping rates or alternative routing arrangements, and must simply absorb structural costs. However, coordinated policy interventions and collective mechanisms can substantially reduce per-unit transport costs while improving supply chain resilience.

Collective logistics solutions can achieve scale economies comparable to larger enterprises through industry association cargo pooling, enabling multiple SMEs to aggregate shipments; shared warehousing and distribution centres at strategic Mediterranean hubs; reduced dependency on single routes; and collaborative freight booking platforms providing real-time visibility across multiple carriers. Strategic port infrastructure

improvements, dedicated SME logistics facilities at Freeport with streamlined customs clearance, fast-track trade facilitation for time-sensitive intermediate inputs, and expanded bonded warehousing enabling deferred duties to improve cash flow, can reduce processing times from days to hours while lowering working capital requirements. Digital freight and supply chain visibility platforms provide capabilities previously available only to sophisticated logistics operators, connecting Maltese SMEs with carriers and alternative routing options while enabling predictive analytics for demand forecasting and proactive capacity booking.

Building on the industrial cluster framework outlined in Section 5.8.2, supply chain resilience mechanisms include shared qualification funds pooling resources to qualify new extra-EU suppliers and conduct quality audits too costly for individual SMEs, strategic inventory pools within sectors enabling lower individual safety stocks while ensuring availability during disruptions, and buyer consortia aggregating demand to achieve pricing comparable to large enterprises. Cluster approaches to supply chain resilience generate positive spillovers beyond direct participants, strengthening regional economic resilience while reducing firm-level vulnerability. For the minority of firms capable of strategic repositioning, targeted reorganisation grants covering supplier qualification and logistics restructuring costs, combined with technical assistance for supply chain mapping and risk assessment, can accelerate adaptation.

The key insight from Section 5.6.4's reorganisation paradox is that Malta's structural logistics constraints cannot be eliminated but coordinated policy intervention can transform these intractable firm-level problems into tractable system-level solutions. By creating collective mechanisms, consolidated shipping, shared warehousing, buyer consortia, digital platforms, and cluster-based inventory, Malta leverages its small scale as an advantage for rapid coordination rather than accepting it as a permanent disadvantage. The objective is not to make Malta's geography less insular or its market larger, but to ensure that scale disadvantages affect productivity minimally through intelligent system design, aligning with international best practice in small island states where successful productivity strategies consistently emphasise collective mechanisms over individual firm capabilities.

5.9 Conclusions and Policy Implications

This chapter's comprehensive firm-level analysis reveals that Malta's productivity challenge is neither uniform nor susceptible to one-size-fits-all solutions. Size matters for productivity, but the relationship varies dramatically across sectors: from the 6:1 large-to-micro ratio in ICT, reflecting fundamental scale economies and knowledge intensity, to inverted patterns in finance and real estate where boutique models generate superior value added. The temporal analysis documents concerning divergence trends, with the ICT gap tripling from 1.78◊ to 6.11◊ (driven by companies in the gaming business-to-business segment) in just four years, alongside more encouraging patterns in wholesale, where gaps narrowed.

The quantification of Malta's "missing middle", just 463 net medium-sized firm additions over four years against 16,437 micro-firm additions, diagnoses a critical structural weakness. This bimodal distribution, where firms either remain very small or, rarely, jump to large scale, creates productivity concentration effects. The data show 38% of employment in 0.7% of enterprises (medium and large firms), while 89% of firms (micro) employ just 30% of workers. Without adequate mid-sized firm creation, productivity-enhancing innovations, workforce skill development, and sophisticated business service demand remain constrained.

The CompNet Total Factor Productivity analysis extends these findings beyond labour to comprehensive efficiency measurement. Malta's TFP growth of 0.7% annually over 2000-2018 lags behind advanced-economy benchmarks. This may indicative of resource misallocation, where barriers prevent high-productivity firm expansion or micro-enterprise proliferation fragments markets.

Global Value Chain integration patterns compound these challenges. Manufacturing exports are 90% intra-MNE, while professional service exports are 97% intra-group, indicating productivity concentration in multinational operations with minimal spillovers to indigenous SMEs. Weak backward linkages, purchase to supply ratios of 2-9:1 across intermediate categories, place Malta downstream in production chains. Supply chain constraint responses reveal passive adaptation among half of the surveyed firms, with active reorganisation concentrated among resource-rich, larger enterprises, likely exacerbating productivity divergence.

Policy implications emerge at multiple levels:

1 Move beyond size-based SME support toward capability-based interventions, recognising sectoral heterogeneity. ICT firms need different support than accommodation providers; finance and real estate's inverted patterns suggest supporting micro-firm specialisation rather than assuming scaling is always optimal.
2 Address the 50-employee barrier through targeted scale-up programs that provide managerial capability development, growth financing instruments, and organisational transition support.
3 Strengthen GVC linkages by reducing MNE-SME coordination costs through supplier development programs, certification support, match-making initiatives, and development of an industrial cluster policy.
4 Tackle resource misallocation to enable productive firm expansion through competition policy review, regulatory simplification, and addressing barriers that prevent high-productivity firms from gaining market share.

The opportunities identified - digitalisation cost reductions, EU integration benefits, innovation ecosystem potential, and green transition synergies - provide concrete pathways forward. However, realising these requires coordinated action across multiple policy domains: finance, skills, innovation, regulation, and trade. Chapter 6 will examine how technological change and innovation systems can accelerate productivity convergence, while subsequent chapters address human capital, investment, and macroeconomic framework conditions enabling productivity-enhancing structural transformation.

CHAPTER

6

A Modern Framework for Raising SME Productivity

Productivity is the foundation of Malta' s long-term prosperity, competitiveness and fiscal resilience. It determines the country' s capacity to sustain rising living standards, support quality employment and maintain the investment needed for future growth. As a small, open economy with a predominantly micro-firm landscape, Malta faces unique structural challenges that shape how productivity is generated, diffused, and scaled.

This chapter responds directly to those challenges. It sets out a coherent set of policy recommendations grounded in the empirical findings and international best practices. The objective is not simply to support individual enterprises, but to shift the structural conditions that determine how firms grow, innovate, and compete. The recommendations therefore focus on the critical levers that influence firm-level performance: data and intelligence, management capability, technology adoption, skills, reallocation dynamics, and sector-specific transformation.
The approach taken integrates evidence from high-performing economies that have successfully lifted productivity through targeted interventions, from Ireland' s data-driven policy model to Singapore' s industry transformation pathways, and Denmark' s reallocation strengths. It also aligns Malta' s policy direction with the broader European competitiveness agenda and the ambitions set out in Vision 2050.

6.1 International Success Stories: Lessons from High-Productivity Economies

The productivity challenges outlined in Chapter 5 are not unique to Malta. Many small and medium-sized advanced economies have confronted similar structural issues: fragmented firm structures, dominance of micro enterprises, uneven technology adoption, and weak diffusion from frontier firms. Over the past decade, several countries have achieved meaningful productivity growth by adopting targeted, evidence-driven reforms. Their experiences offer valuable lessons as Malta considers how to strengthen SME performance, close size-related productivity gaps and support its long-term competitiveness.

Ireland: Data-Driven Policy and Targeted SME Upgrading

Ireland stands out as one of the most successful small European economies in building a coherent productivity architecture. Its progress has been underpinned by a simple principle: **productivity policy is only as strong as the data behind it**. Ireland invested heavily in micro-level data infrastructure, enabling policymakers to track productivity, innovation, digital adoption, and firm dynamics with exceptional granularity. This allowed the government to design interventions that distinguish between frontier, scaling and laggard firms.

Ireland's support system for SMEs - through Local Enterprise Offices, Enterprise Ireland and targeted management programmes - focuses on raising managerial capability, supporting digital adoption and promoting export readiness. Crucially, Ireland's approach recognises that productivity growth is not automatic: it must be supported through structured programmes that help small firms professionalise management, adopt modern technologies, and integrate into international value chains. For Malta, where Chapter 5 identifies widening frontier-laggard gaps and a missing middle, such an architecture offers a clear template.

Denmark and the Netherlands: Strong Reallocation and High Absorptive Capacity

Denmark and the Netherlands consistently rank among Europe' s productivity leaders. Their experience shows that **strong competitive dynamics**, efficient reallocation, and high absorptive capacity are essential features of a productive economy. These countries maintain business environments where productive firms grow quickly, and less productive ones shrink or exit; the opposite of the negative covariance pattern observed in Malta.

What stands out in Denmark is the **emphasis on organisational capital, job quality and continuous upskilling**. Danish SMEs benefit from widespread adoption of lean practices, strong social partner engagement, and accessible advisory services that help firms adopt better management and digital tools. The result is an SME base that is capable, adaptive, and technologically literate. These lessons are particularly relevant to Malta' s domestic services sectors, where organisational capability and workforce development remain weak.

Singapore: Industry Transformation Maps and Digital Diffusion

Singapore provides a compelling example of structured, sector-led transformation. Through its Industry Transformation Maps (ITMs), Singapore has systematically raised productivity across retail, hospitality, logistics, ICT and other services. Each ITM sets clear productivity benchmarks, identifies sector-specific interventions, and provides targeted funding and advisory programmes. The focus is not on ' innovation at the frontier' but on upgrading the long tail of small firms; this is an exact fit for the structural profile described in Chapter 5.

Singapore' s Productivity Solutions Grant, combined with targeted support for process redesign and digital adoption, has enabled thousands of SMEs to implement simple yet high-impact tools: digital POS, workflow automation, online booking systems, and basic robotics. The emphasis on practical, replicable solutions is directly relevant to Malta' s micro-dominated services economy.

United Kingdom: Management and Technology Adoption in SMEs

The Productivity Institute (2025) identified management quality as one of the most important determinants of SME productivity. In response, the UK implemented large-scale management and leadership programmes, peer-learning initiatives and digital adoption accelerators aimed specifically at micro and small firms. The evidence shows that interventions focused on **practical management improvements**, such as scheduling, pricing, workflow design, and financial planning, generating measurable productivity gains, especially in services.

Malta' s micro services sectors share many characteristics with the UK' s long tail of small firms. The UK experience demonstrates the value of structured peer programmes, diagnostic tools and targeted digital support; all areas where Chapter 5 identifies significant opportunities.

Key Lessons for Malta

Across these international cases, several principles emerge consistently:

1. **Granular data and continuous monitoring** are essential to design precise, effective productivity interventions.
2. Productivity growth requires **active policy**, not passive expectations; the most successful countries deliberately invest in SME capability, digital diffusion and organisational capital.
3. **Management capability** is a decisive productivity driver, especially in service-dominated economies.
4. **Sector-specific transformation programmes** – retail, hospitality, logistics, ICT – generate faster and more sustained results than generic subsidies.
5. **Strong reallocation mechanisms** ensure that productive firms scale, and weaker firms face pressure to improve or exit.
6. **Scaling matters:** countries with stronger medium-sized enterprise cohorts experience higher aggregate productivity growth.

These lessons form a natural bridge to Malta' s reform agenda. The structural patterns documented in Chapter 5 mirror the challenges other countries have confronted successfully. Their experience demonstrates that with targeted, coherent and data-driven policy, significant improvements in productivity are achievable even in small, micro-heavy economies.

6.2 European Policy Context: A New Competitiveness Imperative

Malta' s productivity challenge does not unfold in isolation. Across Europe, concerns about slowing productivity growth, declining competitiveness, and widening gaps with global leaders have triggered a major rethinking of economic policy. Recent landmark reports - most notably the **Draghi Report on European Competitiveness and the Letta Report on the Single Market** - articulate a pressing need for structural reform, deeper integration, and renewed investment in productivity foundations. Malta' s national priorities, including the transformation agenda outlined in Vision 2050, sit squarely within this evolving European landscape. Understanding this broader context is essential for designing policies that support domestic reform, align with European priorities and maximise access to EU instruments.

6.2.1 The Draghi Report: Europe at a Crossroads

Mario Draghi' s 2024ñ2025 competitiveness report offers a stark assessment of Europe' s economic position: without decisive action, the continent risks long-term stagnation, technological divergence, and industrial decline. At its core, the Draghi report highlights several themes directly relevant to Malta' s structural challenges:

Productivity as the anchor of competitiveness

Draghi argues that Europe' s productivity slowdown is the single most important threat to future prosperity. This aligns closely with the evidence in Chapter 5, which shows that Malta' s productivity performance is insufficient to sustain rising incomes or support long-term fiscal pressures.

Technology diffusion and digital adoption

A central message of the Draghi report is that Europe must accelerate the diffusion of digital and advanced technologies to SMEs. The slow uptake of digital tools and the widening frontierñlaggard gap across EU

member states mirrors the patterns documented in Malta, especially in the ICT and service sectors. Draghi emphasises the need for programmes that help small firms adopt simple, proven technologies. This is a core element of the recommendations in this chapter.

Scaling and the importance of mid-sized firms

Draghi highlights Europe' s struggle to grow mid-sized companies that can compete globally. Malta' s own ' missing middle' reflects this broader European weakness. Scaling barriers identified in the Draghi report such as regulatory fragmentation, high administrative costs, and limited access to patient capital are echoed in Malta' s domestic evidence.

Labour mobility and skills

The Draghi report stresses that skills shortages and uneven labour mobility are major constraints across the EU. Malta' s patterns, low participation in adult learning, skill mismatches, and dependency on foreign labour in key sectors, reflect this European challenge in concentrated form.

6.2.2 The Letta Report: A Renewed Single Market for the Next Generation

Enrico Letta' s report on the future of the Single Market emphasises the need to deepen European integration to unlock productivity gains. The report argues that completing the Single Market is essential for Europe' s ability to compete internationally and transition to a more technologically advanced economic model.

Removing fragmentation and barriers to scale

Letta highlights barriers that prevent firms from achieving scale, ranging from regulatory differences to administrative burdens. Malta' s micro-heavy business structure and limited number of medium-sized firms demonstrate how domestic and European fragmentation can compound, making it difficult for firms to expand beyond local markets.

Strengthening cross-border digital and services integration

The Letta report calls for stronger integration of digital and service markets. Malta' s economy is dominated by services; improving cross-border interoperability, digital standards and regulatory alignment could help local SMEs access wider markets. This is particularly important for ICT firms and knowledge-intensive services, where the analysis in Chapter 5 shows widening gaps between frontier and domestic firms.

Promoting innovation and investment in enabling sectors

Letta argues that Europe must increase investment in key enabling sectors: advanced manufacturing, digital infrastructure, clean technologies and logistics. For Malta, this reinforces the need to modernise manufacturing SMEs and strengthen logistics and transport systems, which are essential enablers of productivity.

6.2.3 European Competitiveness Strategy and Funding Alignment

In parallel with the Draghi and Letta roadmaps, the EU is shaping a broader competitiveness strategy centred on:

- digital transformation,
- green transition productivity,
- SME support,
- single market reform, and
- investment in skills and innovation.

For Malta, alignment with these priorities is particularly important, as it opens opportunities to access funding and technical support through programmes such as Horizon Europe, Digital Europe, the Single Market Programme, and cohesion policy instruments.

6.3 National Policy Alignment: Malta' s Vision 2050 and the Productivity Imperative

Malta' s Vision 2050 sets out a long-term ambition for a more resilient, innovative, and sustainable economy capable of supporting high living standards and broad-based wellbeing. It acknowledges that Malta' s future prosperity will not be secured merely through workforce expansion, but through a deliberate shift toward higher productivity, stronger capabilities, and more efficient resource use. The findings in Chapter 5 and the international context outlined above reinforce the necessity of this transition. This section situates the productivity recommendations within the broader national vision and demonstrates how a comprehensive approach to SME upgrading forms a foundational pillar of the country' s long-term development trajectory.

6.3.1 Productivity as the Foundation of Long-Term Competitiveness

Vision 2050 emphasises the need for a competitive, future-ready economy that can adapt to rapid technological change, demographic pressures and evolving global markets. Productivity is central to achieving these goals. In a small island state with limited land, human resources and domestic market size, output per worker - not scale - must drive future economic growth. The evidence in Chapter 5 makes clear that current productivity dynamics are insufficient to sustain the trajectory envisioned.

Strengthening productivity is not simply an economic objective; it is the enabling mechanism behind key Vision 2050 priorities:

- Raising living standards sustainably, without dependence on labour expansion.
- Creating high-quality jobs, especially in knowledge-intensive sectors.
- Maintaining fiscal resilience, particularly as demographic pressures increase.
- Improving environmental sustainability, by ensuring more efficient use of resources.
- Capturing higher value-added activities, essential for long-term competitiveness.

The productivity strategy proposed in this chapter is therefore a necessary enabler of Malta' s long-term vision.

6.3.2 The SME-Centric Structure of Malta' s Vision

Malta' s economy is overwhelmingly composed of SMEs, particularly micro enterprises. Vision 2050 acknowledges this structure and emphasises the need for a supportive business environment that enables small firms to adopt technology, improve performance, and scale. This is precisely where the empirical findings in Chapter 5 are most revealing: the structural dominance of micro firms, combined with widening productivity differentials, indicates that Malta' s long-term vision is heavily dependent on the upgrading of its SME base.

Three aspects of Vision 2050 make this especially important:

The centrality of services

As a services-heavy economy, Malta' s productivity performance hinges on improving operational efficiency, management practices and digital adoption within domestic service sectors. Vision 2050 highlights services as a major source of future growth but this requires raising productivity across retail, hospitality, logistics, ICT, and professional activities. The evidence demonstrates that these sectors currently lag behind frontier performance, limiting the country' s ability to move up the value chain.

The need to strengthen capabilities

Vision 2050 emphasises capability-building in digital skills, innovation, entrepreneurship, and management. The analysis in Chapter 5 shows significant gaps in organisational capital and absorptive capacity within SMEs, reinforcing the importance of coordinated investment in skills, leadership, and technology adoption.

The role of scaling and transformation

A key ambition of Vision 2050 is to support the emergence of more competitive, resilient, and innovative enterprises. This requires addressing Malta' s missing middle: the scarcity of medium-sized firms that can anchor supply chains, support export growth and provide high-quality jobs. The scaling barriers documented in Chapter 5, including access to finance, administrative friction and limited managerial capability, must be overcome if Vision 2050 is to be achieved.

6.3.3 Linking Vision 2050 to the Productivity Policy Architecture

Vision 2050 calls for strategic coherence across government and for a long-term, evidence-based policy agenda. The productivity framework proposed in this chapter aligns strongly with those requirements and provides the operational architecture through which Vision 2050' s economic ambitions can be implemented. Key areas of alignment include:

A data-driven basis for policy

The establishment of the SME Productivity & Competitiveness Observatory addresses Vision 2050' s emphasis on data, analytics and monitoring. It ensures that policy decisions from investment priorities to enterprise support are grounded in real-time intelligence about firm performance and sectoral dynamics.

Targeted transformation of key sectors

The sectoral missions proposed for ICT and manufacturing, as well as the targeted accelerator for domestic services, reinforce Vision 2050' s emphasis on moving towards a more productive and technologically advanced economy. They provide structured pathways for upgrading sectors central to Malta' s competitiveness.

A modern, enabling business environment

Vision 2050 highlights the importance of an efficient regulatory framework. The Zero-Friction State initiative directly supports this objective by reducing administrative burdens on SMEs and enabling owner-managers to focus on value-creating activities rather than compliance.

6.3.4 Skills and talent for the future economy

The focus on in-work upskilling and managerial capability reflects Vision 2050' s prioritisation of human capital. By linking training directly to productivity objectives, Malta can address skill gaps in sectors where evidence shows they are most binding.

6.3.5 Ensuring Strategic Coherence and Long-Term Direction

For Malta to achieve Vision 2050' s ambition of a resilient, high-income, and future-ready economy, productivity must become a central guiding principle across economic policymaking. The recommendations in this chapter provide a coherent structure that aligns national policy with European competitiveness priorities, international practice, and the structural realities of Malta' s SME-driven economy.

Taken together, they offer a pathway towards:

- higher productivity,
- stronger enterprises,
- better-quality jobs,
- improved competitiveness, and
- a more sustainable long-term growth model.

This alignment between evidence, international context and national strategy creates the platform on which Malta can build its next phase of economic development.

6.4 A Layered Recommendation Framework for Strengthening Productivity

The evidence presented in Chapter 5, together with insights from international best practice and Malta' s long-term policy direction, points to a clear conclusion: boosting productivity requires an integrated, multi-layered approach that addresses both the structural conditions in which firms operate and the internal capabilities that determine their performance. No single intervention can shift the country onto a higher productivity path. Instead, Malta needs a coherent framework that simultaneously strengthens data and intelligence, improves firm-level capabilities, supports scaling and reallocation, and accelerates transformation in key sectors.

This section outlines the proposed **four-layer recommendation framework**. It serves as the organising structure for the detailed proposals in Section 6.6 and is designed to deliver measurable, economy-wide impact while acknowledging the realities of Malta' s micro-firm dominated business landscape.

Layer 1: Structural Productivity Levers for a Services-Driven, Micro-Firm Economy

The first layer focuses on the foundational conditions that shape productivity across the economy. In a highly fragmented, service-dominated structure like Malta' s, productivity is fundamentally influenced by the availability of high-quality data, the regulatory environment, and the efficiency with which firms interact with the state. The evidence in Chapter 5 shows that weak diffusion, persistent size-related gaps, and stagnant services productivity are symptoms of deeper systemic constraints. Addressing these factors requires interventions that operate at the macro and institutional level.

1. A national productivity intelligence system

The creation of a centralised observatory responds directly to one of the most important findings of Chapter 5: the absence of continuous, integrated firm-level data hampers the ability to understand performance gaps, target interventions, and monitor impact. High-performing economies such as Ireland and Denmark have demonstrated that productivity policy must be underpinned by granular, real-time evidence. A national observatory provides the backbone for all subsequent layers of intervention by ensuring that Malta' s productivity strategy is data-driven, transparent and adaptive.

2. Structural upgrading in domestic services

Given the central role of services in Malta's economy, structural reform must focus on raising the baseline productivity of retail, hospitality, logistics, personal services, and similar sectors. A National Services Productivity Code creates the conditions for diffusion of best practice, standardisation of essential digital tools, and gradual upgrading of operational models. This approach mirrors successful transformations in Singapore and parts of Northern Europe, where structured sectoral standards helped shift entire industries toward higher productivity.

3. A frictionless state for SMEs

The evidence also shows that administrative burdens weigh disproportionately on micro and small firms. In an economy where thousands of enterprises have limited managerial resources, even minor administrative obligations can consume time and reduce capacity to engage in productivity-enhancing activities. Streamlining compliance through pre-filled forms, simplified reporting, and unified annual returns directly supports productivity by freeing managerial bandwidth. This intervention is particularly important because it is scale-neutral and benefits all firms, especially those with the least time and capability to navigate complexity.

This first layer establishes the enabling environment in which productivity can be strengthened. Without addressing structural frictions, information gaps and outdated service-sector norms, interventions at the firm level will have limited effect.

Layer 2: Firm Capabilities, Management and Technology Adoption

The second layer targets the internal drivers of productivity within SMEs. The evidence across international reports highlights that management capability and technology adoption are the two most powerful levers of firm productivity, especially in services.

Three dimensions are central to this layer:

1. Diagnostics and assessment as gateways to support

High-performing countries increasingly require SMEs to complete simple, structured diagnostic tools before accessing public support. This improves targeting and ensures that interventions respond to real productivity constraints. For Malta, a standardised diagnostic provides clarity to firms, consistency to policymakers, and essential data to the national observatory.

2. Management and leadership development

Micro and small firms often lack formal management training, even in basic areas such as pricing, cost control, scheduling, operations, digital strategy, and workforce development. A dedicated management programme tailored to Malta' s business structure can lift organisational capability at scale, supporting both firm survival and growth.

3. Tangible technology upgrading

The third dimension focuses on the practical digital tools that deliver measurable productivity improvements - POS systems, booking tools, inventory management, workflow platforms and basic automation. The evidence shows that small firms rarely adopt such tools without targeted, curated support. A productivity voucher tied to specific, proven technologies enables firms to modernise operations quickly and with minimal administrative burden.

This second layer clusters these interventions which will help close the operational and technological gap between Malta' s frontier firms and the long tail of SMEs.

Layer 3: Scale-Up, Reallocation and the Growth of the Missing Middle

The third layer addresses the dynamic aspects of firm behaviour: scaling, market entry, and exit, and resource reallocation.

This layer includes interventions designed to:

1. Support scale-up finance

Micro and small firms often lack access to the type of financing required to expand capacity, adopt automation, or enter export markets. A dedicated scaling finance window provides targeted support for firms scaling up. International experience shows that scaling interventions yield outsized productivity returns because larger firms are more likely to adopt advanced technologies, invest in people and enter higher-value markets.

2. Accelerate productivity in domestic services

Because domestic services employ such a large share of the workforce, targeted accelerators can deliver significant gains. These programmes, which combine coaching, process improvement and targeted technology adoption, have proven successful in the UK, Singapore and the Netherlands. Malta can apply similar approaches to hospitality, retail, personal services and administrative services.

3. Correct misallocation and reward high performers

Finally, the framework includes mechanisms to ensure that support prioritises firms that demonstrate high productivity or strong improvements over time.

Layer 4: Targeted Sectoral Missions

The final layer focuses on a small number of high-value, high-impact sectors critical to Malta' s long-term competitiveness. Chapter 5 highlights two key sectors where targeted missions can deliver transformational productivity gains:

1. Upgrading several service sectors

A number of services-based sectors have shown strong productivity gains and the potential to further improve on this. Building on synergies across sectors, Malta should focus on delivering significant value-added improvements.

2. Manufacturing modernisation

Manufacturing remains a relatively small but strategically important sector for Malta's economic diversification, innovation and the creation of high-quality employment. While larger manufacturers have achieved substantial productivity gains through investments in advanced production systems and automation, Government has increasingly supported manufacturers of all sizes in modernising their operations through targeted financial assistance for robotics, automation, digitalisation, artificial intelligence and other Industry 4.0 technologies. These initiatives, delivered through Malta Enterprise, EU-funded programmes and recent Budget measures, have enabled a growing number of enterprises to invest in innovative production processes and strengthen their international competitiveness. Nevertheless, the pace of technology adoption continues to vary across firms, with smaller manufacturers often facing greater financial, technical and organisational barriers to implementing advanced manufacturing solutions. Continued tailor-made support for the manufacturing sector therefore remains essential to accelerate productivity growth, enhance resilience and facilitate the wider diffusion of innovative and highly competitive work practices across the industry. Sector missions offer the most direct route to concentrated productivity gains and can help Malta strengthen competitiveness in sectors with high value-added potential.

6.5 A Coherent, Integrated Framework

Together, these four layers form a coherent productivity framework:

- **Layer 1** sets the structural foundation
- **Layer 2** upgrades firm capabilities
- **Layer 3** strengthens scaling and market dynamics
- **Layer 4** accelerates transformation in strategic sectors

This structure ensures that the recommendations are mutually reinforcing rather than fragmented, delivering both systemic and firm-level impact. It provides Malta with a clear, evidence-based architecture through which to implement the recommendations in Section 6.6.

6.6 Detailed Recommendations

Recommendation 1: Establish a Malta SME Productivity & Competitiveness Observatory (SPO)

A central conclusion emerging from the evidence is the need for a coherent, continuous and granular understanding of firm performance in Malta. The current policy landscape operates with fragmented datasets, periodic surveys and limited insight into real-time firm dynamics. The proposed SME Productivity & Competitiveness Observatory (SPO) would address this by integrating anonymised firm-level data from multiple sources - including tax, VAT, SBS, employment records, financial filings, grant participation and insolvency registers - into a unified analytical platform. This would allow policymakers to track productivity patterns by firm size, sector, region, and lifecycle stage, enabling more precise and effective interventions.

The SPO would also serve as the national hub for monitoring large-micro productivity gaps, firm transitions across size bands, reallocation dynamics, technology adoption rates and the covariance term that determines whether productive firms gain market share. It would generate quarterly sector dashboards, with particular focus on underperforming domestic services such as retail, hospitality, logistics, and administrative services. The Observatory would evaluate the impact of all SME support measures using counterfactual methods and publish an annual ' State of Malta' s SMEs' report, becoming a transparent anchor for policymaking.

By embedding robust data and evaluation capabilities, the SPO would transform the way productivity policy is designed and implemented. It ensures that the government, social partners, and the business community share a common evidence base, and it provides the institutional backbone needed to address structural challenges, reduce misallocation, and target support where it drives measurable productivity gains.

Recommendation 2: Introduce a National Services Productivity Code

Domestic services play a central role in Malta' s economy yet remain characterised by low and stagnant productivity. The evidence shows that hospitality, retail, personal services, administrative services, and parts of logistics consistently underperform relative to other sectors and relative to European benchmarks. The National Services Productivity Code would establish clear, sector-specific operational and digital standards designed to lift baseline productivity and modernise business practices across these industries.

The Code would be developed collaboratively with sector associations and productivity experts, ensuring that standards are realistic, practical and tailored to Malta' s business context. It would outline essential productivity-enabling practices for each sector, such as digital point-of-sale systems, online booking and ordering tools, basic inventory management, workflow digitalisation, standardised service processes, and simple energy-efficiency measures. Implementation would be phased over 3-5 years, with clear guidance, templates and advisory support to help micro and small firms comply.

International experience - particularly from Singapore' s Industry Transformation Maps and Nordic service-sector reforms - shows that structured, standards-based upgrading is one of the most effective ways to raise productivity in fragmented, micro-heavy service economies. The Code provides a clear, scalable mechanism for delivering sustained improvements in Malta' s largest employment sectors.

Recommendation 3: Implement a Zero-Friction State Programme for SMEs

Administrative complexity emerged as a significant productivity constraint for SMEs, especially micro firms with limited managerial bandwidth. The Zero-Friction State Programme aims to reduce the time and cognitive burden associated with compliance, allowing owner-managers to focus on productivity-enhancing activities such as customer service, digital adoption, workforce development and process improvement. The programme would introduce three transformative simplifications.

- First, a **Single Annual SME Return** would replace multiple submissions. This consolidated return would be digitally submitted and automatically shared across relevant government entities.
- Second, **pre-filled forms and auto-population** would utilise government-held data to populate most fields, drastically reducing manual entry and errors. This approach is widely used in Estonia and Denmark and has proven to cut administrative time significantly.
- Third, the programme would establish a target to **halve administrative time for SMEs within five years**, supported by continuous review of outdated regulations, redundant reporting and duplicative requirements.

For micro and small enterprises, administrative tasks often displace strategic or operational improvements. Reducing compliance friction therefore has direct productivity benefits: freeing owner-managers' time, improving accuracy of reporting, and reducing hesitation around scaling or formalisation. It also enhances transparency and reduces the risk of inadvertent non-compliance.

In addition, we recommend conducting a ' Regulatory Cost-Cliffs Audit' focused only on the 45-55 employee range. The objective would be to eliminate, smoothen or offer deferred compliance for regulatory burdens that suddenly kick-in at the 50-employee threshold, thereby removing a clear disincentive for scaling up. By making the state easier to interact with, the Zero-Friction Programme strengthens competitiveness, reduces overhead costs, and modernises Malta' s enterprise environment. Combined with the SME Observatory, it establishes the structural conditions required for a high-performing SME ecosystem.

Recommendation 4: Introduce a Standardised SME Productivity Diagnostic

The evidence highlights that productivity within Malta' s SME base is highly heterogeneous. Firms of similar size in the same sector can exhibit dramatically different levels of operational efficiency, technological adoption, and managerial capability. A standardised SME Productivity Diagnostic would create a consistent, practical tool that helps firms understand their own performance gaps while providing policymakers with valuable data to guide interventions.

The diagnostic should cover four core dimensions: management and organisational capability, digital and technology adoption, workforce skills and training, and operational processes. Results would generate a tailored action plan outlining priority improvement areas, recommended tools, and relevant support programmes. The diagnostic would also feed anonymised data into the Observatory, enriching the national understanding of capability gaps and sectoral dynamics.

Crucially, completion of the diagnostic would become a gateway to public support - including vouchers, financing, training or advisory programmes. This ensures that assistance is targeted at genuine productivity constraints and that firms engage proactively with their own development. International evidence shows that firms are more likely to implement changes when assessments are structured, personalised, and linked to tangible incentives.

For policymakers, the diagnostic provides a mechanism to segment firms according to readiness, capability, and potential impact. It helps identify which firms are candidates for scale-up support, which need foundational upgrading, and which may benefit from targeted sector programmes. It also builds the absorptive capacity required for technology adoption and organisational change. By creating clarity for firms and precision for policymakers, the diagnostic becomes an essential component of a modern productivity system.

Recommendation 5: Deliver a National Management and Leadership Development Programme

Chapter 5 underscores the crucial role of organisational capital and management capability in determining firm-level productivity. A National Management and Leadership Development Programme would directly address these capability gaps through practical, cohort-based training tailored to Malta' s business structure. The programme would focus on actionable skills rather than theory: scheduling and staffing optimisation, cost control, basic financial literacy, process mapping, customer experience management, digital tool integration, and front-line leadership. Courses would be offered by sector, ensuring that hospitality operators learn with peers facing similar challenges, retailers develop sector-specific competencies, and ICT micro firms strengthen project management and client processes.

A blended structure ensures that SMEs not only acquire knowledge but also translate it into practice. Participation could be incentivised by linking completion to eligibility for vouchers or scale-up finance. International evidence, including from The Productivity Institute (2025) and OECD studies, confirms that management training produces some of the highest returns on productivity, particularly in service-heavy economies. Enhanced managerial capability improves operational efficiency, reduces waste, raises staff engagement and strengthens digital adoption. To support this, we recommend a National Management Practices Survey which would provide the Malta-specific benchmark and thus inform the curriculum of the suggested development programme. By uplifting the skills of Malta' s owner-managers and supervisors, the programme supports the transition to a more competitive and resilient SME base.

Recommendation 6: Introduce a Sector-Targeted Productivity Upgrade Voucher

The Sector-Targeted Productivity Upgrade Voucher would accelerate the adoption of proven, high-impact digital tools that enhance operational efficiency and reduce costs.

Unlike broad technology grants, this voucher would focus on a curated list of technologies with demonstrated productivity effects in specific sectors. For hospitality, this may include digital booking and table management systems; for retail, POS integration, inventory management and e-commerce platforms; for logistics, routing optimisation and warehouse tools; for manufacturing, basic automation and production tracking systems. The voucher would be simple to access, with minimal administrative burden, and tied to recommendations generated by the SME Diagnostic. This ensures alignment between firm needs and supported tools. A co-funding model encourages commitment while maintaining accessibility for micro enterprises.

Targeting sectors with the steepest large-micro productivity gaps maximises impact. This includes ICT services, manufacturing supply chains, transport and storage, and key domestic services. By upgrading the long tail of firms, Malta can reduce fragmentation, improve reallocation and strengthen linkages between frontier and laggard firms.

The voucher programme mirrors successful schemes in Singapore, Ireland and the UK, where targeted digital interventions have delivered measurable gains in throughput, waste reduction, customer satisfaction, and profitability. For Malta, it provides a practical, scalable mechanism to accelerate technology diffusion and raise productivity in sectors fundamental to national competitiveness.

Recommendation 7: Implement an In-Work Skills for Productivity Programme

Skills shortages and low participation in adult learning are key constraints highlighted in the evidence. Workers in micro and small firms receive limited structured training, particularly in digital tools, operational processes, and customer-facing capabilities. The In-Work Skills for Productivity Programme would address this gap by funding short, targeted training linked to explicit productivity outcomes.

Training would be delivered directly within firms or through accredited providers and tailored to sector needs. In hospitality, this may include customer flow management, menu engineering, or digital ordering systems; in retail, stock management and data-driven merchandising; in logistics, scheduling and route optimisation; in administration, workflow digitalisation and client process management. Participation would focus on low-qualified workers in sectors with low productivity and high labour intensity.

Importantly, training would be tied to a simple productivity plan developed alongside the firm: reducing errors, increasing throughput, enhancing customer ratings or improving turnaround times. This ensures that training is not generic but focused on measurable outcomes. Firms would submit brief before-and-after evidence to monitor improvements.

International research demonstrates that in-work, task-focused training yields some of the largest productivity gains, especially when integrated with technology adoption. For Malta, this approach reduces skill bottlenecks, improves absorptive capacity, and strengthens organisational performance. It supports upward mobility for workers and helps firms move from low-value to higher-value business models.

By embedding training within everyday operations, the programme overcomes typical barriers to participation and ensures that skills development directly supports the productivity challenges identified in Chapter 5.

Recommendation 8: Establish a Scale-Up Malta Finance Window

Scaling requires targeted financing instruments that reflect the realities of micro and small enterprises transitioning to larger operations. The Scale-Up Malta Finance Window would provide tailored support for firms investing in expansion, automation, digitalisation or export readiness.

The Window would combine guarantees, patient capital and growth-oriented lending products designed to reduce collateral requirements and lengthen repayment horizons. Priority would be given to firms that demonstrate strong productivity performance or potential, based on SME Diagnostic results and sector benchmarks. This ensures that support flows to firms with the greatest likelihood of successful scaling.

Financing would target investments associated with productivity improvements: new equipment, process automation, digital systems, capacity expansion, entry into higher-value segments or integration into international supply chains. Complementary advisory support would help firms strengthen financial planning, operational modelling and governance - areas that often constrain scaling.

Recommendation 9: Launch a Services Sector Productivity Accelerator (SSPA)

Given the size and importance of domestic services, a dedicated Services Sector Productivity Accelerator (SSPA) would provide intensive, cohort-based support to firms in key service industries. This includes hospitality, retail, personal services, administrative services, and logistics.

The accelerator would run 9 to 12-month programmes combining diagnostic assessments, capability building, digital adoption support, process redesign, and continuous coaching. Each participating firm would commit to measurable productivity KPIs, such as improving throughput, reducing waste, increasing customer satisfaction, or enhancing revenue per employee. Advisors would work closely with firms to redesign workflows, introduce digital tools, strengthen pricing and cost management, and improve staff performance.

Target sectors would be selected based on evidence of low productivity, high employment, and significant potential for improvement. The approach mirrors successful programmes in Singapore and the UK, which have demonstrated that intensive, hands-on support can deliver sustained productivity gains, particularly in fragmented, micro-firm dominated service sectors.

Recommendation 10: Establish a High-Productivity Expansion Priority (HPEP)

Preliminary evidence shows a possible misalignment between firm productivity and firm growth in Malta. The High-Productivity Expansion Priority (HPEP) seeks to correct this by ensuring that public support, financing instruments, and regulatory facilitation prioritise high-performing firms or those demonstrating strong productivity improvement.

Under the HPEP, eligible firms that exhibit significant productivity gains would receive priority access to scale-up finance, export support, digital vouchers, and advisory programmes. This alignment ensures that scarce public resources are channelled toward firms most likely to contribute to national productivity.

The policy would also support reallocation by enabling productive firms to expand their footprint, invest more, hire skilled workers, and strengthen their position in the market. Over time, this dynamic strengthens competitive selection, encourages lagging firms to improve, and contributes to a healthier business ecosystem. The HPEP is grounded in international evidence that shows that productivity-led selection is critical to aggregate productivity growth. It also aligns with EU competitiveness principles, ensuring that support flows to firms with the strongest potential to anchor higher-value economic activity.

Recommendation 11: Launch of a Supply Chain Resilience and Upgrading Fund

Malta's economic structure leaves many firms highly exposed to external supply chain shocks. As a small, import-dependent island economy, disruptions in logistics, geopolitical tensions, energy markets and critical inputs translate quickly into higher costs, production delays and operational uncertainty for local enterprises. These vulnerabilities weaken firm performance, discourage investment and ultimately constrain productivity growth. Strengthening supply chain resilience is therefore not only a matter of national security but also a productivity imperative.

A dedicated Supply Chain Resilience and Upgrading Fund should be established to support firms in reducing exposure and strengthening operational robustness. The fund would co-finance targeted investments such as supplier diversification, nearshoring of critical inputs where feasible, strategic stockholding systems, digital supply chain management tools, traceability systems and logistics optimisation. Priority should be given to SMEs operating in strategically important sectors, including manufacturing, food systems, healthcare-related activities, construction supply chains and key service infrastructure.

Support would be conditional on firms presenting a credible resilience and productivity plan, ensuring that the fund drives structural improvement rather than short-term buffering. By encouraging firms to professionalise their supply chain management and invest in more robust operating models, the fund would enhance business continuity, reduce risk premiums, improve planning capability and ultimately support stronger productivity performance across the enterprise base.

Recommendation 12: Launch an ICT Micro-Firm Productivity Mission

This mission would focus on practical, capability-oriented interventions: code reviews, product development support, cybersecurity upgrades, project management tools, agile methodologies, and integration into larger digital supply chains. Large digital firms, platform operators, and gaming companies would be invited to participate as mentors and advisors, accelerating knowledge transfer and strengthening domestic linkages. A dedicated track within the Productivity Upgrade Voucher would support ICT-specific tools and services, including cloud credits, testing environments, development frameworks, and continuous integration systems. Firms participating in the mission would also gain access to regulatory sandboxes, enabling faster deployment of innovative digital solutions.

This mission strengthens Malta' s position as a digital hub, enhances domestic capability, and reduces dependence on imported ICT services. By raising the productivity of smaller firms, the mission also supports higher-quality employment and more resilient supply chains.

Recommendation 13: Launch a Manufacturing Modernisation Programme for SMEs

Manufacturing remains a strategic, though relatively small, component of Malta' s economy.

The Manufacturing Modernisation Programme would co-fund productivity-enhancing investments such as automation equipment, robotics, advanced production software, digital quality systems, and energy-efficient machinery. It would also support lean production training, plant layout redesign, and workforce upskilling to ensure that technological investment is matched by organisational readiness.

Participation would require firms to complete the SME Diagnostic and commit to measurable productivity targets. The programme would prioritise firms with strong potential to integrate into European supply chains, consistent with emerging EU competitiveness strategies. Advisory support would help firms assess investment options, implement technology and manage organisational change.

This mission aligns with Malta' s objective to diversify into higher-value activities and reduce vulnerabilities associated with an over-reliance on services. By supporting SMEs to adopt technologies already used by frontier firms, the programme strengthens domestic value chains, improves resilience, and enhances the

competitiveness of local producers. It also complements EU industrial priorities, positioning Malta to take advantage of emerging opportunities in advanced manufacturing, green technologies, and supply-chain reconfiguration.

6.7 Conclusion: A National Agenda for Productivity Renewal

The analysis presented in this report underscores that Malta stands at a critical juncture in its economic development. The country has benefitted from sustained growth, rising employment, and strong sectoral performance in recent years. Productivity is the fundamental driver of competitiveness, wage growth, fiscal sustainability, and national wellbeing. Strengthening productivity is therefore not simply an economic necessity but a strategic imperative for Malta' s future.

The recommendations outlined in this chapter provide a coherent, evidence-based roadmap for achieving this objective. They address the structural, organisational and sectoral factors that shape how firms grow, innovate and compete. The four-layer framework - spanning structural enablers, firm-level capabilities, scale-up dynamics and targeted sector missions -reflects the multifaceted nature of the challenge. No single intervention can deliver the transformation required; rather, progress depends on coordinated action across institutions, enterprises and sectors.

Central to this agenda is the recognition that Malta' s economy is dominated by micro and small firms, many of which operate in domestic service sectors. Upgrading these firms' capabilities, digital adoption and managerial sophistication is essential for raising aggregate productivity. Equally important is expanding the number of medium-sized enterprises capable of integrating into international value chains and driving higher-value economic activity. The recommendations focused on scaling, reallocation, and sectoral transformation respond directly to these needs.

The chapter' s proposals also align closely with the wider European competitiveness agenda, including the analyses presented in the Draghi and Letta reports. Europe' s future depends on revitalising productivity growth, deepening the Single Market, accelerating technology diffusion and enabling firms to scale. Malta faces these challenges in concentrated form, and by adopting a modern productivity policy architecture, it can position itself as a leader among small member states in implementing the EU' s renewed competitiveness strategy.

Implementing these recommendations will require long-term commitment, institutional coordination and continuous monitoring. The proposed SME Productivity & Competitiveness Observatory provides the data backbone needed to guide evidence-based policymaking, evaluate impact, and ensure accountability. The Zero-Friction State initiative, management development programmes, technology vouchers, scale-up financing, and sector missions complement this data backbone by delivering practical tools that help firms improve performance on the ground.

> **Malta has the potential to build a more dynamic, innovative and resilient economy - one capable of delivering higher productivity, better-quality jobs and sustainable growth. The evidence confirms both the urgency and the opportunity. By adopting a clear, multi-layered productivity strategy and aligning interventions with national and European priorities, Malta can secure its competitive position for the decades ahead and realise the full ambitions of Vision 2050.**



CHAPTER

7

Conclusion: Building Malta's Next Productivity Frontier

7.1 Malta's Productivity Story: What the Evidence Shows

This report brings together a comprehensive analysis on Malta's productivity landscape. Drawing from macroeconomic trends, firm-level evidence, sectoral patterns, international comparisons and institutional analysis, it reveals a clear portrait of how the Maltese economy has grown, how firms perform, and where the constraints to future prosperity lie. The story that emerges is not one of crisis, but of structural tension: strong economic expansion built on foundations that are increasingly demanding renewal.

Over the past fifteen years, Malta has achieved remarkable growth. Rising employment, sectoral diversification, and sustained investment helped transform the country into one of Europe's most dynamic small economies.

The microdata analysis in Chapter 5 provides further insight into how firms operate. It reveals widening productivity gaps between large firms and the long tail of micro and small enterprises. In sectors such as ICT, manufacturing and transport, large firms have achieved substantial gains, while many small firms have grown at a much slower pace.

Domestic services present a different but equally important challenge. Hospitality, retail, personal services, administrative services, and parts of logistics form the backbone of Malta's employment base. Their challenges are structural: fragmentation, high labour intensity, variable quality, low adoption of digital tools, limited training, and managerial informality. These sectors are essential to daily life, yet they are among the hardest to modernise. Because they employ so many people, their low productivity drags down aggregate performance.

Reallocation dynamics provide another critical insight. In well-functioning economies, more productive firms tend to expand, while less productive firms shrink or exit. This dynamic is central to long-term productivity growth.

Human capital constraints further compound these structural issues. Skills gaps are widespread, especially in digital, technical and supervisory roles. Participation in adult learning is low among workers in micro firms, reducing absorptive capacity and limiting technology adoption. Many firms depend heavily on foreign labour to meet skill needs. This reliance has benefits, yet it also highlights domestic capability gaps that constrain productivity growth. The report demonstrates that upgrading the skills base is not a social objective alone; it is an economic necessity.

Technology adoption tells a similar story. While large firms increasingly deploy advanced digital systems, the long tail of SMEs; especially retail, hospitality, personal care and logistics continue to operate manually. Digital point-of-sale systems, workflow automation, booking tools, inventory management systems and basic analytics are still not widespread. The correlation between technology adoption and productivity is clear. Without accelerating digital diffusion, Malta will struggle to lift productivity in its largest employment sectors.

Taken together, the evidence across the report reveals an economy that is strong, adaptive and resilient, yet constrained by structural weaknesses that now limit its long-term trajectory. The challenge is clear: Malta must transition from a model driven by expansion to a model driven by capability and productivity. The evidence base leaves no ambiguity about this path.

7.2 The Strategic Significance: Why Productivity Matters Now

The need to strengthen productivity is not simply an economic preference; it is a strategic imperative shaped by the forces that will define Malta's next decades. Productivity touches every dimension of national life: living standards, competitiveness, fiscal sustainability, environmental resilience, public service delivery, and social equity. It is the foundation on which Malta's long-term wellbeing depends.

The global environment reinforces this urgency. Europe is confronting its own competitiveness challenge, with slowing productivity growth, fragmented regulation, limited technology diffusion and barriers to scale. The Draghi and Letta reports argue for a new European economic architecture centred on productivity, integration, innovation and reallocation. Their messages resonate deeply with Malta's circumstances. Europe's challenges are magnified in small states; fragmentation affects them more acutely, and barriers to scale are more binding. Malta's productivity agenda therefore aligns directly with a broader European pivot toward competitiveness and long-term strategic capacity.

The domestic context makes this imperative even sharper. Malta's economic growth model of the past decade has been highly successful, but it relied on conditions that cannot continue indefinitely. The scale of labour inflows has economic, social, and spatial limits. Public infrastructure faces pressures that require substantial investment. The health and education systems are adapting to new demographic realities. Housing affordability, environmental pressures, and congestion have become salient issues. To sustain prosperity without excessive expansion, Malta must generate more value from every unit of labour, capital,, and time. Productivity is the only sustainable mechanism for doing so.

Fiscal sustainability also hinges on productivity. As demographic change accelerates, public finances will be increasingly shaped by age-related expenditure. Without stronger productivity, growth in public revenues may not be sufficient to match rising structural demands. Productivity growth expands the economic base, supports sustainable wage increases, strengthens contributions and reduces pressure on public debt. The long-term fiscal health of the country is inseparable from its productivity performance.

Competitiveness in Malta's strategic sectors also depends on productivity upgrading. In ICT, advanced digital services, professional services, logistics, and high-value manufacturing, global competition is intense. Countries that modernise, adopt technology and scale firms effectively will lead these sectors. Those that do not will fall behind. For Malta, which relies heavily on a small number of high-performing sectors, productivity is the key to protecting and expanding its competitive advantage.

The structure of Malta's economy further amplifies the importance of productivity. A micro-firm dominated economy has inherent strengths including flexibility, entrepreneurial dynamism, and personal service but it also carries limitations: informal management, underinvestment in technology, limited training, and difficulty scaling. In such an economy, national productivity outcomes depend on the collective performance of thousands of small firms. This means improving productivity cannot rely solely on frontier innovation, research, or industrial policy. It requires upgrading the everyday operational reality of businesses across the economy.

Vision 2050 explicitly recognises the link between productivity and national wellbeing. It identifies the need for a shift toward higher-value activities, greener processes, better skills, stronger institutions and more effective public administration. Productivity is the mechanism through which these aspirations materialise. Without higher productivity, the country cannot deliver the living standards, public services or competitiveness envisioned for 2050.

Finally, productivity matters because it underpins social cohesion and quality of life. Higher productivity supports better wages, more stable employment, and stronger career pathways. It ensures that growth is not simply about more people working longer hours, but about people working better jobs with better prospects. Productivity enables time for innovation, creativity, care, and wellbeing. It allows societies to reconcile prosperity with sustainability.

For all these reasons, the productivity agenda outlined in this report is not a technical exercise. It is a national mission. It is the foundation of Malta's next phase of development.

7.3 Charting the Path Forward: A National Mission for the Decades Ahead

The analysis presented throughout this report points to a clear conclusion: Malta requires a new productivity framework capable of addressing structural constraints, strengthening firm capabilities, supporting scaling and ensuring that the benefits of growth are broad-based and sustainable. The recommendations set out in Chapter 6 provide a coherent blueprint for this shift, yet the broader direction is as important as the specific measures.

Moving forward, Malta must embrace productivity as a national priority that transcends electoral cycles, sectoral interests, and short-term pressures. The country's scale offers a unique advantage: small states can adapt quickly, align institutions effectively, and implement reforms with clarity and precision. Malta has demonstrated this capacity before; in its financial sector reforms, its digitalisation agenda, its economic diversification efforts. A productivity transformation can be achieved with the same determination.

The next stage begins with a commitment to evidence. Productivity policy must be grounded in rigorous data, continuous monitoring, and transparent evaluation. The national SME Productivity Observatory proposed in this report would enable this shift, transforming the country's understanding of firm dynamics, technology adoption, and performance patterns. With sound evidence, policy becomes targeted, adaptive and accountable.

Capability-building must also become a central pillar of national strategy. Productivity growth depends on people, on managers who can lead teams, workers who can use technology, supervisors who can optimise workflows, and entrepreneurs who can identify opportunities. Strengthening these capabilities is not the responsibility of government alone. Businesses, unions, educational institutions, and training providers all have essential roles. A national movement toward continuous learning would strengthen firms, support workers, and enhance competitiveness.

Digital adoption must accelerate sharply. The tools required to modernise operations are affordable, accessible, and proven. The challenge is not technology itself, but the systems, skills, and incentives that enable its uptake. Targeted support for digital adoption, combined with simplified administration and sector-specific standards, can rapidly increase the use of productivity-enhancing tools.

Scaling must become a national ambition. This requires targeted financial instruments, mentoring, advisory support and a regulatory environment that does not inadvertently discourage expansion. If Malta succeeds in growing its middle layer, it can unlock a new wave of productivity gains.

Sector strategies must also be strengthened. ICT, manufacturing, logistics and professional services each hold distinct potential for productivity-led growth. Tailored missions that focus on upgrading capabilities within these sectors can deliver concentrated gains. Domestic services require particular attention, as their low productivity affects national performance. Targeted accelerators, training programmes, and technology adoption initiatives can make a measurable difference in these sectors.

Finally, Malta must update the way government interacts with firms. A frictionless administrative environment is central to productivity. Time spent on compliance is time not spent on innovation, training or operational improvement. A modern governance framework which is simple, digital and integrated is essential for enabling firms to focus on value creation.

Taken together, these elements form a long-term productivity strategy that aligns with European competitiveness priorities, supports Malta's Vision 2050, and responds directly to the structural realities identified throughout the report. Productivity is a continuous process, not a one-time initiative. It requires leadership, persistence, and a shared national commitment.

The future belongs to capability, innovation, and productivity. The country has the opportunity to build a more resilient, dynamic, and high-performing economy; one that can sustain prosperity, strengthen competitiveness and enhance quality of life for all. Realising this potential will require sustained commitment, institutional alignment and a willingness to rethink long-held assumptions.

Productivity is the pathway that leads to resilience, competitiveness, and wellbeing. Embracing this pathway is the most important economic decision Malta can make as it enters the next phase of its development.

Annex 1: Structural Business Statistics

Structural Business Statistics (SBS) provide one of the core empirical foundations for analysing the structure and performance of the business economy [15]. Unlike datasets designed to explore firm dynamics over time, SBS offers a cross-sectional view of economic activity, capturing how industries are organised, how firms perform, and how economic value is generated within a given year. Its primary strength lies in offering a comprehensive snapshot of the non-financial business economy, structured in a way that is consistent across sectors and aligned with European statistical standards.

At its core, SBS is built on data collected through a combination of surveys and administrative sources. These data can be compiled using different statistical units depending on the context of analysis. While SBS is typically structured around the concept of the ìenterpriseî as the main statistical unit, the data used for analytical purposes may, in some cases, be based on legal units. This distinction is important, as legal units reflect the formal registration of businesses, whereas enterprises may group multiple legal units under a single economic decision-making entity. As a result, differences in the choice of statistical unit can influence how firm structures and activity are represented in the data. In the case of this report, the data used was at the legal unit level.

The dataset covers a wide range of industries within the non-financial business economy, including industry, construction, trade, and a broad set of service activities. The scope has been further expanded in recent years in line with updated European statistical regulations, increasing coverage across additional service sectors. At the same time, clear boundaries are maintained. Financial services, public sector entities, and non-profit organisations are excluded, ensuring that the dataset focuses specifically on market-based production activity.

Methodologically, SBS relies on a stratified sampling approach, where a representative sample of enterprises is surveyed and then ìgrossed upî to reflect the total business population. Larger firms are typically fully enumerated, while smaller firms are sampled, reflecting both their prevalence and the practical constraints of data collection. The resulting statistics therefore combine observed data with statistical estimation, providing population-level insights while maintaining feasibility.

The dataset includes a rich set of variables that describe firm performance and structure, including turnover, value added, employment, wages, and investment. These indicators are defined in accordance with European statistical frameworks, ensuring consistency in measurement and interpretation. At the same time, SBS remains fundamentally descriptive. It provides information on levels and structures, rather than modelling behaviour or estimating underlying causal relationships.

One of the key strengths of SBS is its ability to segment the business population. Data can be broken down by sector, size class, and other classifications, allowing users to examine how economic activity is distributed across different types of firms. In particular, the use of SME classifications enables analysis of the relative contribution of micro, small, medium, and large enterprises to employment, output, and value creation. However, it is important to recognise that these classifications are based on a combination of employment

15. Based on https://nso.gov.mt/structural-business-statistics-2022/

and turnover thresholds, which are defined in nominal terms and remain fixed over time. This means that movements of firms between size classes may partly reflect price effects rather than real changes in economic scale, particularly in periods of inflation.

While SBS provides a comprehensive and structured view of the business economy, there are important limitations that must be considered when interpreting the data. A central issue relates to comparability over time. Changes in coverage, such as the inclusion or exclusion of specific industries, can have a material impact on observed trends. For example, differences in sectoral coverage between reference years can affect the apparent growth in the number of enterprises or the distribution of activity, making direct comparisons potentially misleading if these changes are not accounted for.

Another limitation arises from the nature of the data itself. SBS is based on reported information from enterprises and does not incorporate the broader conceptual adjustments applied in national accounts. As a result, it does not capture certain elements of economic activity, such as informal production or specific imputations used in macroeconomic statistics. This means that SBS should not be interpreted as a direct proxy for national accounts aggregates, but rather as a complementary dataset that reflects reported firm-level activity within defined statistical boundaries.

The use of enterprise-level definitions also introduces complexity. While aggregating multiple legal units into a single enterprise improves economic relevance, it can obscure underlying organisational structures and complicate comparisons with datasets based on legal entities. In addition, enterprise structures can change over time due to mergers, acquisitions, or restructuring, which may affect the continuity of observations.

There are also limitations related to firm dynamics. SBS is not designed to track firms longitudinally, and indicators such as start-ups or firm entry must be interpreted with caution. New enterprises identified in the data may reflect genuine new economic activity, but they may also result from restructuring, reclassification, or the splitting and merging of existing entities. As a result, measures of firm creation and growth may not always align with underlying economic realities.

Finally, as with many firm-level datasets, classification effects can influence results. Firms may move between sectors or size classes from one year to another due to changes in activity, turnover, or employment. While this reflects real economic dynamics, it can also introduce mechanical effects in the data, particularly when analysing changes over time or decomposing trends across firm groups.

Overall, SBS provides a robust and structured framework for analysing the composition and performance of the business economy. Its strength lies in offering a detailed and standardised snapshot of firms across sectors and size classes. At the same time, its interpretation requires an understanding of its methodological boundaries, coverage definitions, and the statistical processes underlying the data..

Annex 2: The CompNet Dataset

The CompNet dataset, developed by the Competitiveness Research Network, represents a significant step forward in understanding productivity at the level where it is actually created: the firm. Unlike traditional macroeconomic statistics, which rely on sectoral or economy-wide averages, CompNet is built on firm-level data that is harmonised across countries to enable consistent and comparable analysis. Its core strength lies in moving beyond averages to uncover how productivity is distributed across firms, how it evolves over time, and how different structural factors interact to shape performance.

At its foundation, the dataset is constructed from administrative and financial data provided by national statistical authorities across participating countries. These underlying data sources are transformed through a common methodological framework, ensuring that the resulting indicators are comparable despite differences in national reporting systems. The process involves careful harmonisation of variables, treatment of outliers, and the application of weighting procedures to ensure that the aggregated statistics reflect the broader population of firms rather than the specific sample observed.

A defining feature of CompNet is its emphasis on distributions rather than averages. Instead of focusing on a single measure of productivity, the dataset provides information on the full distribution of firm performance, including percentiles and dispersion measures. This allows analysts to distinguish between different segments of the firm population and to examine how these segments evolve over time. This approach reflects a broader shift in productivity analysis, where heterogeneity across firms is seen as a central feature of modern economies rather than a statistical anomaly.

To support this, CompNet includes a wide range of indicators capturing multiple dimensions of firm activity. These span productivity measures, labour inputs, wages, capital intensity, trade exposure, and financial conditions. By integrating these different dimensions, the dataset enables a more comprehensive understanding of firm performance, linking productivity outcomes to underlying drivers such as investment, skills, and market integration. The availability of these variables within a unified framework allows for consistent cross-country and cross-sector analysis.

The dataset is also structured across multiple levels of aggregation, providing flexibility in how the data can be analysed. Indicators are available at the country level, but also disaggregated by sector, firm size, age, and technological or knowledge intensity. This layered structure enables more granular analysis, allowing users to explore whether productivity patterns are driven by sectoral composition, firm characteristics, or structural differences in technology and capabilities.

In addition to descriptive statistics, CompNet provides a set of analytical tools embedded within the dataset itself. These include decomposition frameworks that break down aggregate productivity into its underlying components, such as within-firm performance and the allocation of economic activity across firms. Importantly, these decompositions are generated through centralised scripts developed and applied by the CompNet network. This ensures methodological consistency across countries and studies, allowing results to be interpreted within a common analytical framework.

The dataset also includes joint distributions, which allow relationships between different firm characteristics to be explored in a structured way. Rather than analysing variables in isolation, joint distributions examine how one variable behaves conditional on another, providing insight into the interaction between factors such as productivity, size, and trade exposure. This supports a more integrated analysis of firm dynamics, although it also requires careful interpretation given the underlying data constraints.

A key design feature of CompNet is the balance between analytical richness and data confidentiality. Because the underlying data are derived from sensitive firm-level information, the dataset does not provide micro-level observations. Instead, it offers aggregated indicators that preserve the statistical properties of the firm population while ensuring that individual firms cannot be identified. These aggregated statistics are combined with harmonised weighting procedures to ensure representativeness of the broader firm population.

The scope of the dataset is clearly defined. It focuses on non-financial corporations with at least one employee, covering the production of goods and non-financial services. As a result, certain parts of the economy are not included, most notably financial services, public sector entities, and informal or household-based economic activity. This definition aligns with standard national accounting frameworks but sets clear boundaries on the coverage of the dataset. The list of sectors found in CompNet is shown in the Table below with the corresponding NACE sectors.

Table A: List of macro-sectors included in the 10th vintage

Macro-sector in CompNet	Description	NACE Rev 2 Code
1	Manufacturing	C
2	Construction	F
3	Wholesale & retail trade; repair of motor vehicles & motorcycles	G
4	Transportation & storage	H
5	Accommodation & food service activities	I
6	Information & communication	J
7	Real estate activities	L
8	Professional, scientific & technical services	M
9	Administrative & support service activities	N

There are also important limitations that should be considered when interpreting results derived from CompNet. While the dataset applies a high degree of harmonisation, it remains built on underlying national data sources that differ in coverage, reporting thresholds, and statistical practices. These differences can affect both the completeness and comparability of certain indicators, particularly for smaller firms. In some countries, detailed financial reporting is only required above specific size thresholds, which can lead to underrepresentation or less precise measurement of micro and small enterprises. To address this, CompNet provides alternative samples, including those restricted to larger firms, improving comparability but introducing a trade-off with representativeness.

A related limitation stems from the use of aggregated rather than firm-level microdata. While necessary to ensure confidentiality, this limits the ability to track individual firm trajectories, including entry, exit, and firm-level transitions over time. Analysis is therefore conducted at the level of distributions and grouped statistics, which capture broad patterns but may not fully reflect underlying micro-dynamics.

The structure of certain analytical tools also introduces constraints. Joint distributions, for example, rely on subsets of firms with complete information across multiple variables. As a result, different components of the dataset may be based on slightly different underlying samples, meaning that results are not always directly comparable across analytical modules. This requires careful interpretation when combining insights from different parts of the dataset.

Methodological choices embedded within the dataset further shape interpretation. Key indicators, including measures of productivity, are derived using standardised estimation techniques and assumptions applied consistently through centralised scripts. While this ensures comparability, it also means that results reflect specific methodological frameworks rather than purely raw observations. Similarly, decomposition analyses are based on predefined approaches that attribute productivity changes to different components, and alternative methodologies could yield different perspectives.

Finally, some advanced indicators, particularly those related to total factor productivity and marginal productivity, are only available at higher levels of aggregation, such as by industry. This limits the ability to fully connect these measures with other firm characteristics and requires analysis to be conducted within a more aggregated framework for certain dimensions.

Overall, the CompNet dataset provides a robust and harmonised framework for analysing firm-level productivity across countries and sectors. By combining detailed firm-level information with consistent methodologies and a strong focus on distributions, it enables a deeper understanding of the structure and dynamics of productivity, while maintaining the safeguards necessary for handling sensitive data.

REFERENCES

Aiginger, K. & Rodrik, D. (2020). Rebirth of Industrial Policy and an Agenda for the Twenty-First Century. Journal of Industry, Competition and Trade.

Aldrich, H. and Auster, E.R. (1986). Even Dwarfs Started Small: Liabilities of Age and Size and Their Strategic Implications. Cummings, L.L. and Staw, B.M., Eds., Research in Organizational Behaviour, CT JAI Press, Greenwich, 165-198.

Altomonte, C., & Aquilante, T., & Bekes, G., & Ottaviano, G. (2013). Internationalization and innovation of firms: Evidence and policy. Economic Policy. 28. 10.1111/1468-0327.12020.

Amin, M., Joovski, F., Islam, A.m. (2023). The Resilience of SMEs and Large Firms in the COVID-10 Pandemic: A Decomposition Analysis. Policy Research Working Paper, 10562, World Bank.

Andrews, D., Criscuolo C., and Gal P. N. (2016). The Best versus the Rest: The Global Productivity Slowdown, Divergence across Firms and the Role of Public Policy. OECD Productivity Working Papers, 2016-05, OECD Publishing, Paris.

Andrews, D., Criscuolo, C. & Gal, P. (2015). Frontier Firms, Technology Diffusion and Public Policy: Micro Evidence from OECD Countries. OECD Productivity Working Papers, 2015-02, OECD Publishing, Paris.

Autor, D. H., Dorn, D. & Hanson, G. H. (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States. American Economic Review 103 (6): 2121-68.

Baldwin, R. & Robert-Nicoud, F. (2014). Trade-in-goods and trade-in-tasks: An integrating framework. Journal of International Economics, Elsevier, vol. 92(1), pages 51-62.

Bartelsman, E. J., & Doms, M. (2000). Understanding productivity: Lessons from longitudinal microdata. Journal of Economic Literature, 38(3), 569-594.

Bartelsman, E.J. (2019).From New Technology to Productivity. European Economy - Discussion Papers 113. Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

Beck, T., & Demirgüç-Kunt, A. (2006). Small and Medium-Size Enterprises: Access to Finance as a Growth Constraint. Journal of Banking & Finance, 30(11), 2931-2943.

Bloom, N., & Van Reenen, J. (2007). Measuring and Explaining Management Practices Across Firms and Coutries. Quarterly Journal of Economics, 122(4): 1341-1408.

Bloom, N., Sadun, R. & Van Reenen, J. (2012). Americans do I.T. Better: American Multinationals and the Productivity Miracle. American Economic Review, 102(1): 167-201.

Bloom, N., Van Reenen, J., & Sadun, S. (2016). Management as a Technology? Working Paper No.22327, National Bureau of Economic Research.

Briguglio, L., Cordina, G., Farrugia, N., & Vella, S. (2009). Economic vulnerability and resilience: Concepts and measurements. Oxford Development Studies, 37(3), 229-247.

CEDEFOP. (2024, November 19). Malta: a new digital education strategy adopted. National news on VET.

Central Bank of Malta. (2026). Outlook for the Maltese Economy 2026:Q1. Central Bank of Malta.

Central Bank of Malta. (2026). Quarterly Review 2026:Q1. Central Bank of Malta.

Chandler, A. D. (1990). Scale and Scope: The Dynamics of Industrial Capitalism. Cambridge, MA: Harvard Univ. Press.

Coad, A., Daunfeldt, S., Werner Hölzl, W., Johansson, D., Nightingale, P. (2014). High-growth firms: introduction to the special section, Industrial and Corporate Change, Volume 23, Issue 1, February 2014, Pages 91-112.

CompNet. (2023). Competitiveness Research Network 10th Vintage Dataset. European Central Bank and National Central Banks.

Corrado, C., Haskel, J., Jona-Lasinio, C. and Iammi, M. (2018). Intangible investment in the EU and US before and since the Great Recession and its contribution to productivity growth. Journal of Infrastructure, Policy and Development, 2(1), 11-36.

Coyle, D. (2023). Why isnít digitalisation improving productivity growth? Productivity Insights Paper No. 022, The Productivity Institute.

Coyle, D., McHale, Bournakis, I & Mei, J. (2023). Recent Trends in Firm-Level Total Factor Productivity in the United Kingdom: New Measures, New Puzzles. Working Paper No. 036, The Productivity Institute.

Criscuolo, C. & Timmis, J. (2017). The Relationship Between Global Value Chains and Productivity. International Productivity Monitor, Centre for the Study of Living Standards, vol. 32, pages 61-83, Spring.

Criscuolo, C. et al. (2020), “Workforce composition, productivity and pay: the role of firms in wage inequality”. OECD Economics Department Working Papers, No. 1603, OECD Publishing, Paris.

D. Grimshaw, D, OíMahony, M. & Westwood, A. (2023). Skills for productivity growth. Productivity Insights Paper No. 023, The Productivity Institute.

Dickinson, P., Erickson, E & Warhurst, C. (2024). Maximising productivity through managing new technology. Productivity Insights Paper No. 035, The Productivity Institute.

Driffield, N., Du, J., Godsell, J., Hart, M., Lavoratori, K., Roper, S., Surdu, I., Zhang, W. (2021). Understanding productivity: Organisational Capital perspectives. Working Paper No. 013, The Productivity Institute.

Duranton, G., & Puga, D. (2004). Chapter 48. Micro-Foundations of Urban Agglomeration Economies. In V. Henderson, & J. F. Thisse (Eds.), Handbook of Regional and Urban Economics: Cities and Geography (Vol. 4, pp. 2063-2117).

European Commission. (2020). An SME Strategy for a Sustainable and Digital Europe (COM 2020 103 final).

European Commission. (2021). Study on the effectiveness of public innovation support for SMEs in Europe. Publications Office of the European Union.

European Commission. (2022). Annual Single Market Report 2022.

European Commission. (2023). European Innovation Scoreboard 2023. Brussels: Directorate-General for Research and Innovation.

European Commission. (2025a). 2025 Country Report - Malta. Report No. SWD(2025) 218 final. Publications Office of the European Union.

European Commission. (2025b). Autumn 2025 Economic Forecast- Malta. Directorate-General for Economic and Financial Affairs.

European Commission. (2025c). Annual Report on European SMEs 2024/2025. Publications Office of the European Union.

European Commission: Directorate-General for Research and Innovation. (2020). Science, research and innovation performance of the EU, 2020 - A fair, green and digital Europe. Publications Office, Brussels.

European Investment Bank. (2025a). Investment Report 2024/2025. Luxembourg.

Evans, David S. (2016). Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms. University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No. 753.

Feng, Y., Henley, A., & Kochanova, A. (2025). The role of management practices in productivity: Does family ownership matter? Working Paper No. 051, The Productivity Institute.

Fitch Ratings. (2025). Malta: Economy shows strong growth amid fiscal improvement. Fitch Ratings.

Fleming, M. (2021). Productivity Growth and Capital Deepening in the Fourth Industrial Revolution. Working Paper No. 010, The Productivity Institute.

Fleming, M. (2023). Enterprise Information and Communications Technology - Software Pricing and Developer Productivity. Working Paper No. 037, The Productivity Institute.

Foster, L., Haltiwanger, J., & Krizan, C.J. (2001). Aggregate productivity growth: Lessons from microeconomic evidence. In New Developments in Productivity Analysis (pp. 303-372). University of Chicago Press.

Grimshaw, M., O'Mahony, A. & Westwood. (2023). Skills for productivity growth. Productivity Insights Paper No. 023, The Productivity Institute.

Grossman, G. M., & Rossi-Hansberg, E. (2008). Trading tasks: A simple theory of offshoring. American Economic Review, 98(5), 1978-1997.

Henley, A. (2022). Is there a Link between Small Business Leadership and Productivity? SOTA Review No 55: September 2022.

Hsieh, C. T., & Klenow, P. J. (2009). Misallocation and manufacturing TFP in China and India. Quarterly Journal of Economics, 124(4), 1403-1448.

Imbs, J. & Wacziarg, R. (2003). Stages of Diversification. American Economic Review, American Economic Association, vol. 93(1), pages 63-86.

Jones, R. A. L. (2023). Productivity, Innovation and R&D. Productivity Insights Paper No. 021, The Productivity Institute.

Jordan, D., Pramanick, S., & Turner, J.D. (2023). Do Managers Matter? Management Practices in post-COVID Northern Ireland. Working Paper No. 042, The Productivity Institute.

Jörden, N., Adaramoye, W. & Kuenning, G. (2024). Navigating the Productivity Paradox: Strategic Insights from Chief Information Officers. Productivity Insights Paper No. 037, The Productivity Institute.

Journal of International Economics, Elsevier, vol. 92(1), pages 51-62.

Ketels C. (2017). Structural Transformation: A competitiveness-based view, Working Paper Series No. 258, African Development Bank, Abidjan, Côte d'Ivoire.

Krugman, P. (1980). Scale Economies, Product Differentiation, and the Pattern of Trade. The American Economic Review, 70(5), 950-959.

Lavery, P., Tsoukalas, J. & Wilson, N. (2024). Private equity financing & firm productivity. Working Paper No. 041, The Productivity Institute.

Malta Digital Skills Platform. (2024). Malta - Digital Education Strategy 2024-2030. Digital Skills and Jobs Platform.

Markusen, James. (2002). Multinational Firms and the Theory of International Trade. 10.7551/mitpress/4797.001.0001.

Martin, J. & Riley, R. (2023). Productivity measurement: Reassessing the production function from micro to macro. Working Paper No. 33, The Productivity Institute.

Massini, S., Sanchez Barrioluengo, M., Yu, X., Kim, M., Chen, P., & Velu, C. (2025). Adoption of Advanced Digital Technologies and Platforms: Insights from a UK national survey. Economic and Social Research Council.

Mayer, T. & Ottaviano, M. (2007). The happy few: the internationalisation of European firms - new facts based on firm-level evidence. Working Papers hal-03459258, HAL.

Melitz, M. J. (2003). The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. Econometrica, 71(6), 1695-1725.

Ministry of Finance. (2024). Budget Speech 2025. Government of Malta.

National Statistics Office. (2023). Global Value Chain and International Sourcing Survey 2021-2023. National Statistics Office, Malta.

OECD. (2019). OECD SME and Entrepreneurship Outlook 2019. Paris: OECD Publishing.

OECD. (2021). Digital Economy Outlook 2020. Paris: OECD Publishing.

OECD. (2023). OECD Compendium of Productivity Indicators 2023. OECD Publishing, Paris.

OECD. (2025). Unleashing SME Potential to Scale Up: Helping SMEs Scale Up. OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris.

O'Mahony, Mary & Vecchi, Michela, (2009). R&D, knowledge spillovers and company productivity performance. Research Policy, Elsevier, vol. 38(1), pages 35-44, February.

Panzar, J. C., & Willig, R. D. (1981). Economies of Scope. The American Economic Review, 71(2), 268-272.

Panzar, J. C., & Willig, R. D. (1981). Economies of Scope. The American Economic Review, 71(2), 268-272.

Peneder, M. (2003). Industrial structure and aggregate growth,"Structural Change and Economic Dynamics. Elsevier, vol. 14(4), pages 427-448, December.

Procter, S., Harrison, D., Siddle, C. & Reynolds, C. (2025). The Productivity Engagement Approach (PEA): understanding and enhancing productivity in an organizational context. Productivity Insights Paper No. 058, The Productivity Institute.

Rodrik, D. (2014). The Past, Present, and Future of Economic Growth. Taylor & Francis Journals, vol. 57(3), pages 5-39.

Roper, S. (2023). The changing landscape of firm-level productivity – anatomy and policy implications. Productivity Insights Paper No. 020, The Productivity Institute.

Rubery, J., Bi, I., & Rafferty, A. (2023). Gender and Productivity. Working Paper No. 032, The Productivity Institute.

Schoar, A. (2010). The Divide between Subsistence and Transformational Entrepreneurship. Innovation Policy and the Economy, 10(1), 57-81.

Scur, D., Sadun, R., Van Reenen, J., Lemos, R., & Bloom, N. (2021). World Management Survey at 18: Lessons and the Way Forward. IZA Discussion Papers 14146, IZA Network @ LISER.

Sen. A. (2024). Structural Change at a Disaggregated Level: Sectoral Heterogeneity Matters. Working Paper No. 048, The Productivity Institute.

Shapiro, C., & Varian, H.R. (1999). Information Rules: A Strategic Guide to the Network Economy. Harvard Business School Press, Boston.

Syverson, C. (2004). Market structure and productivity: A concrete example. Journal of Political Economy, 112(6), 1181-1222.

Syverson, C. (2011). What determines productivity? Journal of Economic Literature, 49(2), 326-365.

Taglioni, D. & Winkler, D. (2016). Making Global Value Chains Work for Development. World Bank.

Teece, D. & Pisano, G. (1994). The Dynamic Capabilities of Firms: An Introduction. Industrial and Corporate Change. 3. 537-556.

The National Productivity Board. (2022). Annual Report.

The National Productivity Board. (2024). Malta's Twin Transition: A Roadmap for Sustainable Productivity and Resilience.

The Productivity Institute. (2025). Annual Review 2024/2025.

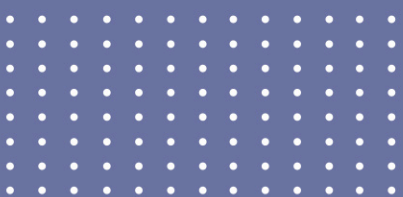
Van Ark, B. & O'Mahony, M. (2023). The UK's productivity challenge: people, firms, and places. Productivity Insights Paper No. 018, The Productivity Institute.

Van Ark, B., de Vries, K. & Pilat, D. (2023). Are Pro-Productivity Policies Fit for Purpose? Working Paper No. 038, The Productivity Institute.

World Bank. (2024). Enterprise Surveys: Malta 2024. Washington, DC: World Bank Group.

World Economic Forum. (2025). The Future of Jobs Report 2025.

WTO. (2016). World Trade Report 2016: Levelling the trading field for SMEs.




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