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## POLICY PAPER: GROWTH POLICY

# Hare or Tortoise? Productivity and Growth of Irish Domestic Firms

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*Abstract:* Over 20 years ago, Honohan and Walsh (2002) unravelled the key drivers behind the dramatic growth of the Irish economy after decades of underperformance. The role of multinationals was a critical element in the convergence with other EU Member States. Even at this stage, however, multinational activity was causing challenges for measurement of the overall economy. Since then, multinational activity has boomed in Ireland and so too have the difficulties their activities pose for understanding how the domestic side of the economy is performing. This paper presents a range of indicators of structure and performance of the domestic side of the Irish economy alongside comparisons with the multinational sector and also with comparator countries. It finds that although there has been steady growth amongst the domestically-dominated sectors, productivity gaps and potential crowding-out remain concerns.

## I INTRODUCTION

The Irish economy lagged well behind the norm relative to its European comparators throughout the 1970s and 1980s, before beginning a strong and sustained period of growth from the early 1990s. The underlying drivers of this

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catch-up came from a range of sources, amongst which were the growing importance of the multinational sector, access to the EU market, fiscal consolidation and returns to investment in education. Honohan and Walsh (2002) examined these and other factors in a detailed exploration of the turn-around in the Irish economy. Their analysis focused on convergence, with an argument that Ireland's underperformance in the previous decades was the issue to be explained rather than its eventual growth improvement.

At this stage, the operations of multinationals in Ireland were beginning to pose some challenges for measurement, and Honohan and Walsh (2002) proposed an adjustment to a small number of activities where the export platform nature of multinationals may have overstated the contribution to their value-added being made in Ireland (described as "entrepôt" activity, where goods are imported and re-exported with fairly minimal local processing). In the 20 years following this analysis, the distortionary impact of multinational activity on standard economic metrics for the Irish economy has intensified considerably. By a measure such as GDP, the Irish economy has not only achieved convergence with its European counterparts but has become one of the most successful economies in the region, if not the world.

How this relates to actual economic activity within Ireland has become unclear. Comparisons of the well-being of the population with those of other countries clearly needed different metrics. Modified measures such as adjusted Gross National Income (GNI*) and Modified Domestic Demand (MDD) have been developed to strip out the most distortionary impacts of multinational activity (Lane, 2017; FitzGerald 2023). Using these modified measures along with other domestically-focused indicators such as real consumption, Honohan (2021) examined how prosperous the Irish economy could really be considered. He suggested that Ireland's actual position in the European Union ranking was more likely to be between 8th and 12th, rather than the top of the class.

The distortions in the measurement of aggregate economic activity arise largely from activities of multinationals and the pricing of intangible assets, but considerable contributions to real activity indicators such as employment also come from the location of multinational firms within Ireland. Where does this leave the performance of domestic firms and sectors? This paper examines the available information on the structure, performance and challenges of the domestic side of the economy.

Section II documents the relative sizes of the domestic and foreign sectors in the Irish economy. Section III examines their productivity performance and Section IV decomposes the contributors to growth. Section V examines some of the key productivity challenges for the domestic sector, including labour costs, innovation, financing and risk. Section VI concludes.

## II SIZE OF DOMESTIC SECTOR

Although the Celtic Tiger growth phase of the Irish economy throughout the 1990s is generally ascribed to the influence of multinationals, the domestically-dominated sectors continued to account for the vast majority of gross value-added (GVA) throughout this period. Figure 1 shows the levels (solid lines) and growth rates (dashed lines) of sectors dominated by foreign-owned firms (gold) and sectors dominated by domestic firms (green). At the starting point of the data in 1995, 14 per cent of GVA was generated by foreign-dominated sectors. These foreign-dominated sectors grew consistently more rapidly through the 1990s and 2000s, gradually increasing their share of overall GVA. The majority share of GVA continued to come from the domestically-dominated sectors which accounted for three-quarters of GVA in 2014.

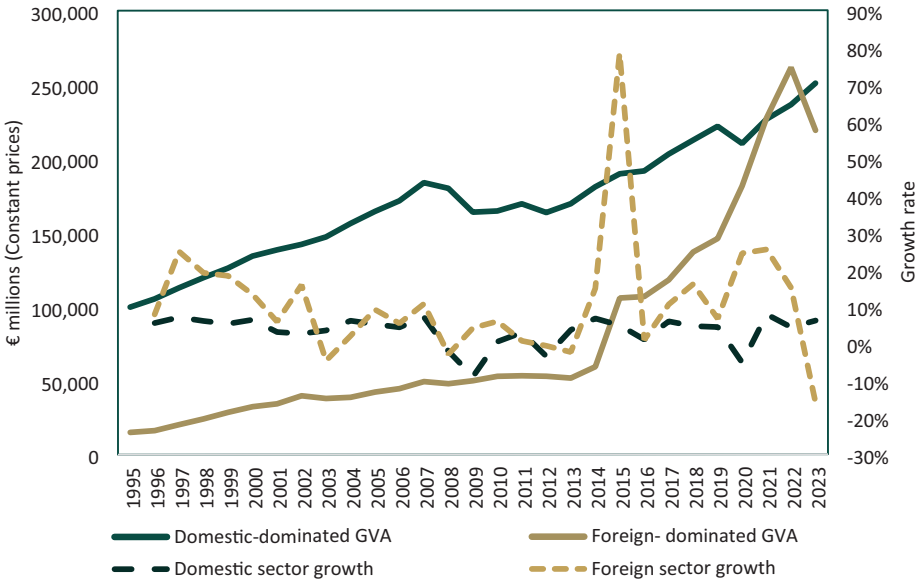
The foreign-dominated sectors grew at an average rate of 8 per cent per annum between 1995 and 2014, while the domestic-dominated sectors grew by 3 per cent per annum on average. This included the domestic-dominated sectors being more negatively impacted by the financial crisis, with a contraction of 9 per cent in 2009 and an average reduction in GVA of 2 per cent per year across the 2008 to 2013 period. The fall in GVA in this period for domestic-dominated sectors is strongly influenced by the collapse of the construction sector, where GVA fell by over 80 per cent between 2008 and 2010.[1] The multinational-dominated sectors experienced slower growth throughout this period relative to their earlier performance but continued to expand at an average rate of 1 per cent each year. The resilience of the multinational sector to the global downturn was highlighted by Barry and Bergin (2019). The large share of pharmaceutical and medical devices output meant that the multinational sector was also strikingly resilient to the COVID-19 pandemic, in contrast to the fall in output this resulted in for domestic sectors.

The substantial spike in multinational-dominated sector growth in 2015, and continued rapid expansion in each year thereafter up to 2022, shifted the balance in level terms to result in equal contributions of domestic and foreign-dominated sectors to overall GVA by 2021. As already mentioned in the Introduction, this sharp shift in activity has led to an increased focus on the difficulties in interpreting the underlying performance of the Irish economy which had been emerging since the 1990s and gave the impetus for the development of new measures of economic activity such as GNI* (Lane, 2017; FitzGerald, 2023; Honohan, 2021).

Average growth of the multinational-dominated sectors from 1995 to 2023 was 11 per cent per annum (8.5 per cent if the 2015 spike is excluded). Domestically-dominated sectors grew at a slower pace of 3.4 per cent per annum but also more steadily: the variance of the growth rate in domestically-dominated sectors was 0.2 per cent compared to 2.6 per cent in the foreign-dominated sectors (although this is less volatile at 0.9 per cent if the outlier value for 2015 is excluded).

[1] Source: CSO Construction Enterprise Statistics. https://data.cso.ie/table/BAA12.

**Figure 1: Total Gross Value-Added of Domestic and Foreign-Dominated Sectors, 1996-2023**




*Source:* CSO National Accounts.

**Table 1: Shares of Domestic and Foreign-Dominated Sectors in Key Variables, 2021**

| | *Domestic* | *Foreign* |
|---|---|---|
| Value-added | 50% | 50% |
| Employment | 87% | 13% |
| Goods exports | 13% | 87% |
| Services exports | 18% | 82% |
| Labour share of GVA | 50% | 9% |
| Output per worker | €78,086 | €399,811 |
| Average labour compensation | €47,472 | €61,809 |

*Sources:* CSO National Accounts, Productivity in Ireland and trade by enterprise characteristics data.

The differential contributions of the domestic and multinational sectors to other indicators of economic activity are shown in Table 1. Gross value-added in 2021 was evenly divided between the two groups, but private-sector employment is primarily within domestically-dominated sectors which accounted for 87 per cent of employment. This is reflected further in the large differential in measured labour productivity, with output per worker more than five times larger in the

multinational-dominated sectors than in the domestically-dominated sectors. Average wages are approximately €14,000 higher for workers in the multinational sectors (although this comparison does not control for qualifications or other worker characteristics). Exports of both goods and services are overwhelmingly accounted for by the multinational-dominated sectors. We will look at these differences in more detail in the following sections.

The data on value-added in the National Accounts used above to examine contributions to GVA groups sectors into those that are dominated either by domestically-owned or foreign-owned firms. However, data from enterprise statistics show that both types of ownership occur in most sectors. Looking within sectors can help inform us on the extent to which the differentials in performance are driven entirely by sector-specific characteristics. Table 2 shows the distribution of firms and employment across broad sectors by the nationality of ownership. In Table 1, we saw that foreign-dominated sectors accounted for 13 per cent of employment. However, as foreign owned firms also operate in domestically-dominated sectors, the overall share of employment in foreign firms is 23 per cent.

The two largest shares of employment are in Irish-owned firms in the Wholesale and retail trade sector and in the Accommodation and food sector. These account for 20.5 per cent and 12.9 per cent of private sector employment respectively. The most striking feature of the data in Table 2 is the average firm size for foreign compared to Irish-owned firms. Across all sectors, the average Irish-owned firm has five employees whereas the average foreign-owned firm has over 100. Although not strictly accurate, analysis of Irish compared to foreign-owned firms can to some extent be approximated by the distinctions between small and medium enterprises (SMEs) and large firms.

The pattern of larger size amongst multinational firms is one that occurs across countries, potentially reflecting multinational firms only taking decisions to set up at scale when they do decide to invest given the fixed costs of establishing a cross-border entity. Table 3 shows Eurostat data on the average employment of domestic and foreign-owned firms across a selection of comparable small open economies in Europe. Although the difference in the average sizes between the two ownership groups is amongst the highest in Ireland, a very similar pattern occurs in the majority.

## III PRODUCTIVITY PERFORMANCE

In addition to, (or perhaps more accurately, reflecting) differences in firm size by ownership within sectors, labour productivity varies considerably within sectors. Table 5 shows the ratio between labour productivity in domestic and foreign owned firms within sectors. The most recent data available are for 2021 and show that, in the market economy as a whole, labour productivity is just over five times higher

**Table 2: Distribution of Irish and Foreign Firms Across Market Sectors**

| *Market sector* | *Nationality* | *Num. firms* | *Employment* | *Emp. Share%* | *Average size* |
|---|---|---|---|---|---|
| Manufacturing | Irish | 16,241 | 124,265 | 9.1 | 8 |
| | Foreign | 460 | 95,497 | 7.0 | 208 |
| Wholesale and retail trade | Irish | 47,706 | 278,631 | 20.5 | 6 |
| | Foreign | 892 | 88,774 | 6.5 | 100 |
| Transportation and storage | Irish | 25,584 | 90,558 | 6.7 | 4 |
| | Foreign | 152 | 10,071 | 0.7 | 66 |
| Accommodation and food | Irish | 19,136 | 175,015 | 12.9 | 9 |
| | Foreign | 69 | 14,171 | 1.0 | 205 |
| Information and communication | Irish | 15,540 | 57,442 | 4.2 | 4 |
| | Foreign | 413 | 44,585 | 3.3 | 108 |
| Real estate activities | Irish | 15,061 | 24,038 | 1.8 | 2 |
| | Foreign | 117 | 4,050 | 0.3 | 35 |
| Professional, scientific, technical | Irish | 43,140 | 126,457 | 9.3 | 3 |
| | Foreign | 447 | 18,896 | 1.4 | 42 |
| Admin and support services | Irish | 18,198 | 100,061 | 7.3 | 5 |
| | Foreign | 518 | 40,120 | 2.9 | 77 |
| Other service activities | Irish | 20,163 | 66,667 | 4.9 | 3 |
| | Foreign | 36 | 2,441 | 0.2 | 68 |
| *Total manufacturing & market services* | | **223,873** | **1,361,739** | **100.0** | **6** |
| *Of which* | Irish | 220,769 | 1,043,134 | 76.6 | 5 |
| *Of which* | Foreign | 3,104 | 318,605 | 23.4 | 103 |

*Sources:* CSO Census of Industrial Production for manufacturing and Enterprise Statistics for Services and Distribution for services sectors. Note that this excludes agriculture and public sector services. Data relate to 2017.

**Table 3: Average Size of Domestic and Multinational Firms Across Countries**

| | *Domestic firms* | *Foreign firms* |
|---|---|---|
| Belgium | 3.9 | 471.0 |
| Denmark | 6.5 | 50.0 |
| Ireland | 4.3 | 97.4 |
| Luxembourg | 7.1 | 10.5 |
| Netherlands | 4.2 | 75.5 |
| Austria | 7.0 | 52.9 |
| Finland | 5.5 | 71.1 |
| Sweden | 3.7 | 61.6 |

*Source:* Eurostat Foreign Control of Enterprises 2017.

in foreign-owned firms compared to domestically-owned firms. The table also shows how these productivity ratios looked in 2014, before the expansion of on-shoring of intellectual property (IP) resulted in substantial growth of the value-added of multinationals allocated to the Irish economy. Although the productivity gap between domestic and foreign firms was still substantial at that point, with foreign-owned firms producing almost three times as much per worker as domestic firms, the gap was narrower than it became from 2015 onwards. This is particularly noticeable in the Chemicals, pharmaceuticals and electronics sector, where foreign-owned firms went from being 2.6 times as productive as domestically-owned firms to over 12 times as productive. Likewise, software and computer programming increased its labour productivity gap between foreign and domestic firms from 4.8 to 8.5.

In other sectors the gaps are somewhat narrower, but with higher productivity performance by foreign-owned firms in all but a small number of sectors such as Agriculture, Accommodation and food service and Transportation. In some sectors, although foreign-owned firms are more productive, the gap has narrowed between 2014 and 2021. For example, in the Food and beverages sector the gap in 2014 was 6.2 while in 2021 it was 4.7. Likewise, in Financial services, the productivity ratio narrowed from 1.9 to 1.2 in the same period. Considerable research has been undertaken to examine the existence of productivity spillovers from foreign to domestic firms, but these have generally found to be limited (see for example Siedschlag *et al*., 2017).

Given that the output and hence measured productivity of multinationals in Ireland represents a portion of their worldwide production, the comparison to domestically-owned firms is likely to be distorted. Smart and Taft (2024) have calculated comparisons of labour productivity between domestic Irish firms and domestically-owned firms in a number of small advanced open economies (SAOE) across Europe to provide a more like-for-like benchmark of productivity.[2] They use data on the shares of domestic ownership, employment and output from Eurostat's Globalisation in Business Statistics database for market sectors to generate value-added per hour worked on a comparable basis. Their results for eight broad sectors for Ireland and the average of the SAOE countries they included in their analysis are shown in Figure 2.

The comparison between Irish domestic firms and those in the other small European countries shows a systematically lower level of productivity in the Irish sectors. For the market economy as a whole, output per hour worked for Ireland's domestic sector was estimated as being €28 compared to €32.80 on average for the other countries. Across sectors, Ireland was considerably more productive than the average in the Professional and scientific services sector and slightly so in Construction. However, in the other six sectors, Ireland came in somewhat below the average.

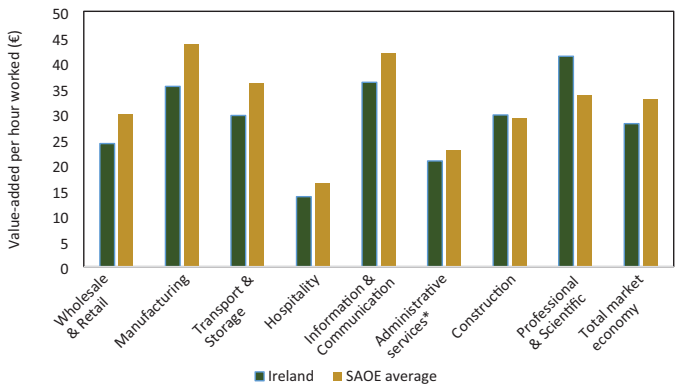
[2] The countries included Luxembourg, Denmark, Belgium, Austria, Netherlands, Finland and Sweden.

**Table 4: Labour Productivity Ratio Domestic and Foreign-Owned Firms, 2014 and 2021**

| | *2014* | *2021* |
|---|---|---|
| Agriculture, forestry and fishing | 0.39 | 0.41 |
| Food, beverages and tobacco | 6.26 | 4.70 |
| Textiles & clothes | 1.73 | 1.57 |
| Paper, printing and media reproduction | 1.36 | 0.79 |
| Chemicals, pharma, computer, electronic and optical products | 2.61 | 12.59 |
| Rubber, plastic and non-metallic mineral products | 1.59 | 1.85 |
| Metal products except machinery and equipment | 1.63 | 1.39 |
| Electrical, machinery and furniture products | 2.70 | 2.09 |
| Transport equipment | 1.06 | 2.48 |
| Water supply, sewerage, waste management | 1.19 | 1.73 |
| Construction | 1.01 | 1.52 |
| Wholesale and retail trade | 1.69 | 2.21 |
| Transportation & storage | 1.23 | 0.92 |
| Accommodation; food and beverage service | 0.96 | 0.94 |
| Software and computer programming | 4.84 | 8.50 |
| Telecommunications | 0.49 | 1.46 |
| Financial and insurance activities | 1.93 | 1.18 |
| Professional services, head office and R&D | 1.01 | 2.10 |
| Advertising and market research and other professional | 2.02 | 1.14 |
| Administrative and support service activities | 4.67 | 2.01 |
| *All NACE Economic Sectors* | **2.78** | **5.12** |

*Source:* CSO Productivity in Ireland.

**Figure 2: International Comparison of Domestic Labour Productivity (2017-2019)**




*Source:* Smart and Taft (2024) based on data from Eurostat Globalisation in Business Statistics 2017-2019.

*Notes:** Administrative Services is adjusted by removing "Rental and leasing activities". SAOE indicates average for Small Advanced Open Economies and includes Luxembourg, Denmark, Belgium, Austria, Netherlands, Finland and Sweden.

The Eurostat data also allow for a comparison of productivity between domestically and foreign-owned firms across this group of comparable countries. This is shown in Table 5 which shows that a multinational productivity advantage is common across all sectors and countries, related perhaps to their scale difference already mentioned above. The extent of the productivity gap between foreign and domestic is not dissimilar when Ireland is compared to the other countries in the table, with the exceptions of the Manufacturing sector and ICT. The 12-times more productive gap for multinationals in manufacturing in Ireland is the second-largest of all of the ratios in Table 5 (driven by the Chemicals, pharmaceuticals and electronics sub-sector as noted in Table 4).

## IV GROWTH DECOMPOSITION

A standard way to examine the components underlying economic growth is to decompose total output growth into the contributions of labour input, capital input and productivity changes. Figure 3 shows how these three broad factors have contributed to the growth of different sectors of the economy. Reflecting the findings above on the impact of the IP on-shoring from 2015 onwards, we divide the time periods to look at the average contributions between 2000 and 2014 (Panel A) and also between 2015 and 2021 (Panel B). Overall GVA growth in each sector is indicated by a dot with the contributions of the three factors in the stacked bars. The most striking difference in the two time periods in the sharp increase in the contribution of capital inputs in foreign-dominated manufacturing in the second time period.

Between 2000 and 2014, the average annual growth in domestic GVA was 2.2 per cent and that of foreign-dominated sectors was 4.7 per cent. For both, capital provided the bulk of the contribution to overall growth with labour input growth a substantial contributor only in professional services and non-market services. Multifactor productivity declined across most sectors, slowing by an average of –0.4 per cent in domestic-dominated sectors and by –0.9 per cent in foreign-dominated sectors. Agriculture, construction and domestic manufacturing were the only sectors where multifactor productivity contributed an appreciable amount to overall changes in value-added.

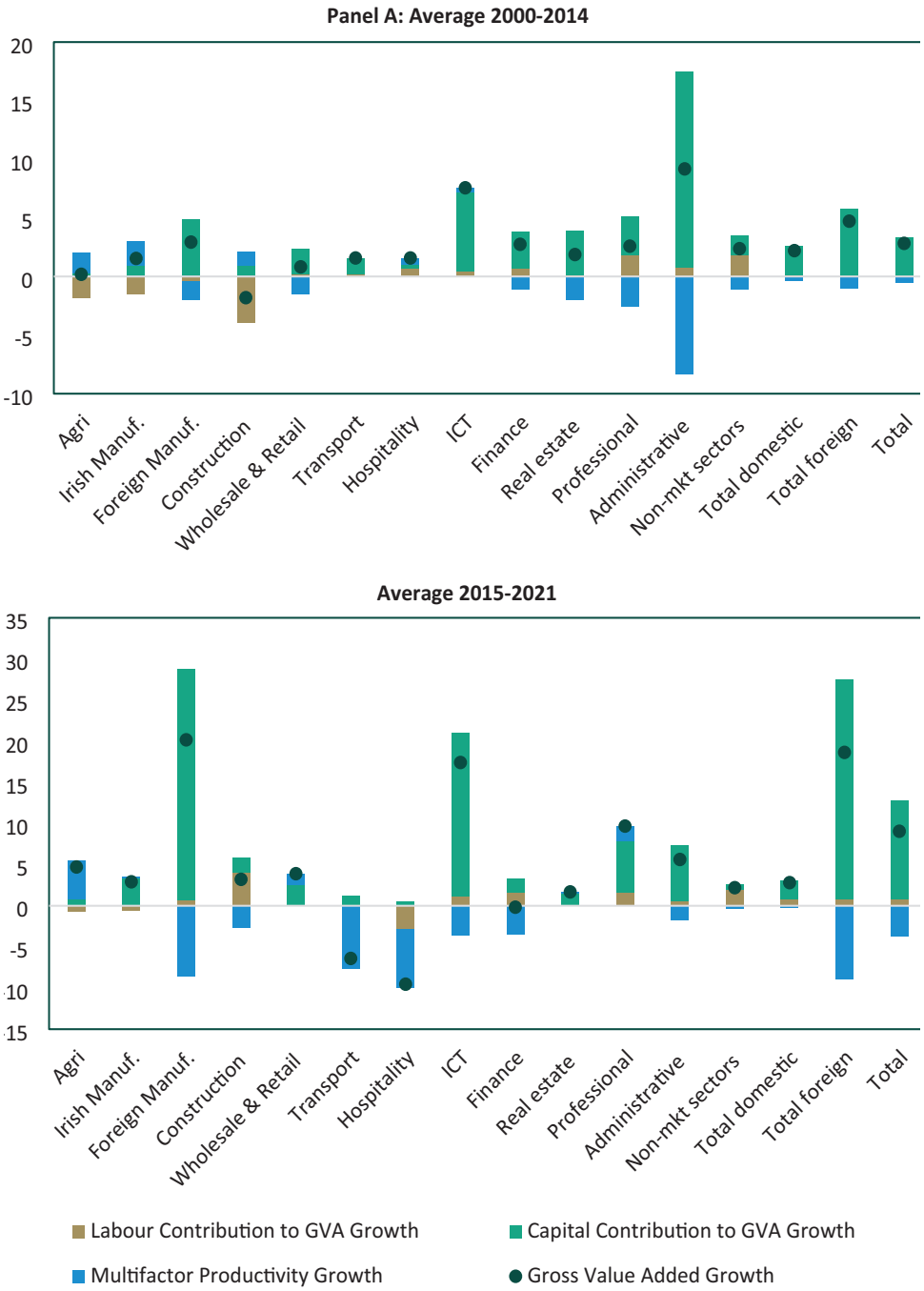
A similar pattern prevailed amongst the domestically-dominated sectors in the second time period shown in Panel B. Overall GVA growth was slightly higher at 2.8 per cent on average despite the large negative impact of COVID-19 on the output of the Hospitality sector. This growth was again substantially driven by capital input growth of 2.3 per cent with labour input playing a stronger role of 0.7 per cent compared to in the earlier period. Declines in multifactor productivity continued to place a drag on overall GVA growth although at a slightly reduced pace compared to the previous period. The growth rate and contributions of the

**Table 5: Ratio of Labour Productivity Between Domestic and Foreign-Owned Firms Across Countries**

| | *Ireland* | *Austria* | *Belgium* | *Denmark* | *Finland* | *Luxembourg* | *Netherlands* | *Sweden* | *SAOE average* |
|---|---|---|---|---|---|---|---|---|---|
| Accommodation and food service activities | 1.11 | 1.24 | 1.75 | 1.52 | 1.34 | 1.05 | 1.62 | 1.20 | 1.39 |
| Administrative and support service activities | 1.04 | 1.30 | 1.31 | 1.52 | 1.49 | – | 2.93 | 1.15 | 1.62 |
| Construction | 1.21 | 1.42 | 1.86 | 1.27 | 1.17 | 0.98 | 1.34 | 1.13 | 1.31 |
| Electricity, gas, steam and air conditioning | 1.39 | 1.85 | 0.55 | – | 1.32 | – | 0.90 | 1.31 | 1.19 |
| Information and communication | 5.76 | 1.95 | 2.88 | 1.29 | 1.97 | 0.97 | 2.01 | 1.36 | 1.78 |
| Manufacturing | 12.03 | 1.35 | 2.28 | 0.87 | 1.38 | 1.06 | 1.70 | 1.25 | 1.41 |
| Professional, scientific and technical activities | 0.98 | 1.71 | 2.36 | 1.00 | 1.40 | – | 1.65 | 1.29 | 1.57 |
| Real estate activities | 0.91 | 2.52 | 38.84 | 1.27 | 1.33 | 2.36 | 0.86 | 1.53 | 6.96 |
| Transportation and storage | 1.05 | 1.17 | 1.91 | 0.82 | 1.34 | 0.61 | 1.35 | 0.97 | 1.17 |
| Wholesale and retail trade | 2.07 | 1.51 | 1.83 | 1.41 | 1.50 | 1.37 | 2.17 | 1.38 | 1.60 |

*Source:* Eurostat Foreign Control of Enterprises 2017. SAOE indicates average for Small Advanced Open Economies.

**Figure 3: Decomposition of GVA Growth by Sector (%)**




*Source:* CSO Productivity in Ireland. Note that the scales differ for each graph.

different input factors in the foreign-dominated sectors changed dramatically however, with capital inputs the main driver.

The combination of lower measured labour productivity in domestic firms presented in the previous section with the zero-to-slightly negative contribution of multifactor productivity to growth of the domestic sector over a 20-year timespan suggests substantial productivity challenges. These will be looked at more deeply in the next section.

## V PRODUCTIVITY CHALLENGES FOR THE DOMESTIC SECTOR

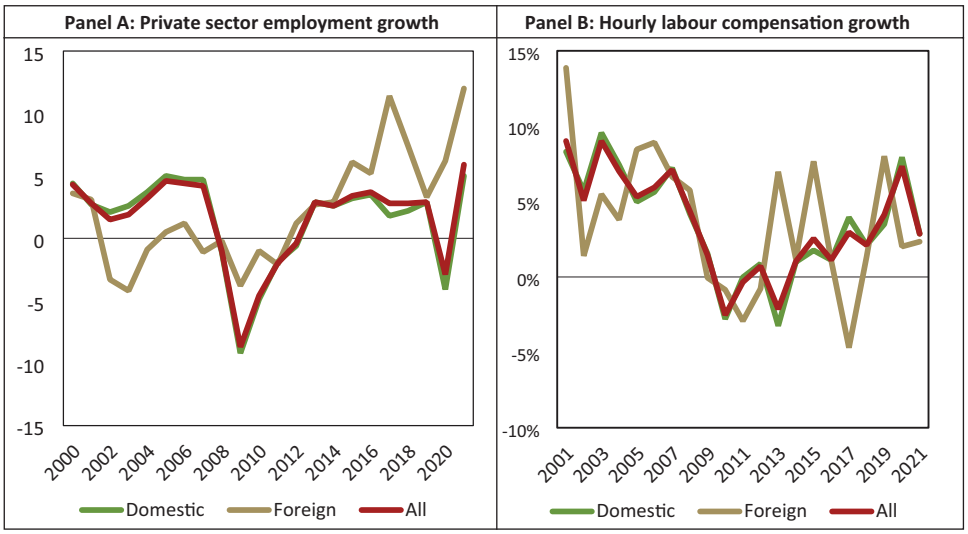
### 5.1 Labour and labour costs

As already noted, although GVA is now evenly split between the contributions of domestic and foreign-dominated sectors, the share of employment accounted for by the domestic sectors is much higher. This means that overall developments in employment are more closely linked to the growth of the domestically-dominated sectors as shown in Panel A of Figure 4. Total employment growth tracks that of the domestic sector very closely, even in the years following 2015 when employment growth within the foreign-dominated sectors grew at more than double the rate of the domestic-dominated sectors. The pattern of employment growth is quite different to that of GVA growth shown in Figure 1, reflecting the more labour-intensive nature of domestically-dominated sectors.

Given that it is more labour intensive, firms in the domestically-dominated sectors are more impacted by labour cost developments. Panel B of Figure 4 shows the growth rate of hourly labour compensation over time. Between 2001 and 2007, hourly labour compensations grew strongly across the whole economy, with average growth of 7 per cent in both the domestic- and foreign-dominated sectors (although with greater variance in the foreign-dominated sectors). The financial crisis years between 2008 and 2012 saw growth rates collapse in both sectors, turning negative from 2010. A period of divergence then begins in 2013, when hourly wages in the domestic sectors continue to contract but growth rates in the foreign-dominated sectors resurge by 7 per cent, likely linked to a return to growth in trade on a more global level. This has been examined at a granular level by Doris *et al*. (2015) who found wage reductions during the financial crisis period were concentrated in the more domestically-orientated sectors of construction, financial services and in the public sector. In related research, Walsh (2012) found wage cuts more prevalent in small firms than in large firms, which can be thought of as a very rough proxy for domestic and foreign ownership.

From 2013 onwards, growth in hourly wages in the foreign-dominated sectors is volatile, ranging from 8 per cent in 2015 to -5 per cent in 2017. Averaging across the volatility in the period from 2014 to 2021, hourly growth in the foreign-dominated sectors was 2.4 per cent. Average hourly compensation growth in the

**Figure 4: Employment and Compensation Growth of Domestic and Foreign-Dominated Sectors (%), 2000-2021**




*Source:* CSO Productivity in Ireland.

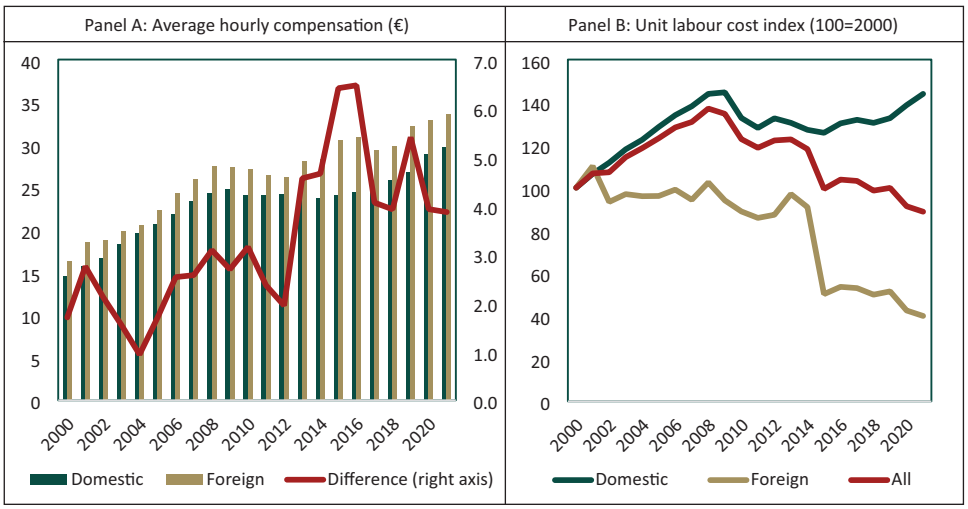
domestic sectors was slightly higher at 3 per cent over the same period with a pattern of steady increase in the growth rate.

Despite this slightly higher average growth rate of domestic sector hourly compensation, the lower base of hourly wages in the domestic sectors meant that the wage premium for working in foreign-dominated sectors was not just maintained but increased as shown in Panel A of Figure 5. The bars show the hourly labour compensation in each sector and the line is the euro value of the gap between them. In the 2000 to 2010 period, the gap averaged just over €2 per hour worked. After tripling to €6 per hour in 2015-2016, the steady growth in domestic sector compensation growth meant that by 2021 this gap was just under €4 per hour.

The higher wages in the foreign-dominated sectors did not keep pace with output growth in these sectors which, in the previous section, we saw was largely driven by capital accumulation. This resulted in a steep decline in the labour cost per unit of output in the foreign-dominated sectors shown in Panel B of Figure 5, indexed to 100 in 2000. Unit labour costs are a common metric of competitiveness, and by this indicator the Irish economy has become increasingly competitive since 2008. The caveats relating to the measurement of output in the multinational sector apply strongly in using this measure however. At the same time, it is informative to see that the apparent increased competitiveness is driven entirely by these multinational developments with those of the domestic sector gradually increasing over time.

These grew significantly between 2000 and 2008 before the financial crisis forced considerable cost adjustments on the domestic sector and a move away from the labour-intensive Construction sector (O'Farrell, 2015). Since 2015, unit labour costs have steadily increased in the domestic sector. Even if we ignore the level shift in foreign-dominated sectors in 2015, the trends of the two groups have been diverging steadily.

**Figure 5: Average Compensation and Unit Labour Costs of Domestic and Foreign-Dominated Sectors**




*Source:* CSO Productivity in Ireland.

To bring an international context to these patterns, Table 6 shows that multinational firms typically pay higher wages than domestic firms across countries. The gap between compensation per employee in foreign and domestic firms in Ireland is relatively similar to that of other countries.

The raw comparison between domestic and foreign pay in Table 6 does not control for any differences in workforce skills or sectoral composition that could explain much of the gap attributed to firm ownership. Sufficiently detailed data to disentangle the drivers of the pay gap are not available. As might be expected from the concentration of multinationals in sectors such as Pharmaceuticals and ICT, sector-level variation in the educational attainment of employees shown in Table 7 finds that a considerably higher share of workers in foreign-dominated sectors have a third-level degree or higher (65 per cent) compared to workers in domestically-dominated sectors (44 per cent).

**Table 6: Ratio of Total Labour Compensation in Foreign to Domestically-Owned Firms Across Countries**

| | |
|---|---|
| Belgium | 2.07 |
| Denmark | 1.36 |
| Ireland | 1.59 |
| Luxembourg | 1.06 |
| Netherlands | 1.86 |
| Austria | 1.51 |
| Finland | 1.41 |
| Sweden | 1.36 |

*Source:* Eurostat Foreign Control of Enterprises 2017. Note that this comparison is for market sector enterprises and is not directly comparable to the hourly data in Figure 5.

**Table 7: Distribution of Education Levels of Employees in Foreign and Domestically-Dominated Sectors**

| | | *Less than Leaving Cert* | *Leaving Cert or technical training* | *Degree or higher* | *Total* |
|---|---|---|---|---|---|
| | | *%* | *%* | *%* | *%* |
| 2011 | Domestic | 20 | 45 | 35 | 100 |
| | MNE | 10 | 38 | 52 | 100 |
| | Total | 19 | 44 | 36 | 100 |
| 2016 | Domestic | 16 | 45 | 39 | 100 |
| | MNE | 7 | 34 | 59 | 100 |
| | Total | 16 | 44 | 41 | 100 |
| 2022 | Domestic | 14 | 42 | 44 | 100 |
| | MNE | 5 | 30 | 65 | 100 |
| | Total | 13 | 41 | 47 | 100 |

*Sources:* CSO Census of Population, 2011-2022.

With both domestic and foreign sectors operating in the same labour market, this suggests that pay pressures have built up in the domestic sector linked to labour market competition from the foreign-dominated sectors, either directly or through more indirect cost increases linked to these higher wage sectors (e.g. through pressure on housing costs). This erosion of competitiveness in one sector due to the strong positive performance from another is one of the hallmarks of "Dutch disease".[3]

[3] Dutch disease relates to the potential negative impact on other sectors of the economy of a boom in one sector. This can be due to resources shifting to the booming sector or because the extra demand generated by the booming sector pushes up costs.

Recent analysis by the IMF (2023) examined the extent to which Ireland has experienced Dutch disease negative spillovers to the domestic economy due to the rapid growth of the multinational sector. They identify two key transmission channels through which an FDI "resource boom" can occur. The first is by shifting resources from the booming sector while the other (generally non-tradable domestic sector) shrinks as wage costs increase. The second channel is through dynamic productivity losses after the initial resource boom which is driven by a spending effect. In this scenario, increased spending in the economy may support labour growth in the non-tradable sector but it is low-productivity and therefore pulls down aggregate growth.

The IMF analysis suggested that the continued employment growth of the domestic sectors was evidence against Dutch disease, which in the traditional sense would see de-industrialisation or shrinkage of the domestic sectors. That appears to somewhat assume a semi-fixed pool of labour to be divided between sectors which does not reflect the highly open labour market in Ireland. Growth in population from 3.9 million at the 2002 Census to 5.14 in the 2022 Census provides an underlying expansion of potential employment that could be allocated across all sectors without the reallocation constraint implicit in the standard Dutch disease model. The second spending channel of higher wages in the domestic sector is a potential indicator of Dutch disease in the IMF analysis although they find that the overall growth of wages in the Irish domestic sector is not out of line with euro area trends.

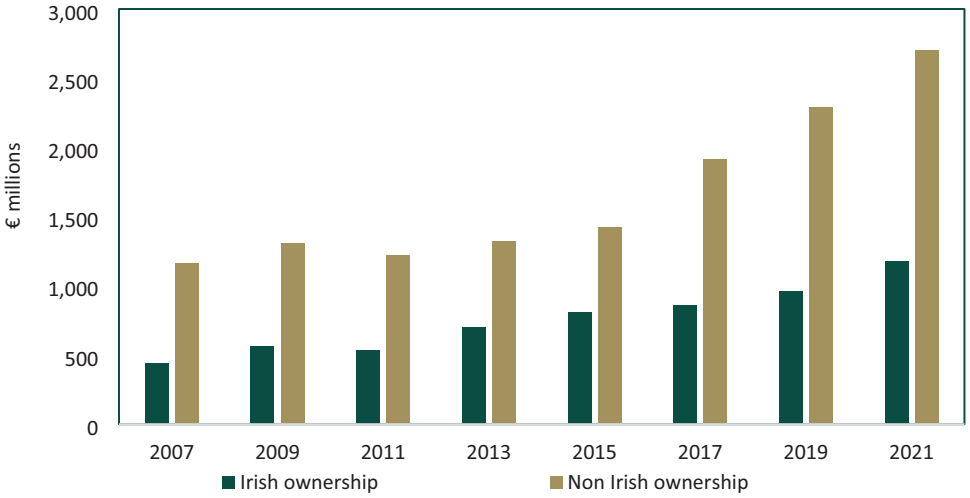
### 5.2 Technology and innovation

One area of particular policy interest when it comes to the factors that could potentially contribute to the lower productivity performance of the domestic sector is in improving the levels of investment in R&D and innovation activity. These are consistently lower in domestic firms than in foreign firms. Figure 6 shows that direct R&D spending in domestic firms is about one-third of the level of spending in foreign-owned firms, a ratio that has remained relatively static while absolute levels of spending have increased in both firm types.

Although data on R&D spending by ownership nationality are not available across countries, a comparison by firm size groups is informative. In terms spending per capita, Figure 7 shows that R&D spending in Ireland is round the average of a number of comparable countries for firms in the 10 to 49 employee and in the 250 to 499 employee size categories, and slightly higher than average in the medium 50 to 249 employee group. R&D expenditure per capita is below average in Ireland in the largest firm size group (over 500 employees) compared to these other countries.

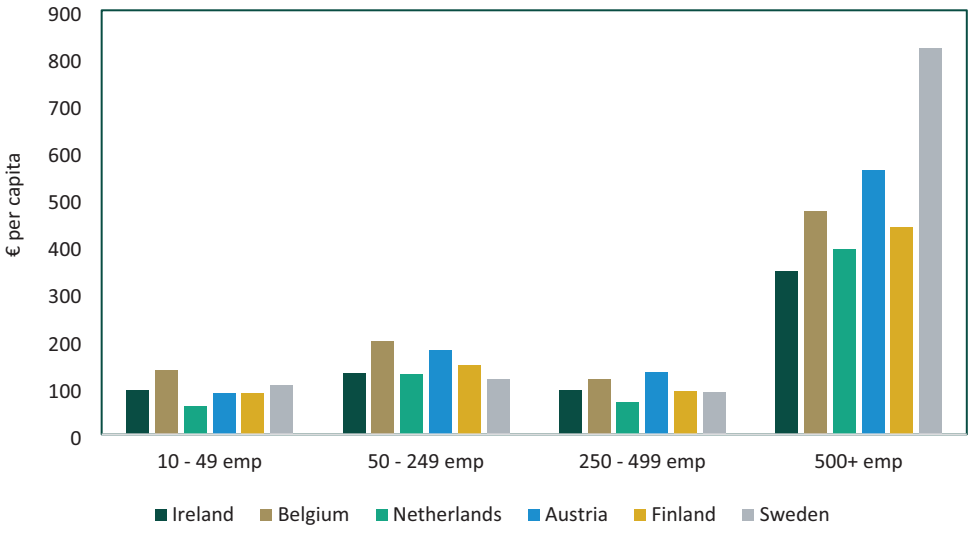
Along with tracking R&D activity, Eurostat and the CSO collect information on a broader definition of innovation within firms. Table 8 shows the share of firms with technological innovation activities by size group and by ownership in Ireland

**Figure 6: R&D Spending by Firm Ownership**




*Source:* CSO Business Expenditure on Research and Development (BERD).

**Figure 7: R&D Spending by Firm Size Across Countries**




*Source:* Eurostat Business Expenditure on Research and Development (BERD).

relative to the corresponding shares by size across other small open economies within Europe. This shows that just under half (48 per cent) of Irish-owned firms with more than ten employees engage in innovative activities. The share of firms undertaking innovation in foreign-owned firms is 63 per cent.

It is interesting to note the variation across size group, as the proportion undertaking innovation activities in the largest firms (those with 250 or more employees) is essentially identical for both nationality groups. The gap in innovation activity is concentrated amongst small and medium firms where the dispersion is much greater for Irish firms than for foreign-owned. Likewise, the most noticeable gap in innovation performance between Ireland and the other countries is in the smaller size group.

**Table 8: Enterprises with Technological Innovation Activities**

| | *Total* | *From 10 to 49 employees* | *From 50 to 249 employees* | *250 employees or more* |
|---|---|---|---|---|
| Ireland – total | 52.1 | 45.2 | 55.8 | 76.0 |
| Ireland – domestic | 48 | 44 | 51 | 76 |
| Ireland – foreign | 63 | 53 | 64 | 76 |
| Belgium | 71.3 | 67.7 | 82.1 | 90.6 |
| Denmark | 57.7 | 56.5 | 58.5 | 74.9 |
| Luxembourg | 45.9 | 42.6 | 50.9 | 73.0 |
| Netherlands | 55.8 | 51.9 | 67.7 | 72.9 |
| Austria | 60.0 | 54.6 | 75.6 | 89.1 |
| Finland | 68.6 | 65.3 | 76.7 | 86.7 |
| Sweden | 65.2 | 62.8 | 72.2 | 87.2 |

*Source*: CSO Innovation in Irish Enterprises 2022 for Ireland and Eurostat Community Innovation Survey for other countries.

The CSO Innovation in Irish Enterprises data also collect reasons that inhibit firms from undertaking innovation activities. Table 7 presents the share of firms that identify the listed reasons as having a "high degree of importance" in hampering innovation activity. The most regularly reported reason for both Irish and foreign firms is that there are currently different priorities within their business, with both nationalities responding in similar proportions.

Reasons relating to the cost and financing of innovation are considerably more evident for Irish firms, across a number of different indicators from direct cost, lack of external finance and difficulty in obtaining government supports for innovation. Irish owned firms are also almost twice as likely as foreign-owned firms to report that a lack of qualified personnel is a factor hampering innovation. Uncertainty about the outcome of innovation and demand for the potential new goods or services is another factor that is more than twice as likely to be reported as an impediment by Irish firms.

### 5.3 Financing and risk

The decomposition of output growth in the previous section showed that domestic sectors had much less capital-intensive growth relative to foreign-dominated

**Table 9: Factors Hampering Innovation Activities – High Degree of Importance**

| | *All firms* | *Irish* | *Foreign* |
|---|---|---|---|
| Lack of funds | 11.5 | 13.9 | 5.4 |
| Lack of external finance | 5.4 | 7 | 1.2 |
| Innovation costs too high | 11.0 | 13.4 | 4.9 |
| Lack of qualified personnel | 13.2 | 15.1 | 8.1 |
| Difficulty in finding cooperation partners | 2.8 | 3.2 | 1.8 |
| Uncertain demand for innovative goods or services | 7.4 | 8.8 | 3.8 |
| Difficulty obtaining Government grants or subsidies | 8.1 | 10.8 | 1.2 |
| Too much competition in your market | 6.2 | 7.4 | 2.9 |
| Lack of access to external knowledge | 3.4 | 3.9 | 1.8 |
| Different priorities within your enterprise | 18.8 | 19.4 | 17.1 |

*Source:* CSO Innovation in Irish Enterprises 2020.

sectors. Concern about under-investment in Irish-owned firms, particularly small and medium-sized firms which make up the bulk of the domestic firm population, has been of policy interest for some time.

In the aftermath of the financial crisis, the slow recovery in capital investment by SMEs was strongly linked to credit constraints as the domestic banking system underwent substantial adjustment. Boyd *et al.* (2025) document the wide fluctuations in outstanding bank credit to Irish firms over the past 20 years, growing more than four-fold between 2003 and 2007, before collapsing back to 2003 levels by 2016 and staying broadly flat thereafter. This steady level of lending could be considered surprising given the rate of growth of the economy and low ECB interest rates. This reduced level of borrowing could be one of the reasons for the relatively low investment activity of Irish firms relative to those in comparable countries shown in Table 9.

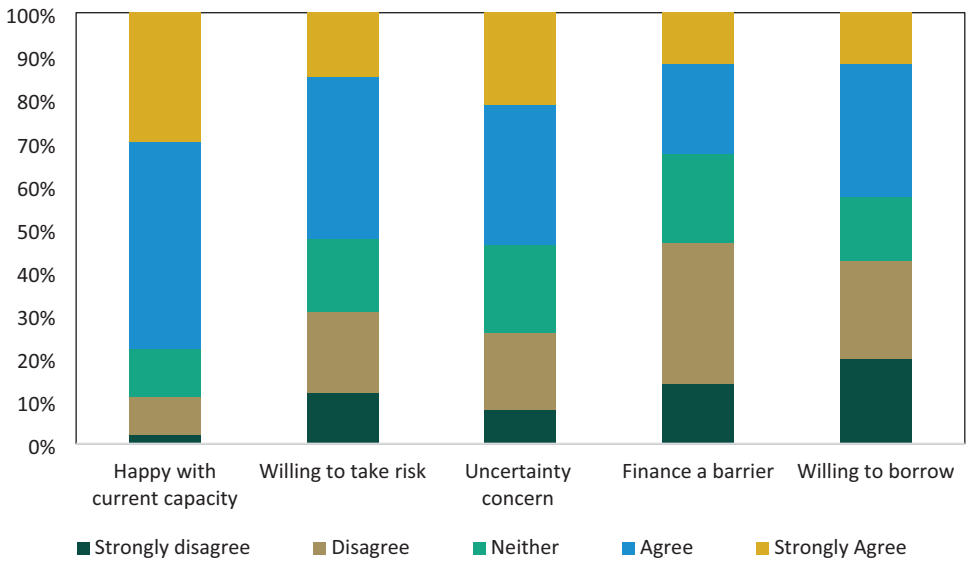
**Table 9: Investment Per Person Employed (€'000s)**

| | *Domestic firms* | *Foreign firms* |
|---|---|---|
| Ireland | 7.0 | 133.0 |
| Belgium | 17.5 | 28.1 |
| Denmark | 15.2 | 12.3 |
| Luxembourg | 12.8 | 13.2 |
| Netherlands | 7.6 | 15.2 |
| Austria | 10.6 | 17.7 |
| Finland | 13.3 | 14.3 |
| Sweden | 15.0 | 14.5 |

*Source:* Eurostat Foreign Control of Enterprises 2017.

Regular monitoring of SME investment and financing activity through the Department of Finance SME Credit Demand Survey showed that investment amongst SMEs and external borrowing remained muted well after financing constraints became less binding (Cantillion *et al*., 2022). The question then arises as to how much this lower investment level is reflective of credit constraints compared to other factors such as risk aversion on the part of firms. Figure 8 shows that the share of firms who agreed or strongly agreed that financing was a major barrier to investment is now 33 per cent, with concern about general uncertainty reported by 48 per cent. The higher response on financing concerns in this group relative to the data in Table 9 is likely due to differences in sample coverage as the SME survey includes firms with fewer than ten employees which are not covered in the innovation survey, and also includes no firms greater than 250 employees. A substantial majority of firms (78 per cent) replied that they were happy with their current level of capacity, suggesting limited growth ambitions.

**Figure 8: Risk Appetite and Financing Constraints Amongst SMEs**




*Source:* Cantillon *et al*. (2022) based on data from Department of Finance Credit Demand Survey.

Gargan *et al*. (2024) examine how investment by Irish SMEs compares to other European countries and find considerable differences between different asset classes. In particular, they find that investment in tangible fixed assets by Irish firms is relatively in line with those of similar countries when a range of firm characteristics is considered. However, investment in R&D is less frequent and typically involves lower amounts than observed in other countries. They point out

that this lower investment in R&D could have negative impacts on relative productivity over time.

## VI CONCLUSIONS

The starting point of this paper was that the dramatic convergence of the Irish economy in the 1990s, examined in depth by Honohan and Walsh (2002) has become more and more a story of a two-tier economy over time. This has been substantial enough to require the development of new statistical indicators to measure the underlying activity of the economy. This underlying activity captured by measures such as GNI* and MDD still include multinational activity but strip out the more distortionary transfers, particularly around intangible capital.

To examine how the purely domestic portion of the economy is structured and has developed over the past 20 years, we need to go deeper into the available data. This shows a picture of steady but unspectacular growth, with the financial crisis interrupting domestic activity much more than it affected the foreign-dominated sector. The comparison of performance metrics such as labour productivity shows domestic firms well behind foreign-owned firms, even in sectors that are not traditionally foreign-dominated. Scale appears to be a significant explanatory factor for this with the average size of an Irish-owned firm being a fraction of the size of a foreign-owned firm, again even within the same sector.

Scaling up requires not just investment but also risk-taking and managerial expertise. While policy levers have limited ability to influence the former, the development of managerial capabilities is an area where enterprise agencies have a number of active interventions. Along with facilitating the growth of smaller firms, increased managerial capacity could allow domestic firms to harness some of the potential productivity spillovers from the multinational sector – an ambition that has been much discussed in Irish enterprise policy, but which has had somewhat limited impact.

The direct benefits of the FDI-based economic model have been considerable, but along with the limited positive spillovers to the performance of domestic firms, there is some evidence of a crowding-out effect of foreign-owned companies particularly in terms of cost pressures and competition for skilled staff. Mitigating cost pressures where possible and continued investment in skills are therefore priorities for growth and competitiveness of the domestic sector of the economy. Other areas of policy focus that underpin the competitiveness of all firms, regardless of ownership, include investment in infrastructure – especially in areas where deficits are becoming apparent such as in water and energy. The importance of such supporting infrastructure as well as areas where high costs particularly impact smaller firms such as in legal and insurance fees have been highlighted by the National Competitiveness and Productivity Council (NCPC, 2024).

FitzGerald and Honohan (2023) posed a counterfactual question on how prosperous the Irish economy could have become without reliance on FDI and concluded that growth in employment and productivity "would not have been impossible. …But the advance would have been quite different, slower and less pronounced." The question is worth discussion not just in terms of historic counterfactual but also in regard to how the domestic side of the economy is structured and grows into the future.

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