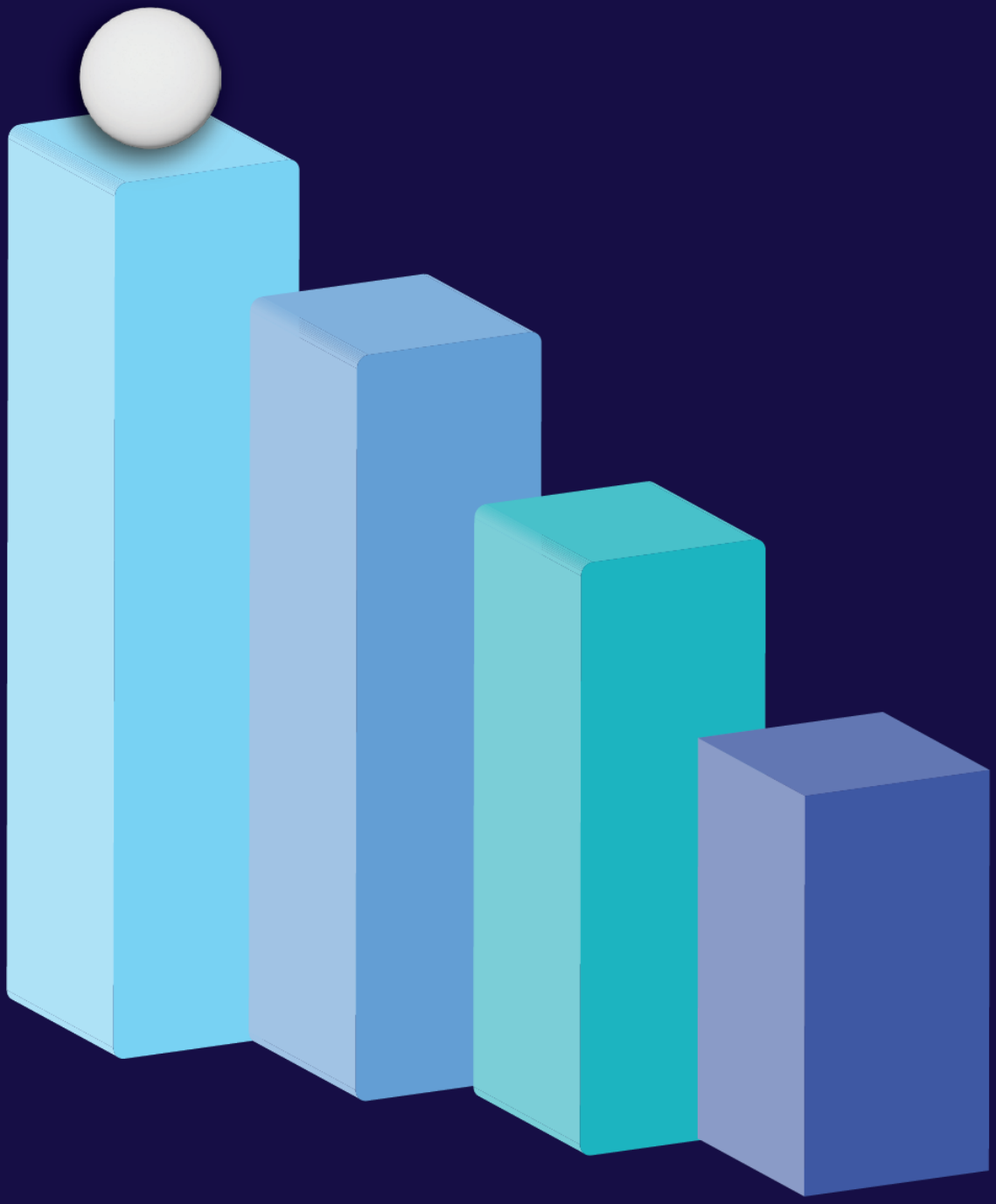
FUTURE FORTY

In Short Supply

Ireland's Workforce to 2065



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Rialtas na hÉireann
Government of Ireland

Future Forty

In Short Supply: Ireland's Workforce to 2065

July 2026

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Executive Summary and Key Messages

Ireland's labour market has undergone transformational change over recent decades, with the country transitioning to a high-income economy with low levels of unemployment.

- The sectoral composition of the Irish labour force has been altered over recent decades, with workers increasingly concentrated in a number of high-value sectors.

- However, this may be exacerbating shortages in other key sectors. These shortages could become more acute as the population ages and as overall growth of the labour force begins to slow, with the workforce eventually starting to contract in size.

This paper extends the analysis from Future Forty: A Fiscal and Economic Outlook to 2065 to assess the future of the Irish labour market, on a sectoral basis.

- The paper provides an update to the labour force projections in the *Future Forty* model, before exploring how workers in Ireland may be distributed across sectors over the next four decades, independent of any policy changes.

- The analysis assesses the trends of where workers with different levels of education are based and then contrasts those trends with the expected demand for labour in certain key sectors which will be vital for the delivery of public and private goods.

- The paper also outlines the potential impact of reducing the prevalence of overqualification, by ensuring that qualified workers are able to move to roles and sectors that utilise the skillset they may possess. This could alleviate some of the labour shortages expected into the future.

If recent trends continue, labour in Ireland labour force is likely to continue flowing towards high-value sectors and away from more traditional sectors.

- This is set to be largely be driven and accelerated by the fact that education levels across the population are broadly increasing.

- As the population ages, the workforce will become more educated, as current educated cohorts move into older age brackets and less educated cohorts age out of the labour force.

However, all sectors will have to deal with the overall slowdown of labour force growth due to population ageing.

- The ageing population is unavoidable and will have effects on all sectors, including high-value, high-productivity sectors, as the overall availability of labour will diminish.

- Increased net migration or fertility rates may help, but only at the margins.

- In some key sectors, such as healthcare and construction, demand for labour is likely to outstrip trend-based supply growth. This means that the country could face growing shortages in these key sectors if labour is not diverted towards them, at the expense of the rest of the economy.

1. Overview

The analysis set out in *Future Forty: A Fiscal and Economic Outlook to 2065* provided a broad overview of the potential trajectory for Ireland's demography, economy and fiscal position over the next forty years across over 2,000 scenarios. *Future Forty's* Central Scenario pointed to slowing long-term growth, with the expected stagnation of the labour market due to the constraints of population ageing, meaning that gains in living standards will primarily be driven by improvements in productivity.

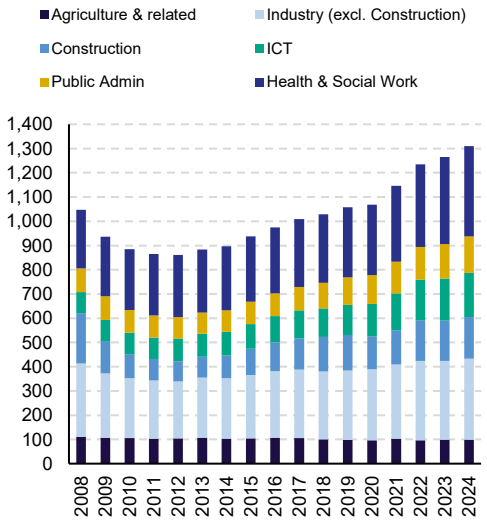
Further extensions to *Future Forty's* model provide more in-depth analysis of the key factors which will determine economic growth over the next four decades, such as the future make-up of the Irish labour market. In particular, this detailed analysis can be used to better understand key issues, such as;

- What might a continuation of recent trends mean for the Irish labour market, at a sectoral level, over the long term?
- How would adjustments to these recent trends, based on the expected needs of certain sectors such as healthcare and construction, impact the availability of labour for other sectors?
- Finally, could the distribution of highly skilled workers across sectors be improved to mitigate expected labour shortages in key areas?

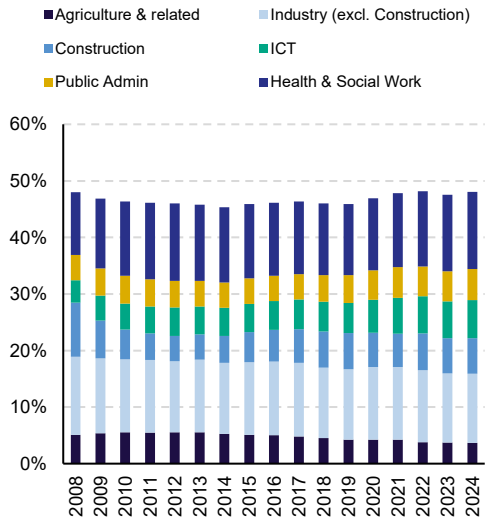
Over time, labour in Ireland has been shifting towards certain sectors of the economy and away from others (**Figure 1**).

Figure 1: Changing Sectoral Composition of Employment in Ireland)

A: Employed Persons (15-74) in Selected Sectors (000's)



B: Share of Employed Persons (15-74) in Selected Sectors



Source: Eurostat

In general, the share of the country's workforce based in Agriculture and Industry has fallen or stagnated,[1] with a growing share in sectors such as Information and Communications and Health and Social Work. This is in part due to continued improvements in education and skill levels across the population, as well as the increased orientation of the Irish economy towards services.

Based on the demographic profile of the country, Ireland can expect limited labour force growth into the future, especially beyond 2040. Therefore, if these recent trends within the labour market continue, independently of government policy interventions, there will be major implications for all sectors of the

[1] Although the growth of aggregate industry employment has been slow, this masks considerable changes in the composition of employment within this broad sector. Employment in the manufacturing of pharmaceutical products has increased considerably over time, as the Irish economy has specialised in global pharmaceutical supply chains, whilst employment in more traditional manufacturing roles has generally declined.

economy.[2] In particular, where and how labour is distributed across sectors, rather than aggregate job creation, will become an increasingly pressing issue for policy makers, as this analysis aims to show.

This paper illustrates the risk of a large deficit in the supply of qualified workers who are required to provide essential public services, such as healthcare,[3] and deliver vital infrastructure projects. It estimates that demand for workers in the Health and Social Care and Construction sectors could be approximately double the supply by 2065.

Furthermore, even if these deficits could be addressed by encouraging workers to enter these key sectors, there could be unintended consequences which depress growth in other sectors, including those which are crucial for driving productivity enhancements[4] and boosting tax revenue.[5] This analysis estimates that the available supply of workers for the rest of the economy could be over 20 per cent lower by 2065 if demand in these key sectors is prioritised.

However, promoting skills-matching and reducing the prevalence of worker overqualification, which is widespread in some sectors, could mitigate this negative effect on the rest of the economy. A highly educated workforce can drive up productivity, conditional on skilled workers being matched with positions that utilise their education and training. Ireland already has an education system which provides skilled graduates for high value multinationals, thus minimising underemployment of these graduates in less productive roles or sectors should improve broader economic outcomes.[6]

Section 2 of this paper briefly discusses the current make-up of the Irish labour market. ***Section 3*** outlines the updates to the *Future Forty* empirical model that were used to conduct this analysis, as well as the methodology used to create new sectoral labour projections. ***Section 4*** provides the results of this analysis and examines the potential benefits of reducing the prevalence of overqualification, while ***Section 5*** then concludes by addressing the policy implications and outlining the limitations of this approach.

It is important to note that this paper does not attempt to assess the future skills needs of each individual sector, nor does it attempt to integrate current sectoral plans for expansion[7] or policy initiatives aiming to increase labour supply for any given sector. As such, it cannot account for labour market shifts, such as those caused by the development of new technologies, that are yet to begin but may be expected to occur. Shifts which are already underway, such as the expanded usage of Artificial Intelligence (AI), are partially captured, however the paper does not explore the possible acceleration of these trends. The future is inherently uncertain; therefore, as with all *Future Forty* analyses, this is not predictive. Instead, it offers an overview of how labour market trends might evolve in the coming years and the potential implications of those developments, with the aim of informing evidence-based policy responses.

[2] The continued success of multinational enterprises (MNEs) in Ireland, which are concentrated in a small number of sectors, could erode the competitiveness of other sectors seeking to attract workers. This form of 'Dutch disease' can occur when firms in a few highly productive sectors are able to offer much higher wages than the rest of the economy, leading to increased concentration of the labour force.

[3] Health and Social Work employment has increased significantly in recent years, absorbing a growing share of the overall labour force. However, due to the pressures expected from population ageing, it may need to continue expanding at considerable speed.

[4] Labour productivity levels vary widely between different sectors of the Irish economy. This is largely caused by the activities of multinational enterprises in sectors such as Manufacturing and Information and Communications. For more information, see CSO Productivity in Ireland 2022-23. Available at https://www.cso.ie/en/releasesandpublications/ep/p-pii/productivityinireland2022-2023/labourproductivity/

[5] According to Revenue data in 2024, three sectors (Information and Communications, Finance and Manufacturing) were responsible for 70 per cent of total corporation tax receipts and 30 per cent of income tax receipts. See Summer Economic Statement (2025). *Department of Finance*. Available at https://www.gov.ie/en/department-of-finance/publications/summer-economic-statement-2025/

[6] See Economic Insights (Winter 2023). *Department of Finance*. Available at https://www.gov.ie/en/department-of-finance/publications/economic-insights-winter-2023/

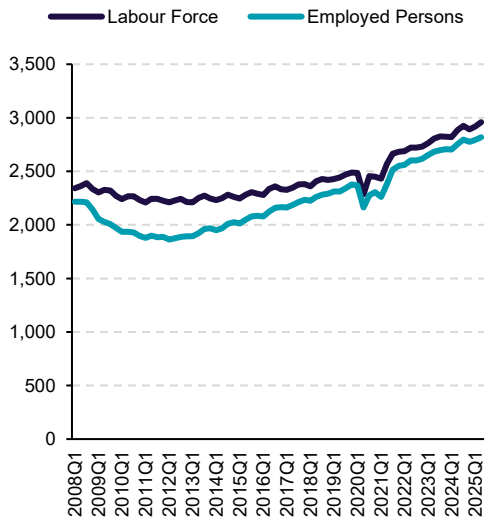
[7] The paper does attempt to project the growth of demand for labour in the Health and Social Work, Education and Construction sectors, as outlined in **Section 3.3** below.

2. The Current Irish Labour Market

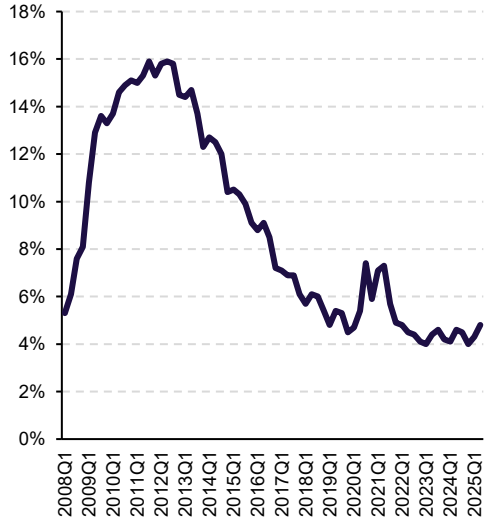
The Irish labour market has experienced robust growth in recent years, with the size of the country's labour force approaching 3 million (**Figure 2A**), almost 25 per cent larger than before the Global Financial Crisis. Employment is at record levels, and the unemployment rate has remained low since 2022 (**Figure 2B**).

Figure 2: Irish Labour Market

A: Labour Market Status (Population Aged 15+, 000's)



B: Unemployment Rate (Population Aged 15-74)



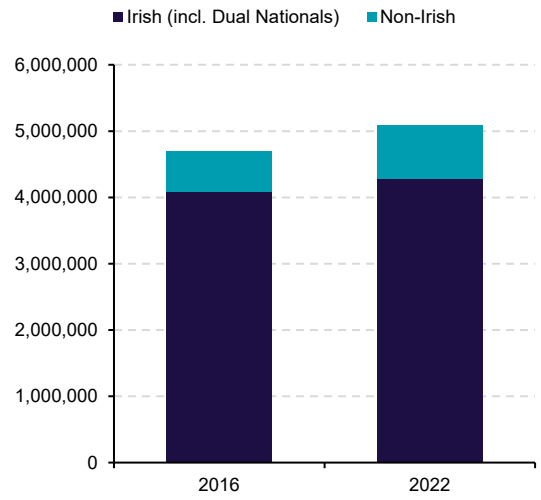
Source: Labour Force Survey (CSO)

The pool of available labour has expanded due to rising participation rates and, in particular, high inward migration of working-age people in recent years.[8] Migrants constitute a considerable and growing proportion of the overall population (**Figure 3A**) and are a particularly large share of the younger working-age population between 25 and 44 (**Figure 3B**).

[8] The Irish labour force grew by approximately 330,000 between 2019 and 2023. This growth was originally driven by increased participation (especially amongst younger cohorts and females) in 2021 and early 2022, as Covid-19 restrictions eased, but was then driven by high levels of inward migration. See Economic Insights (Spring 2024). *Department of Finance*. Available at https://www.gov.ie/en/department-of-finance/publications/economic-insights-spring-2024/

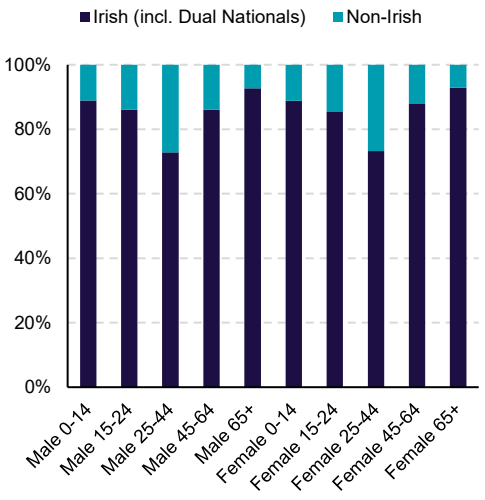
Figure 3: Population By Citizenship Status[9]

A: Population By-Citizenship



Source: Census 2016 & 2022

B: Population Sub-Groups By-Citizenship in Census 2022

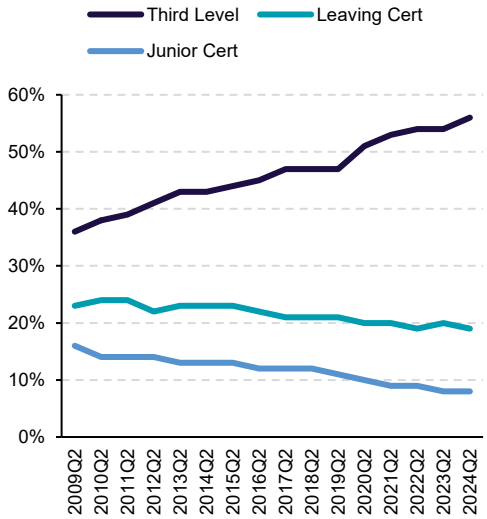


Source: Census 2016 & 2022

The nature of work in Ireland has also been changing over time. Education levels have continued to rise (**Figure 4A**), due to both higher education attainment levels amongst younger cohorts of the population, but also due to the arrival of highly educated migrants (see **Figure 4B**).[10]

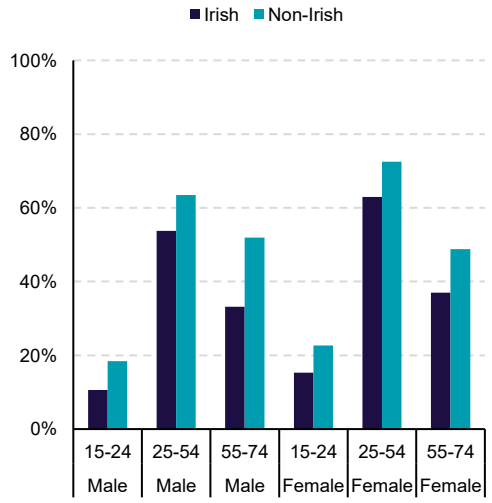
Figure 4: Education Levels in Ireland

A: Population (Aged 25-64) By Highest Education Attained



Source: CSO

B: Share of Population Cohorts with Tertiary Degree (2024)



Source: Eurostat

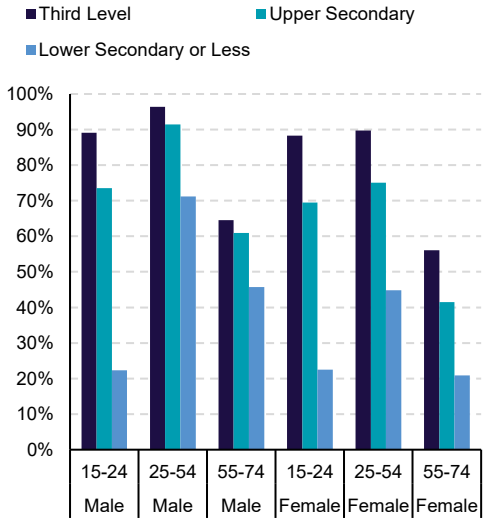
Educational gains and the accumulation of human capital have coincided with consistent growth in labour force participation (as more educated individuals are more likely to participate in the labour force, see **Figure 5A**) and a shift of labour towards high value sectors (see **Figure 5B**).[11] These sectors tend

[9] Population usually resident and present in the State. Non-Irish includes those with no citizenship stated.
[10] See Chapter 3 in McGinnity, F., Carron-Kee, E., Alamir, A., Dalton, C., Darmody, M., Hingre, G., Murphy, K., & Quinn, E. (2025). Monitoring report on integration 2024. *Jointly-published Reports 11, ESRI and Department of Children, Equality, Disability, Integration and Youth*. Available at https://www.esri.ie/publications/monitoring-report-on-integration-2024
[11] This shift has not occurred uniformly across the economy. Although employment in some high value, highly productive sectors has increased considerably (such as in Information and Communications), employment in others (such as Administrative and Support Services) has seen less pronounced growth. Furthermore, employment in some lower value, less productive sectors (such as Health and Social Work, Education and Accommodation and Food Services) has also risen over time.

to employ highly educated workers (as highlighted in **Figure 6**),[12] while more traditional sectors such as Agriculture and Retail typically require less formal education.[13]

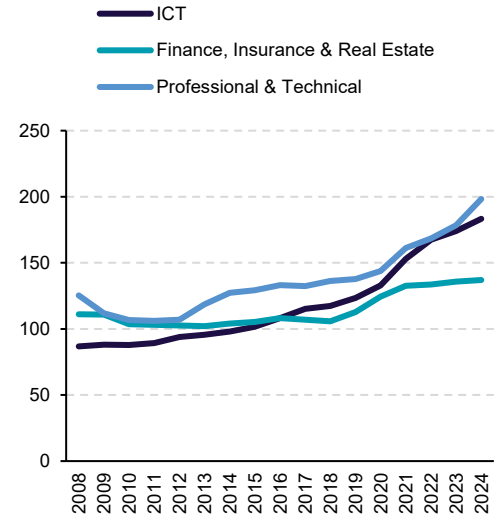
Figure 5: Labour Participation Rates and Labour Force Shifts

A: Participation Rates by Education Level (Aged 15-74)



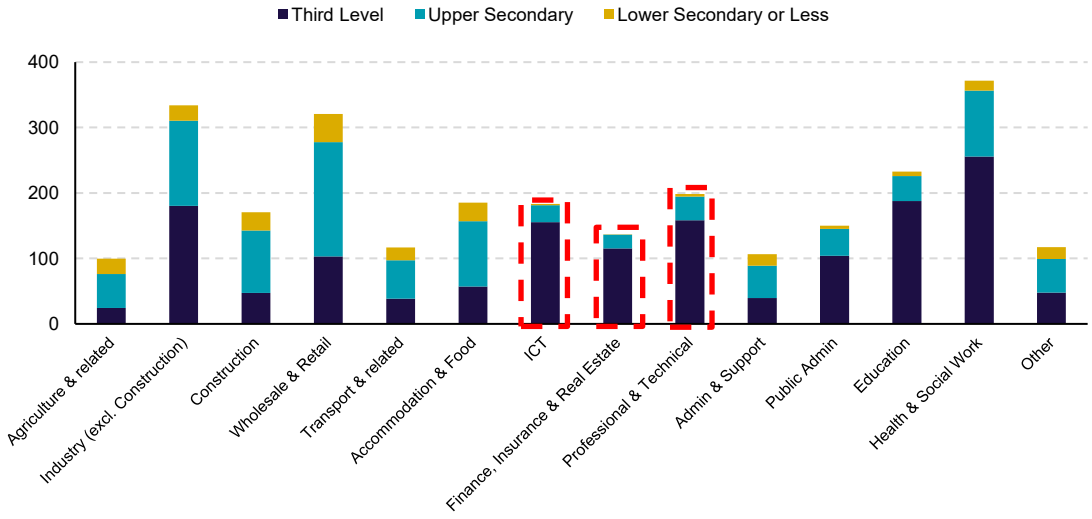
Source: Eurostat

B: Employees in Selected High Value Sectors (000's)



Source: Eurostat

Figure 6: Total Employed Persons (Aged 15-74) By Two-Digit NACE Sector[14] (000's)



Source: Eurostat

The share of highly educated workers in Ireland that are based in these high value sectors has increased over time (see **Figure 7A**). This growing movement of highly educated labour towards sectors

[12] See Economic Insights (Winter 2023). *Department of Finance*. Available at https://www.gov.ie/en/department-of-finance/publications/economic-insights-winter-2023/

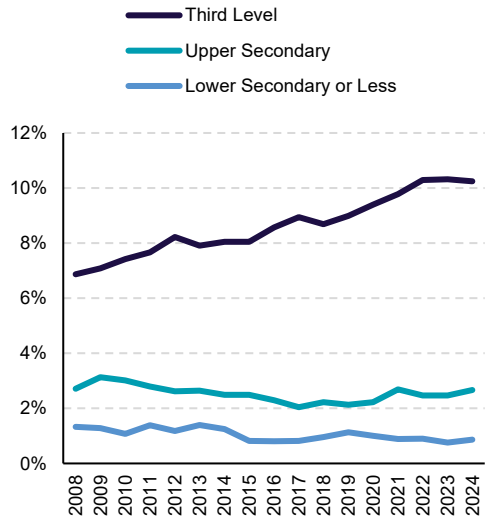
[13] Education is not the only driver of labour market dynamics over time. Fluctuating demand for workers in different sectors (which is tied to wider macroeconomic conditions and global trends), as well as changes to relative wage levels, are also important factors.

[14] This is the standard classification of industrial activity in Ireland. For more information, see https://www.cso.ie/en/media/csoie/methods/cars/NACE_Rev._2.1_Manual_and_Guidelines.pdf. In this analysis, Mining (B), Manufacturing (C), Electricity and related (D) and Water Supply (E) are grouped together as Industry (excl. Construction). Due to data limitations, the educational attainment levels of workers in Manufacturing only are used for Industry (excl. Construction), and the education attainment levels for Finance and Insurance only are used for Finance, Insurance & Real Estate. Other refers to other service activities not shown elsewhere.

such as ICT has contributed to rising wage levels (see **Figure 7B**), and has also boosted Ireland's competitiveness in these sectors, which rely on high levels of human capital.[15]

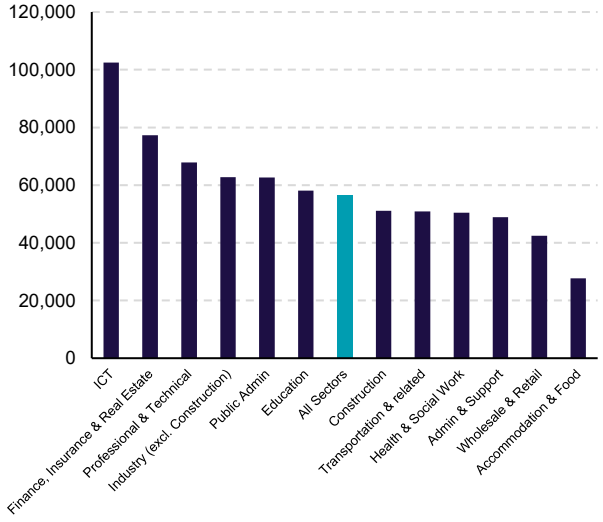
Figure 7: Sectoral Dynamics and Wage Levels

A: Share of Workers in ICT By Education Level



Source: Eurostat

B: Mean Annual Earnings by Sector (€) in 2024



Source: CSO[16]

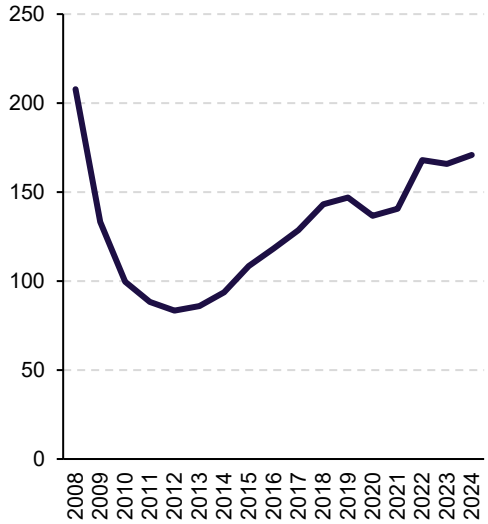
However, these developments have not come without challenges elsewhere. Following the Global Financial Crisis, employment in the Construction sector fell sharply, and has yet to fully recover despite growing demand to address Ireland's housing and infrastructure deficits (see **Figure 8A**). Furthermore, despite significant workforce growth in Health and Social Work (especially since the Covid-19 pandemic), the sector has still struggled to keep up with demand, driven by the continuous growth of the elderly population. The number of workers in the Health and Social Work sector has increased by nearly 60 per cent since 2008 (see **Figure 8B**), however the ratio of workers to people aged 65 and older in Ireland has fallen. **Box 1** illustrates the increasingly prominent role of Health and Social Work in the Irish labour market.

[15] The National Competitiveness & Productivity Council have observed that education and skills is an aspect of competitiveness where Ireland has outperformed many other advanced economies. Notably, a much higher share of the Irish workforce are ICT specialists relative to the EU average. See Ireland's Competitiveness Challenge. *National Competitiveness and Productivity Council*. Available at https://competitiveness.ie/media/3y4kcpus/irelands-competitiveness-challenge-2025.pdf

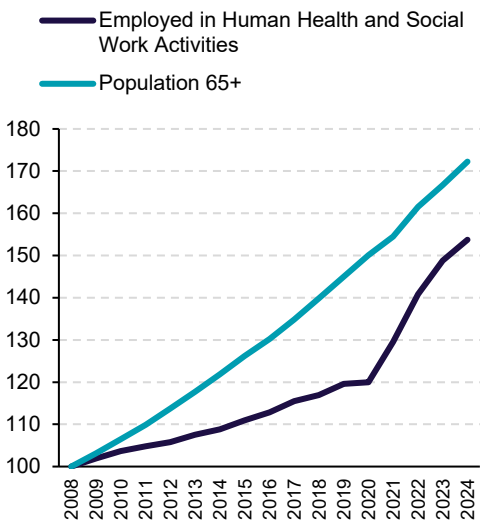
[16] CSO Earnings Analysis using Administrative Data Sources 2024. Available at https://www.cso.ie/en/releasesandpublications/ep/p-eaads/earningsanalysisusingadministrativedatasources2024/

Figure 8: Key Sector Employment

A: Construction Sector Employment (000's)



B: Health/Social Work vs Demographic Ageing (2008 = 100)

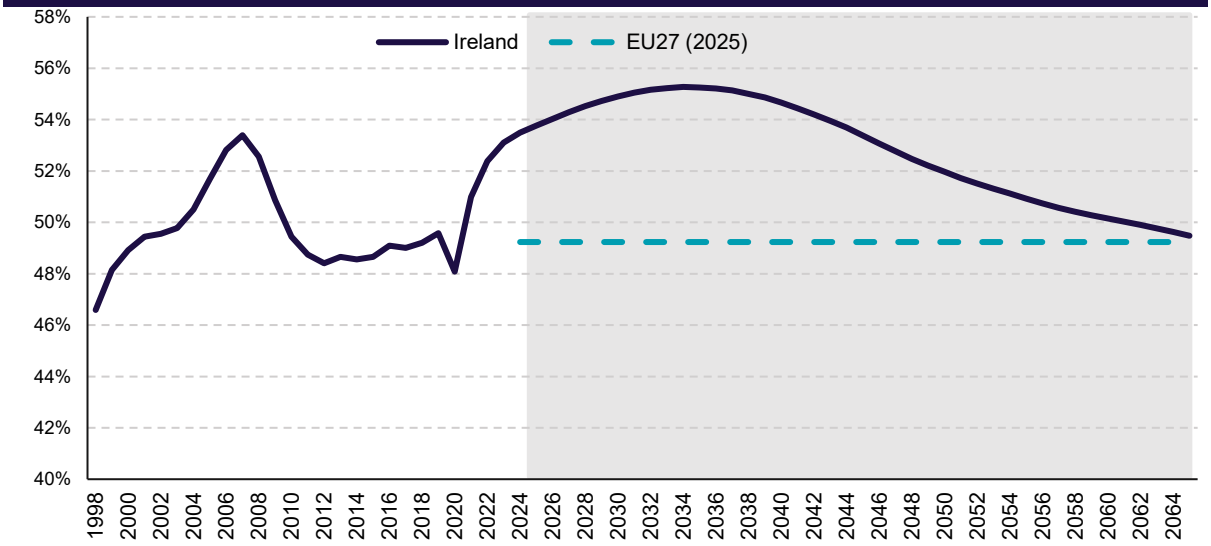


Source: Eurostat, CSO

A clear implication from these challenges is that existing labour shortages in the economy will likely become more acute as labour force growth begins to slow. The *Future Forty* Central Scenario illustrates that the share of the population which is in the labour force will peak in the mid-2030s before declining slowly to below 50 per cent by 2065, where the EU as a whole is already (see **Figure 9**). This is a consequence of Ireland's ageing population, with older generations dropping out of the labour force and not being replaced by sufficient numbers of incoming workers.[17] Varying the assumptions on future population growth alter the exact timing and speed of population ageing, however all of the scenarios in *Future Forty* envisage increasing demographic pressures over the next forty years.[18] Although the general shift towards high-skilled, high-value employment continues to raise productivity levels and living standards in Ireland, it will still be necessary for a significant share of the overall labour pool, which will be growing ever-more slowly, to occupy roles that provide essential services for the public.[19]

[17] This projection assumes that the retirement age remains at 66 throughout the time horizon. However, it also assumes that labour participation for people aged 65-74 will rise over time, due to increasing education levels amongst older cohorts.
[18] Demographic pressures are most acute under a low fertility and low net migration scenario. Conversely, population ageing is less severe (albeit still notable) under a high fertility and high net migration scenario.
[19] Automation of tasks and the expanded use of AI and robotics may reduce the need for labour in some sectors of the economy. This could partially address expected labour shortages in the future; however, this analysis does not explicitly project which sectors will require less labour due to technological advancements. For more information on the potential impact of AI on the Irish labour market, see Artificial Intelligence: Friend or Foe. *Department of Finance and Department of Enterprise, Tourism & Employment*. Available at https://www.gov.ie/en/department-of-finance/publications/artificial-intelligence-friend-or-foe/

Figure 9: Future Forty Central Scenario - Labour Force as Share of Population 2008-2065



Source: Eurostat, Department of Finance Calculations

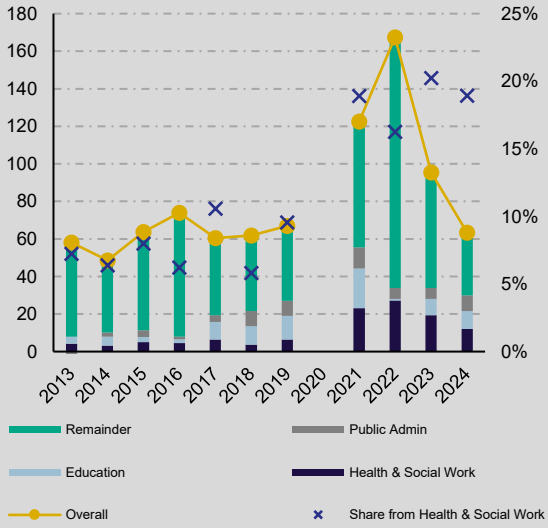
Box 1: The Role of Health & Social Work in the Irish Labour Market

The Health and Social Work sector plays an important role in the Irish labour market. It is closely related to the changing demographic profile of the population (as population growth and population ageing drive higher demand for these services), whilst also being more labour-intensive than other sectors of the economy.[20]

Figure 10A shows net job growth across different sectors of the Irish economy over time. Since the Covid-19 pandemic, the growth of Health and Social Work employment has accelerated considerably and has been contributing nearly 20 per cent of total net job growth in Ireland. Similar trends have been observed in other advanced economies such as the US (**Figure 10B**) and the UK.[21]

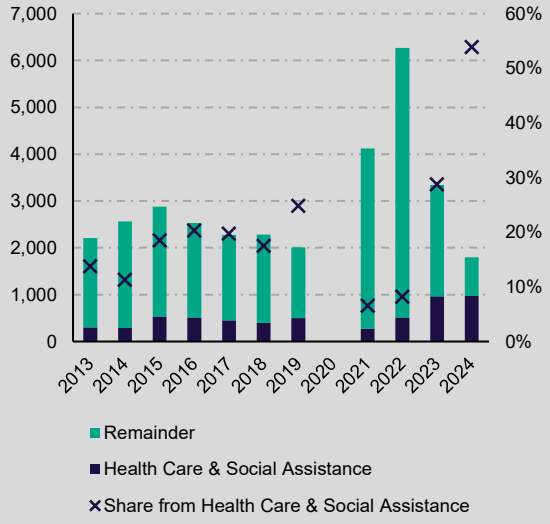
Figure 10: Net Job Growth By Sector

A: Net Job Growth in Ireland (000's)



Source: Eurostat

B: Net Job Growth in US (000's)



Source: U.S. Bureau of Labor Statistics

Expected demographic shifts over the coming decades will likely continue to raise demand for labour in the Health and Social Work sector (see **Chapter 6 - Healthcare** in *Future Forty: A Fiscal and Economic Outlook*). This could divert labour from other sectors of the economy (if workers can be incentivised to move into the sector) and may also absorb a larger share of inward migrant workers. As of 2022, approximately 2 in 5 registered doctors in Ireland were trained abroad,[22] demonstrating how dependent the sector already is on international migration. *Future Forty's* Central Scenario expects net migration will fall gradually over time; therefore, the Health and Social Work sector will be looking to take more workers from an increasingly small pool of incoming labour. The sector will also have to cope with increasing competition around the world for skilled labour.[23]

Other public sector-dominated sectors have also been contributing a larger share of overall net job growth in recent years, with nearly half of all net employment growth in 2024 arising from Health and Social Work, Education or Public Administration. Although employment in the latter two sectors is less likely to dramatically increase due to demographic ageing, the direction of travel must be clearly understood given that wider labour shortages are expected in the future, as well as the fiscal implications of a growing public sector workforce.

[20] The labour share of a sector's Gross Value Added (GVA) can be used to indicate the sector's reliance on labour to carry out tasks (relative to capital). As of 2023, the CSO reported that the labour share of GVA in the Health and Social Work sector was 84 per cent, compared to an economy-wide share of just 32 per cent. Available at https://www.cso.ie/en/releasesandpublications/ep/p-pii/productivityinireland2022-2023/laboursharе/#:~:text=The%20Education%20and%20Other%20Services%201%20sectors%20reported,These%20sectors%20rely%20heavily%20on%20labour%20e.g.%2C%20teachers.

[21] The US Bureau of Labour Statistics has noted the growing role of health care and social assistance in the American labour market. Available at https://www.bls.gov/news.release/archives/empsit_09052025.htm# Similarly, HMRC in the UK has reported that the Health and Social Work sector has the largest workforce of any sector in the country, with a particularly large (and growing) number of foreign staff. Available at https://www.gov.uk/government/statistics/uk-payrolled-employments-by-nationality-region-industry-age-and-sex-from-july-2014-to-december-2024/uk-payrolled-employments-by-nationality-region-industry-age-and-sex-from-july-2014-to-december-2024#payrolled-employments-by-nationality-and-region

[22] Hynes & O'Connor. Spending Review 2022: An Analysis of Medical Workforce Supply. *Department of Health*. Available at; https://www.gov.ie/en/press-release/58f91-minister-for-health-stephen-donnelly-welcomes-the-publication-of-an-analysis-of-

3. Modelling the Potential Future of the Labour Market

3.1 Future Forty Model Updates

Before taking a deeper look into the future of the Irish labour market, several updates were made to the *Future Forty* model. First, the population projections were split by citizenship status (Irish[24] vs non-Irish). As non-nationals already comprise a sizeable share of the working-age population (see **Figure 3B**) and tend to be more-educated than Irish nationals (see **Figure 4B**), the trajectory of the foreign population over time is likely to have a significant impact on the Irish labour market.

The starting point for population projections remains Census 2022, disaggregated by single-year-of-age and gender. However, citizenship data has also been taken from Census 2022, in order to split the population into citizens and non-citizens.[25] The population projections for Irish citizens and non-nationals were created using the below formulae;

- Irish population;

  Equation 1: $\mathbf{IrishP_t^i = (1\text{-}d_{t-1}^{i-1})IrishP_{t-1}^{i-1} + IrishnEM_t^i + (1\% * ForeignP_{t-1}^{i-1})}$**, for i > 0**

  Equation 2: $\mathbf{IrishP_t^0 = B_t + IrishnEM_t^0}$

- Non-Irish population;

  Equation 1: $\mathbf{ForeignP_t^i = (1\text{-}d_{t-1}^{i-1})ForeignP_{t-1}^{i-1} + ForeignnEM_t^i - (1\% * ForeignP_{t-1}^{i-1})}$**, for i > 0**

  Equation 2: $\mathbf{ForeignP_t^0 = ForeignnEM_t^0}$

The Irish population *Irish P* aged *i* in year *t* is determined by the survival rate *(1-d)* of Irish citizens aged *i-1* from the previous year, net migration of Irish citizens *IrishnEM* aged *i*, and the naturalisation of foreign nationals *ForeignP* aged *i-1* over the previous year.[26] The population of Irish citizens aged under one depends on number of births (*B*) in year *t*,[27] as well as net migration of Irish citizens aged under one. The non-Irish population *ForeignP* aged *i* in year *t* is determined by the survival rate *(1-d)* of foreign nationals aged *i-1* from the previous year, net migration of foreign nationals *ForeignnEM* aged *i*, minus the naturalisation of those aged *i-1* over the previous year.

The standard assumptions on mortality, fertility and migration[28] remain unchanged from the demographic model outlined in *Future Forty*. It is assumed that mortality and fertility rates are identical for Irish citizens and foreign nationals (within the same age-and-gender cohort). Crucially, net migration levels are assumed to be exogenous, rather than dependent on future labour market conditions projected by this analysis. This is a potential limitation, referenced in detail in ***Section 5***.

Projecting population-by-citizenship shows that the share of the population that are foreign nationals will increase slightly over the next forty years, primarily due to their increasing presence amongst older

medical-workforce-supply/. Similarly, as of 2021, 43 per cent of nurses and midwives registered in Ireland were educated abroad. See Caulfield, Hynes & O'Connor. Spending Review 2022: A System Dynamics Model of Nursing and Midwifery Workforce Supply. *Department of Health*. Available at; https://www.gov.ie/en/press-release/1ea46-minister-for-health-stephen-donnelly-welcomes-the-publication-of-a-system-dynamics-model-of-nursing-workforce-supply/

[23] The World Health Organisation expects there to be a global shortage of 18 million health workers by 2030. See Global strategy on human resources for health: Workforce 2030 (2020). *World Health Organisation*. Available at; https://www.who.int/publications/i/item/9789241511131

[24] Including dual nationals, naturalised Irish citizens and foreign-born citizens-by-descent.

[25] Citizenship rates are applied across broad age-and-gender cohorts. For example, if 90 per cent of 15-24 males are Irish citizens, then 90 per cent of 15-year-old males are assumed to be citizens, 90 per cent of 16-year-old males are assumed to be citizens, and so on.

[26] Every year, 1 per cent of all foreign nationals living in Ireland are assumed to be naturalised as Irish citizens. Naturalisation is assumed to occur at the same rate across all ages and both genders. However, upon naturalisation, the education levels of new Irish citizens do not converge to those of existing Irish citizens from the same age-and-gender cohort. Instead, their education levels match those of non-citizens in the same age-and-gender cohort.

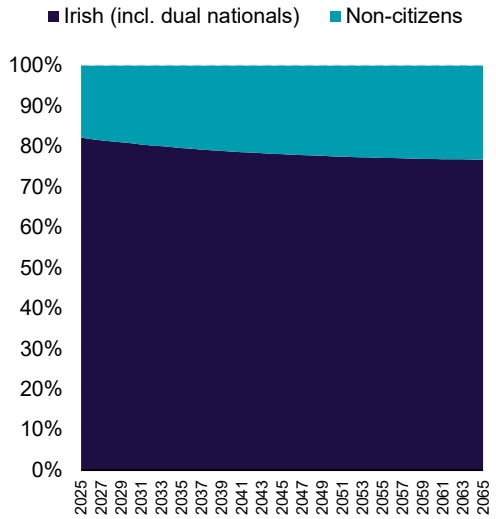
[27] For simplicity, it is assumed that all children born in Ireland over the next forty years are automatically Irish citizens from birth.

[28] Net migration of Irish citizens converges to zero by 2028, with all other net migration driven by foreign nationals.

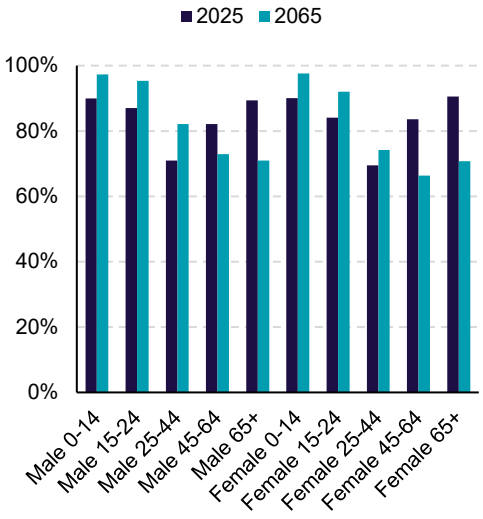
cohorts (**Figure 11**). By contrast, as net migration is expected to gradually decline in *Future Forty's* Central Scenario, naturalisation of foreign residents continues[29] and all children born are assumed to be Irish citizens,[30] a smaller share of younger cohorts are categorised as foreign nationals into the future.

Figure 11: Population by Nationality

A: Citizenship Status of Population



B: Share of Cohort that are Irish Citizens



Source: Department of Finance calculations

The second update made to the model involves education levels. An increasing share of workers in Ireland are highly educated, making them more suitable for highly productive roles in the economy. The continued evolution of education profiles in Ireland, in terms of both level and type of education, will be key to future human capital levels and, by extension, future productivity growth.[31]

The starting point for education has been updated from Census 2022 to the educational attainment levels reported in the Labour Force Survey in 2024.[32] Educational attainment has been split in the model into three categories: third level, upper secondary and lower secondary (or less). The type of education or training which individuals have is not projected in this analysis.[33]

It is assumed that education attainment levels for younger cohorts (aged 15-24) and those aged 25-54 will remain constant, for both Irish citizens and non-citizens, as it is assumed for the purposes of this analysis that current education levels broadly reflect the natural saturation point[34] for those age groups. However, for older cohorts (aged 55-74), education attainment levels coverage to those aged 25-54 by 2044, as more educated cohorts, over time, move up the population age pyramid.

[29] The assumed naturalisation rate used in this analysis does not reflect disparities in naturalisation rates between different migrant cohorts. For example, naturalisation rates may be lower for foreign nationals coming from other EU/EFTA countries or from the United Kingdom (due to free movement) or those coming from countries where dual citizenship is prohibited. Therefore, the origins of future migrants will likely influence the rate of naturalisation.

[30] This assumption is made for simplicity only and does not reflect Ireland's citizenship policy.

[31] Human capital is positively related to labour productivity growth, especially in the goods-producing sectors. See Duran Vanegas, J., Jordan, M. & Siedschlag, I. (2025). An Industry-Level Measure of Quality-Adjusted Human Capital in the European Union. *ESRI Working Paper 812*. Available at https://www.esri.ie/publications/an-industry-level-measure-of-quality-adjusted-human-capital-in-the-european-union

[32] CSO via Eurostat. Education attainment levels are reported by broad age, gender and citizenship cohort.

[33] 'Type of education' refers to area of specialisation (such as medicine or engineering). Future variation in the type of education received by the population, as well as any training they receive after exiting fulltime education, will influence both the growth of sector-specific labour supply and the flexibility of workers between sectors. This limitation is discussed in **Section 5**.

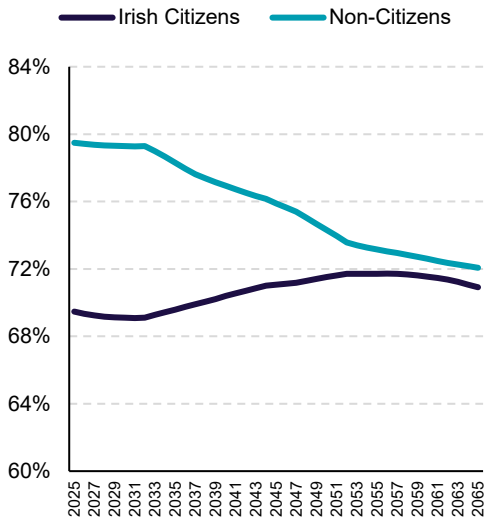
[34] Ireland already has the highest rate of tertiary education amongst those aged 25-54 in the European Union at approximately 61 per cent. However, this assumption is without prejudice to ongoing initiatives aiming to boost education levels in Ireland, nor does it diminish the importance of measures aiming to upskill or reskill existing workers for new roles as they emerge.

The third update to the model involves labour force participation rates. The starting point for labour force participation is the Labour Force Survey.[35] Participation rates have been disaggregated by age-group, gender and education level.[36] It is assumed that participation rates within each cohort remain the same until 2065. However, as the demographic and educational characteristics of the population change over time, the overall participation rate also shifts. The unemployment rate is assumed to converge to its 'natural' rate of just under 5 per cent by 2030, as outlined in the original *Future Forty* model.

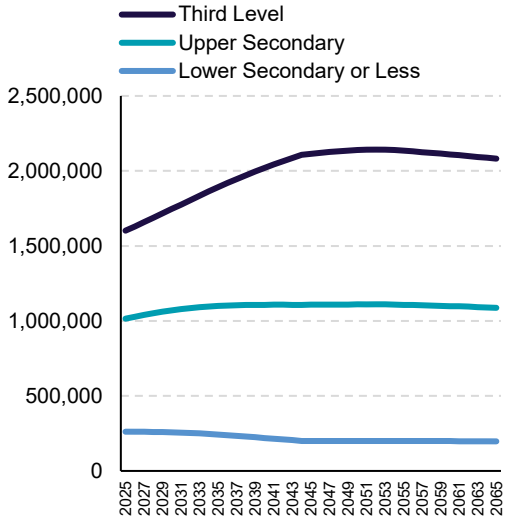
Figure 12 shows the updated projections for aggregate labour market conditions, including participation rates and education levels. Currently, foreign residents have higher labour participation rates than Irish citizens, partly due to their demographic profile. Broadly, as this population begins to age, their overall participation rate in the labour market will converge towards the rate for Irish citizens.[37] While the number of tertiary-educated members of the labour force is expected to continue growing until the 2050s, the number of labour force members with upper secondary or lower secondary education will stagnate and fall, respectively.

Figure 12: Labour Force Participation

A: Participation Rate (15-74)



B: Labour Force By-Education Level



Source: Department of Finance calculations

3.2 Projecting Trend-Based Labour Supply

Following these updates, the model was expanded to examine how the future supply of labour would be distributed across sectors if recent trends were to continue.[38] The starting point for these new sector-based labour supply projections is the annual Labour Force Survey.[39] Workers within each two-digit NACE sector have been disaggregated by education attainment level, in order to proxy the skill requirements in a given sector.[40]

[35] CSO via Eurostat.
[36] Participation rates are not disaggregated by citizenship. Therefore, it is assumed that Irish and non-Irish citizens with equivalent education levels have identical participation rates. However, as a larger share of non-citizens are highly educated, they do tend to participate in the labour force at a higher rate than Irish nationals.
[37] Newly arriving migrants will have the same age-gender profile throughout the projection period, but as net migration slows, they will comprise a smaller share of the overall non-citizen population.
[38] This analysis does not assign a probability to the potential continuation of recent trends.
[39] CSO via Eurostat.
[40] This assumes that current education levels within each sector reflect the skill requirements of working within that sector, such that employees are not overqualified or underqualified for their roles. This is discussed further in **Section 4.4**. Furthermore, it assumes that skill requirements can be proxied by level of education, rather than type of education or training received.

The distribution of workers with a given level of education across different sectors of the economy has varied over time, however there is often a clear trend (see **Figure 7A** as an example). These trends are used as the basis for supply projections, as outlined below.

1. First, the share of each education cohort working in each two-digit NACE sector was determined. For example, as of 2024, approximately 10 per cent of tertiary-educated workers in the economy are based in the Information and Communications sector, whilst 12 per cent of workers with lower secondary education (or less) are based in the Accommodation & Food Services sector.

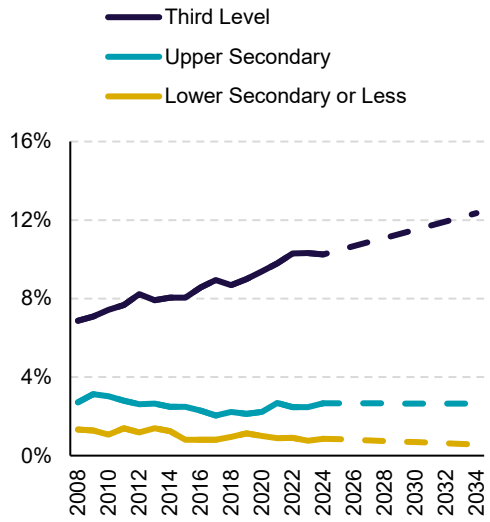
2. Second, how these shares have shifted across recent years was examined. For example, between 2008 and 2024, the share of tertiary-educated workers based in the Information and Communications sector increased from less than 7 per cent to around 10 per cent.[41]

3. Based on these observations, it is assumed that the share of a given education cohort working in each sector continues to grow (or fall) on trend[42] until 2034, after which it is held constant.[43] For example, the share of tertiary-educated workers based in the Information and Communication sector is expected to increase from around 10 per cent in 2024 to nearly 12.5 per cent by 2034 (see **Figure 13A**), while the share of tertiary-educated workers based in the Agriculture sector is expected to decrease from around 1.6 per cent in 2024 to 1 per cent by 2034 (**Figure 13B**). These trends would have a sizeable impact on the distribution of labour supply across sectors, especially as education cohorts are also expected to change in relative size.

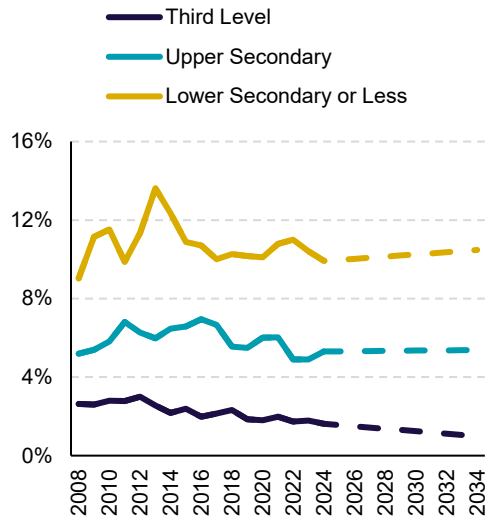
4. Average hours worked per week by workers in a given sector is expected to remain constant from 2024.

Figure 13: Trend-Based Labour Supply in Different Sectors

A: Share of Education Cohorts in ICT



B: Share of Education Cohorts in Agriculture & related



Source: Eurostat, Department of Finance calculations

[41] This reflects increased focus on IT-specific skills/courses in Irish third-level education, as well as a larger share of highly skilled inward migrants coming to work in the IT sector.
[42] Average annualised change between 2008-2024 in the share of a given education cohort working in each sector.
[43] Recent trends can only continue for a finite period of time, and eventually the share of workers within each sector of the economy may reach a natural peak or plateau. An alternative assumption, where the share of a given education cohort working in each sector is kept constant from 2024 onwards, is discussed in **Box 2**. It must be emphasised that these assumptions are chosen for illustrative purposes only and are not predictive. In reality, changing market conditions as well as new technologies will disrupt trends and alter the distribution of labour across sectors.

3.3 Projecting Labour Demand

In order to contrast the above trend-based labour supply projections with expected future demand for labour in several key sectors,[44] this analysis attempts to project potential labour demand in sectors which are closely tied to demographic change and demand for public services: Human Health and Social Work Activities, Construction and Education. Projections for labour demand in these sectors[45] are built using existing *Future Forty* economic and fiscal projections.[46]

- **Human Health and Social Work Activities**: Growth in labour demand[47] is estimated in this model based on the growth of total pay expenditure by the exchequer on health and long-term care.[48] Projected real wage growth is removed from these projections.[49]
- **Construction**: Growth in labour demand is estimated in this model based on the growth of total capital investment (private and public) in the Irish economy.
- **Education**: Growth in labour demand[50] is estimated in this model based on the growth of total pay expenditure by the exchequer on education.[51] Projected real wage growth is removed from these projections.

Given the importance of these key sectors in delivering essential services for the population,[52] it is possible that meeting their labour needs will require some form of prioritisation. This would involve some 'crowding out' of private sector employment growth, given that these sectors, with the exception of Construction, are generally dominated by the public sector. This possibility would appear to align with recent employment trends, as Health & Social Work alone has become responsible for around 20 per cent of net job growth in Ireland (see **Box 1**). As a result, this analysis attempts to show the labour supply implications for the rest of the economy if labour were to be channelled towards these sectors in order to keep up with demand growth. This assumes that skills are transferable across sectors, and that workers are willing to switch to these sectors in considerable numbers. In reality, policy interventions, such as increased lifelong learning, would likely be required to ensure that a greater share of workers (across all education cohorts) have the required type of education or training to fill positions in key sectors. Assuming that labour demand is met in these three sectors, the remaining workforce is distributed across the remaining sectors of the economy using the same methodology outlined in **Section 3.2**.

This approach does not attempt to estimate the gap between future demand and future supply of labour in any sector other than the three discussed above,[53] nor does it consider the implications of existing labour shortages (in a variety of sectors) for the potential distribution of workers in the future. Nonetheless, it is plausible that other sectors already facing labour constraints can expect even greater shortages over the coming decades if workers are increasingly channelled towards Construction and Health & Social Work. The future gap between demand and supply may be mitigated in those sectors which can offer considerable salaries to attract workers, potentially leaving other, low-paying sectors at a significant competitive disadvantage.

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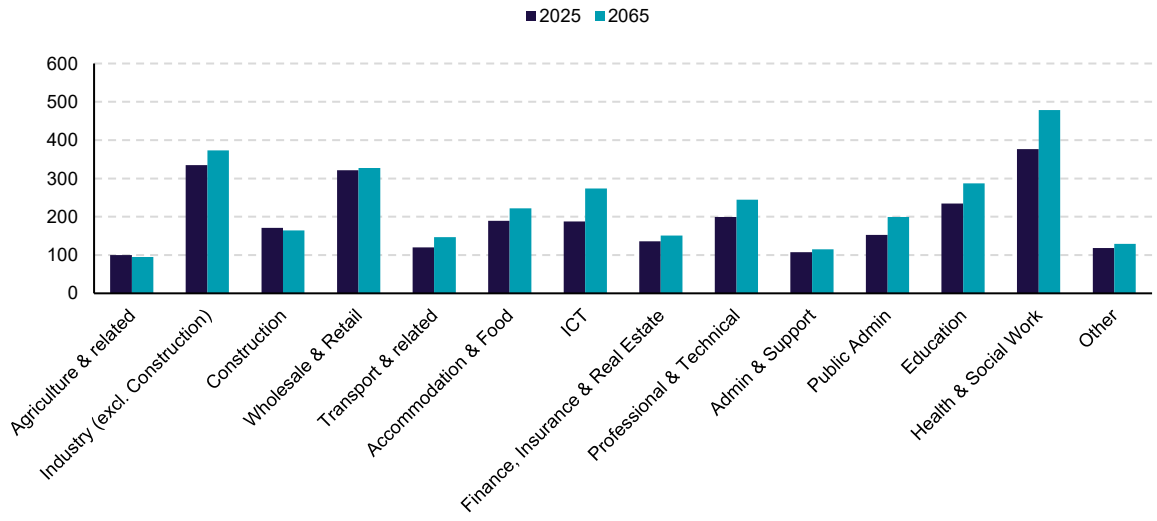
[44] This identification of 'key' sectors is without prejudice to other sectors of the economy, including those that are driving productivity growth and contribute significantly to Ireland's tax revenue.
[45] Labour demand in these three sectors is assumed to grow across all education cohorts at the same rate.
[46] The *Future Forty* Central Scenario projections for GNI* growth (which determine other variables such as investment growth and pay expenditure growth) are created using *Future Forty's* original labour force projections, which are slightly different to the labour force projections produced in this analysis (outlined in **Section 3.1**).
[47] This includes both public sector and private sector healthcare workers.
[48] It is assumed that this proxies the growth rate of labour demand in the private sector as well as the public sector.
[49] Total pay expenditure is determined by the total number of staff and the average pay of staff. By removing pay inflation, the only factor driving higher pay expenditure is growth in the total number of staff employed.
[50] This includes both public sector and private sector education workers.
[51] It is assumed that this proxies the growth rate of labour demand in the private sector as well as the public sector.
[52] As pay expenditure growth for Health & Social Work and Education is tied to demographics, the ratio of workers to patients/students is assumed to be held constant over time.
[53] Demand for workers in sectors which are not directly tied to demographics or national infrastructure needs is much more challenging to project into the future.

4. Detailed Labour Market Projections

4.1 Trend-Based Labour Supply Projections

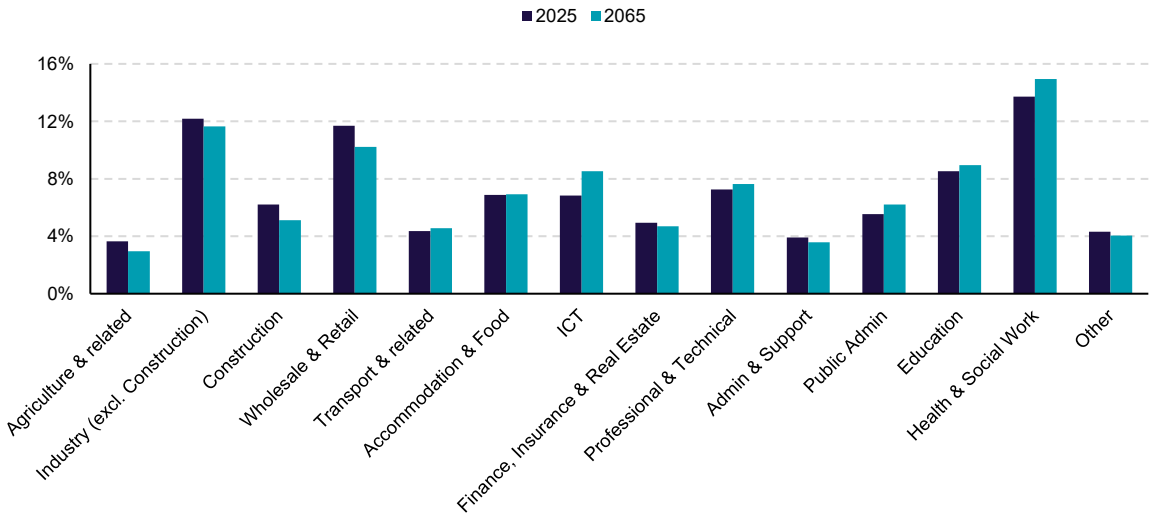
Under the trend-based supply assumptions outlined in **Section 3.2**, potential labour supply by sector can be projected (**Figures 14-15**). Some sectors (such as Information and Communications) would continue to grow their share of the overall workforce over the next forty years if recent trends were to continue. However, for other sectors (such as Agriculture, Forestry & Fisheries), their share of the workforce would fall.

Figure 14: Trend-Based Total Employed Persons By Two-Digit NACE Sector (000's)



Source: Department of Finance calculations

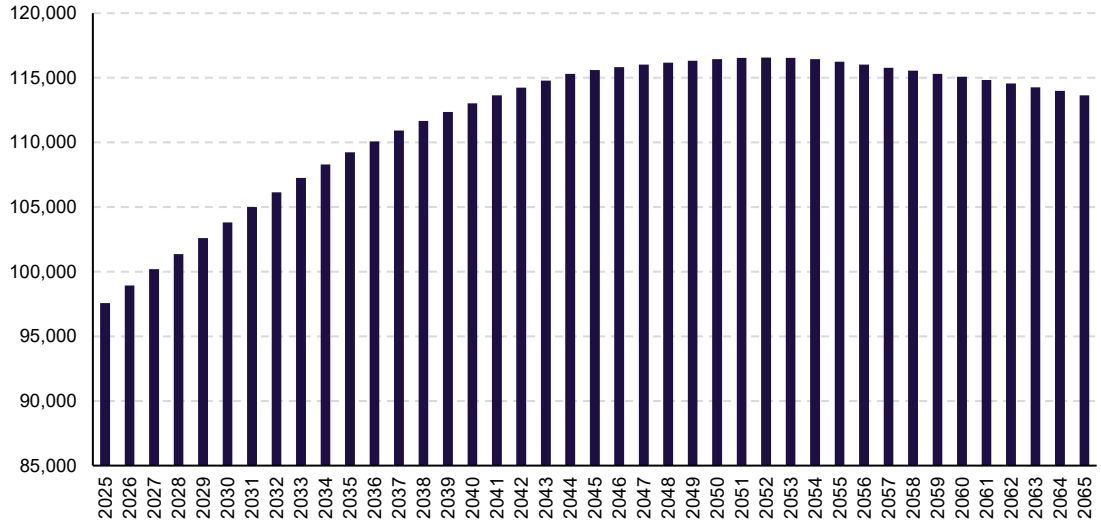
Figure 15: Trend-Based Share of Total Employed Workforce By Two-Digit NACE Sector (per cent)



Source: Department of Finance calculations

Under these trend-based sectoral projections, total labour hours worked across the wider economy is projected to grow until the early 2050s, due to a combination of a growing labour force but also due to labour generally shifting toward sectors which work slightly longer hours (**Figures 16**). From the mid-2050s onwards, total hours worked per week decline, reflecting the reduced supply of labour in the economy.

Figure 16: Total Labour Hours Worked Per Week



Source: Department of Finance calculations

These projections are derived purely from an assumed continuation of recent trends, and do not reflect the potential future impact of policies which aim to increase labour supply in a given sector. For example, **Figure 14** and **Figure 15** show Construction employment falling, both in aggregate terms and as a share of the overall workforce, due to its failure to fully recover after the Global Financial Crisis. However, the Department of Further and Higher Education, Research, Innovation and Science have introduced a Careers in Construction Action Plan[54] to promote employment in the Construction sector, which has already contributed to broader progress in making positions more attractive.[55] Simultaneously, the Department has also introduced measures to improve productivity within the Construction sector, in order to mitigate the need for considerably more workers into the future.[56] These policy interventions will be vital in altering the available supply of labour for individual sectors into the future.

[54] Available at https://www.gov.ie/en/department-of-further-and-higher-education-research-innovation-and-science/publications/careers-in-construction-action-plan/#full-report-and-documents. Updated Action Plan available at https://www.gov.ie/en/department-of-further-and-higher-education-research-innovation-and-science/publications/updated-careers-in-construction-action-plan/

[55] Since the Action Plan was introduced in 2023, there has been a 22 per cent increase in first preference CAO choices for construction and engineering courses. There has also been an increase in construction apprenticeships and a significant increase in the number of women working in the sector. See Updated Action Plan available at https://www.gov.ie/en/department-of-further-and-higher-education-research-innovation-and-science/publications/updated-careers-in-construction-action-plan/

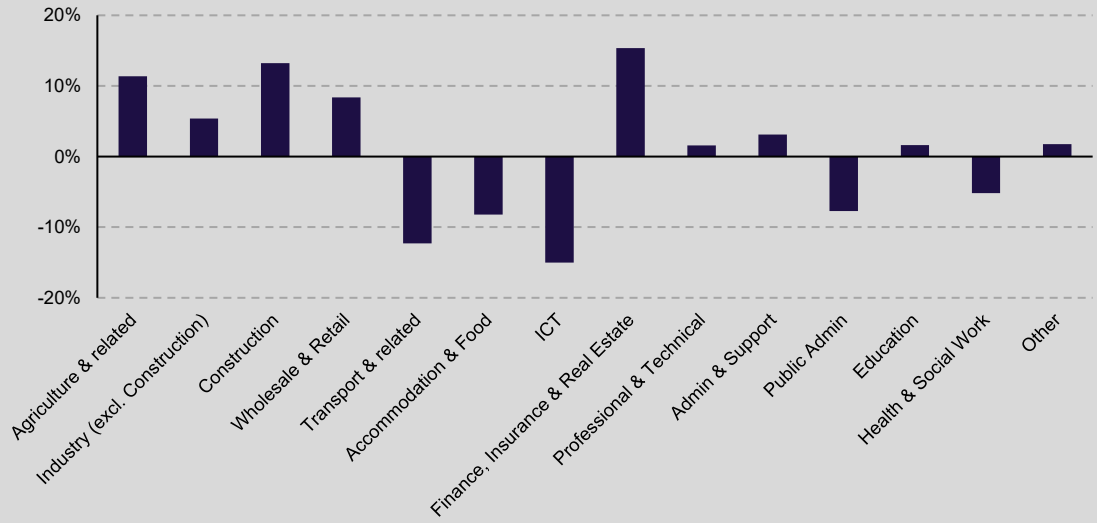
[56] The Modern Methods of Construction Action Plan aims to support the successful transition to modern methods of construction (MMC) across the supply chain in Ireland. Available at https://www.gov.ie/en/department-of-further-and-higher-education-research-innovation-and-science/publications/modern-methods-of-construction-action-plan/ Government is also developing a National Demonstration Park for MMC in order to showcase modern construction techniques to be put into practice.

Box 2: Stagnation of Trends and Labour Supply

The trend-based supply projections in this paper are built from the assumption that the share of a given education cohort in each sector of the economy continues on its existing trend until 2034. However, the level of volatility in the labour market over the recent decades means that trends may be somewhat misleading. For example, the share of upper secondary or lower secondary-educated workers that are based in the Construction sector has fallen considerably since 2008; however, this is due to a sudden shock during the Global Financial Crisis, which the sector has failed to fully recover from (although the trajectory of labour in the Construction sector since 2012 has been positive, see **Figure 1** above).

An alternative modelling assumption would be to keep the share of a given education cohort in each NACE sector constant from 2024 onwards. The implications of that choice, compared to a scenario where recent trends continue, can be seen in **Figure 17** below. For some sectors, such as Construction, there would be a much larger supply of labour in the sector by 2065 if the distribution of education cohorts were to remain constant over the entire projection period. For other sectors, such as ICT, the supply of labour would be significantly stunted. This reflects the positive employment trend that the ICT sector has seen since the mid-2000s, and the importance of maintaining that momentum for that sector.

Figure 17: Employed Persons By Two-Digit NACE Sector in 2065 (Deviation from Trend-Based Supply)



Source: Department of Finance calculations

In some sectors of the economy, the downward direction of travel is much clearer than in the Consutruction sector. The number of people employed in Agriculture and related activities has fallen by more than 10 per cent since 2008, and the share of the workforce based in Agriculture has fallen steadily since the recovery from the Global Financial Crisis (see **Figure 1B**). This can be attributed to long-run structural trends which are redirecting labour away from the sector. A very small (and shrinking) share of tertiary educated workers are based in Agriculture, and tertiary-educated workers now outnumber their counterparts with lower levels of education across the wider economy. As a result, the sector is largely reliant on a smaller pool of Ireland's labour force to fill positions, and these workers also tend to be relatively old.[57] If the trend of highly-educated workers moving away from the Agriculture sector was to stop, the sector could have a workforce that is more than 10 per cent larger in 2065, relaitve to a scenario where trends were to continue (see **Figure 17**).

Some other sectors which also tend to pull mostly from the pool of upper secondary or lower secondary-educated workers have seen a similar decline in their share of the overall workforce (such as Retail), and would therefore benefit if recent trends came to a halt. However, others (such as Transport and Accomodation & Food) have avoided a decline, such that they would actually benefit if recent trends were to continue. This can be partly attributed to the prevalence of overqualification (discussed in **Section 4.4.**) in these sectors, which has meant that they have retained a steady share of highly-educated workers without fully utilising them. The viability of this continuing as a means of growing these sectors is questionable, as Ireland is set to face a slowdown in labour force growth in the future, such that highly-educated workers will be in short supply realtive to demand. Other industries, which tend to pay much higher salaries (see **Figure 7B**), could be more likely to secure these workers, hence sectors such as Transport and Accomodation & Food may need to identify alternative means of remaining productive, such as increased automation.

[57] In 2023, the average age of farm owners was 59 years, with almost 40 per cent of farm owners aged 65 or older (CSO).

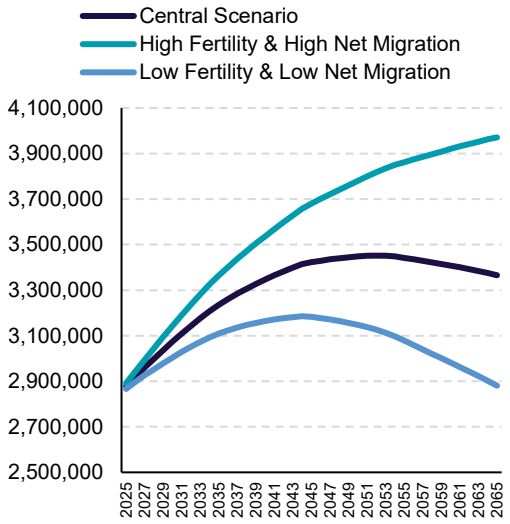
4.2 Trend-Based Supply Projections Under Different Demographic Scenarios

The trend-based supply projections in **Section 4.1** are based on the mortality, fertility and migration assumptions used to create the demographic projections in the *Future Forty* Central Scenario. However, in order to capture the uncertainty surrounding the future trajectory of Ireland's demographic profile, *Future Forty* also illustrated alternative scenarios using different assumptions on fertility rates and net migration. Different population projections would have a sizeable impact on the labour force in Ireland, as a younger population allows for prolonged labour force growth, whilst higher levels of net migration elevate the supply of workers.

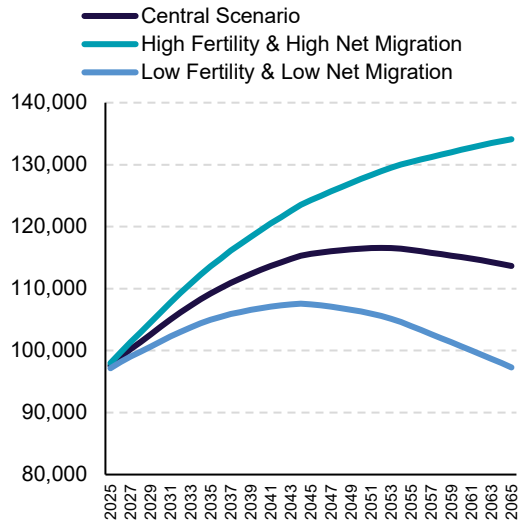
Figure 18 shows how the range of population projections contained within *Future Forty* impact upon the overall labour force projections from this analysis. Under high fertility and high net migration, the supply of labour continues to grow for the entirety of the projection period, as does the number of hours worked by the labour force. By contrast, under low fertility and low net migration, the contraction of the labour force begins far earlier and is far more severe than under the Central Scenario.

Figure 18: Labour Force Growth Under Different Population Scenarios

A: Irish Labour Force (000's)



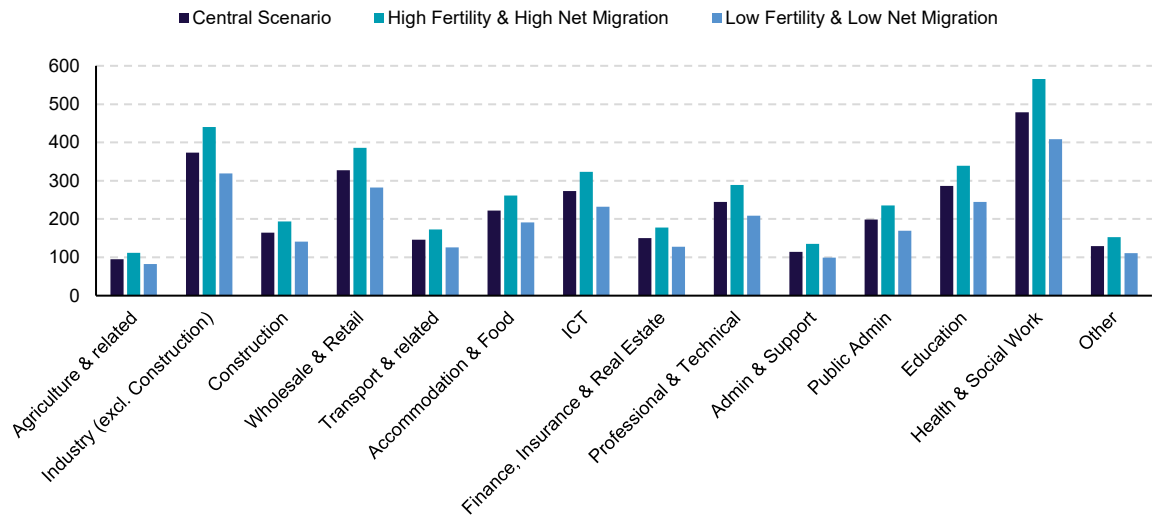
B: Total Labour Hours Worked Per-Week



Source: Department of Finance calculations

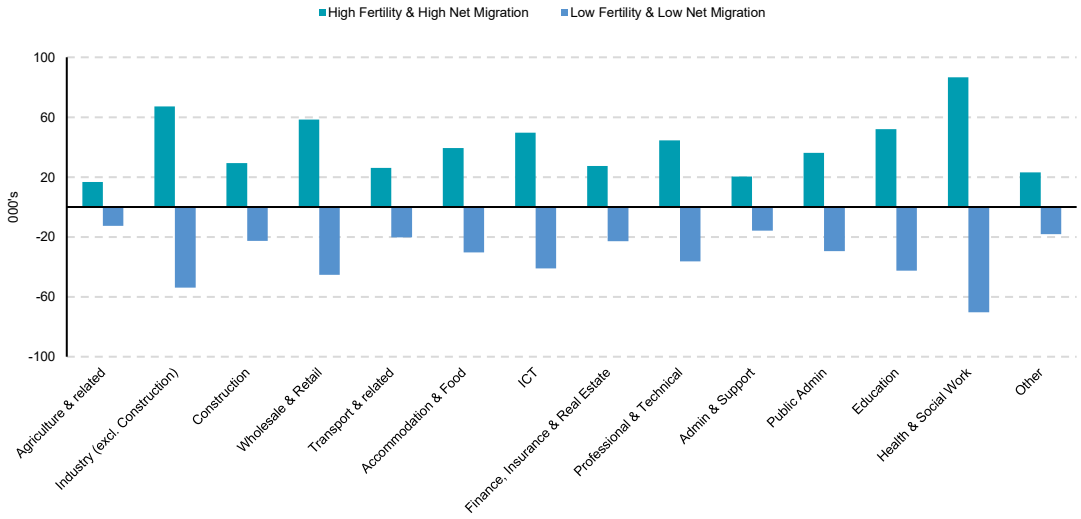
These alternative population assumptions have major implications for the trend-based sectoral supply projections described in **Section 4.1**. The size of the future population ultimately determines the future of every sector's workforce (see **Figures 19-20**).

Figure 19: Trend-Based Employed Persons By Two-Digit NACE Sector in 2065 (000's)



Source: Department of Finance calculations

Figure 20: Trend-Based Employed Persons By Two-Digit NACE Sector in 2065 (Deviation from Central)



Source: Department of Finance calculations

4.3 The Impact of Demand in Key Sectors

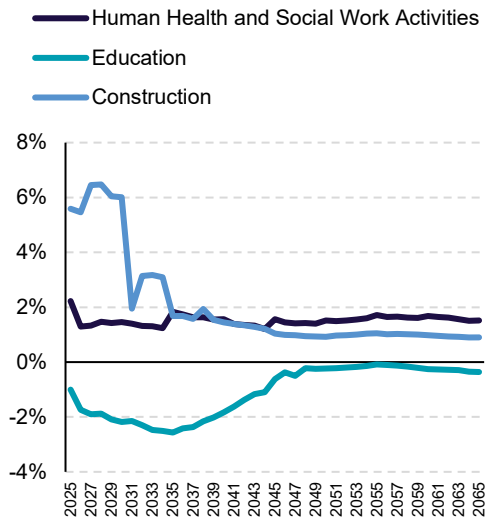
Although the trend-based supply projections are indicative of how the labour market could evolve in the future, key sectors are likely to require additional labour, due to foreseeable social and economic needs.[58] **Figure 21A** contrasts the trend-based supply projections from **Section 4.1** with expected labour demand in the three key sectors discussed in detail in **Section 3.3**. **Figure 21B-21D** indicates that there will be a mismatch between trend-based supply and demand across all three sectors. Demand for workers in Human Health and Social Work Activities is likely to significantly exceed trend-based supply over the projection period. For Construction,[59] the gap is projected to grow particularly quickly in the coming decade due to the level of construction required to deliver on housing and

[58] In this analysis, net migration is assumed to be exogenous, and thus additional inward migration beyond *Future Forty's* Central Scenario cannot be used to compensate for growing demand in key sectors.
[59] Short-term Department of Finance forecasts expect a 30 per cent rise in construction workers to 2030, growing alongside construction investment. This analysis' projections of labour demand within the construction sector (also based on investment levels) envisage a 40 per cent increase by 2030.

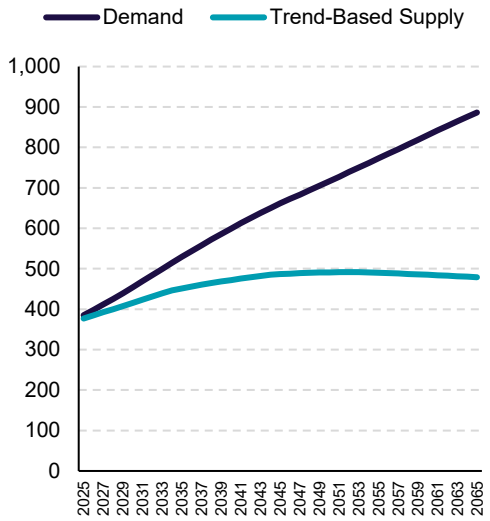
infrastructure targets. Education, by contrast, would have excess supply based on current trends, as the number of children and young people in Ireland falls.[60]

Figure 21: Labour Demand vs Trend-Based Supply

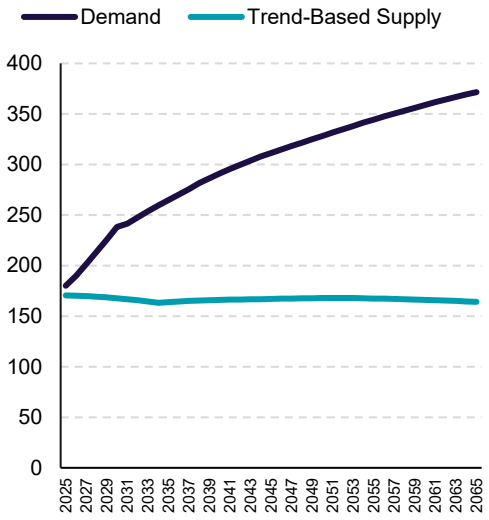
A: Gap between Labour Demand and Trend-Based Supply



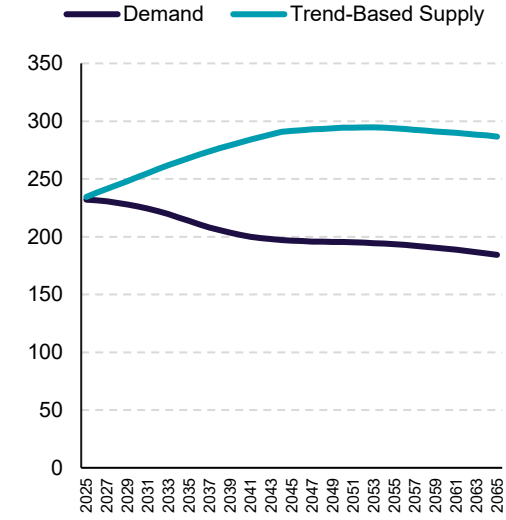
B: Human Health and Social Work Labour Deficit (000's)



C: Construction Labour Deficit (000's)



D: Education Labour Surplus (000's)

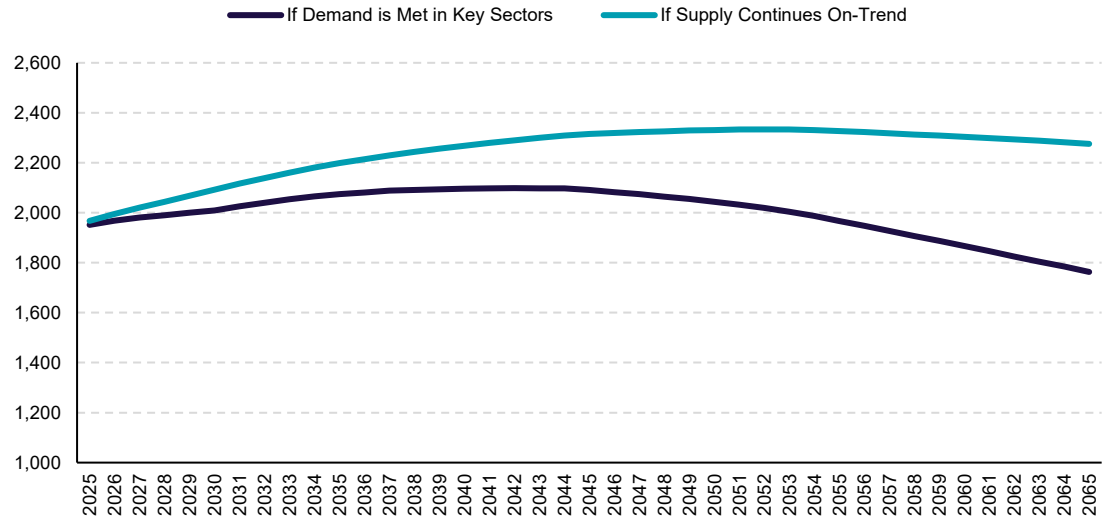


Source: Department of Finance calculations

Due to the importance of these key sectors, it is plausible that their labour needs will have to be prioritised in some form (discussed in **Section 5**) over the next forty years.[61] In that case, the implications for the rest of the economy would be significant. **Figure 22** shows that the available labour supply for all other sectors would begin to contract by the mid-2040s, as opposed to the mid-2050s under the trend-based supply projections. Every sector would be impacted by this loss of labour; however, the distribution of impacts would be uneven (see **Figure 23**).[62]

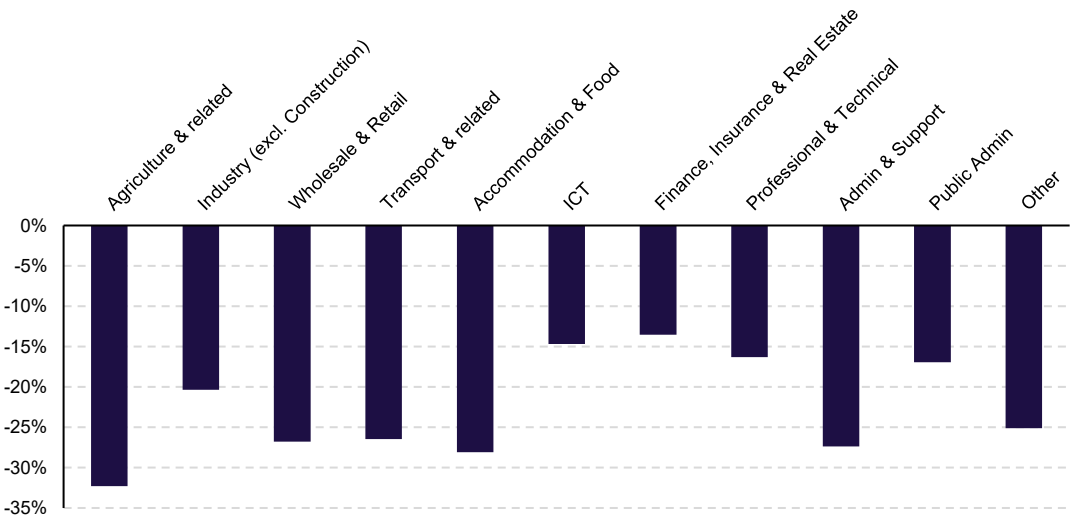
[60] It is possible that this would allow for a lower ratio of students to teachers in the Irish education system, rather than reducing demand for teachers. It is also important to note that not all those enrolled in the education system are children or young adults.
[61] This publication does not make any assumptions on how this would be achieved. Although expected labour demand implies a fall in the number of people employed in the Education sector, relative to the trend-based supply projections, this is not predictive.
[62] These estimated impacts do not account for potential policy responses to shield certain sectors from the shifting distribution of labour, nor do they account for the practical difficulty in redirecting labour towards key sectors without considerable intervention via education reform and the expansion of reskilling opportunities across the economy.

Figure 22: Labour Available for Other[63] Sectors (000's)



Source: Department of Finance calculations

Figure 23: Labour Losses Relative to Trend-Based Supply Projections[64] by 2065



Source: Department of Finance calculations

The impact of prioritising the labour requirements of these key sectors would also likely have second round effects on the wider economy and Ireland's fiscal position, in particular due to the reduction of labour in high value sectors (relative to the counterfactual), which traditionally generate both significant productivity gains but also significant exchequer revenue through income and corporation taxes. There could also be additional costs from the required investment into education and skills, in order to equip the workforce with the required skillset to assume roles in the key sectors outlined.

4.4 The Impact of Addressing Overqualification

If demand in key sectors is prioritised, this analysis concludes by testing whether reducing the prevalence of overqualification[65] could potentially alleviate the labour constraints faced by the rest of

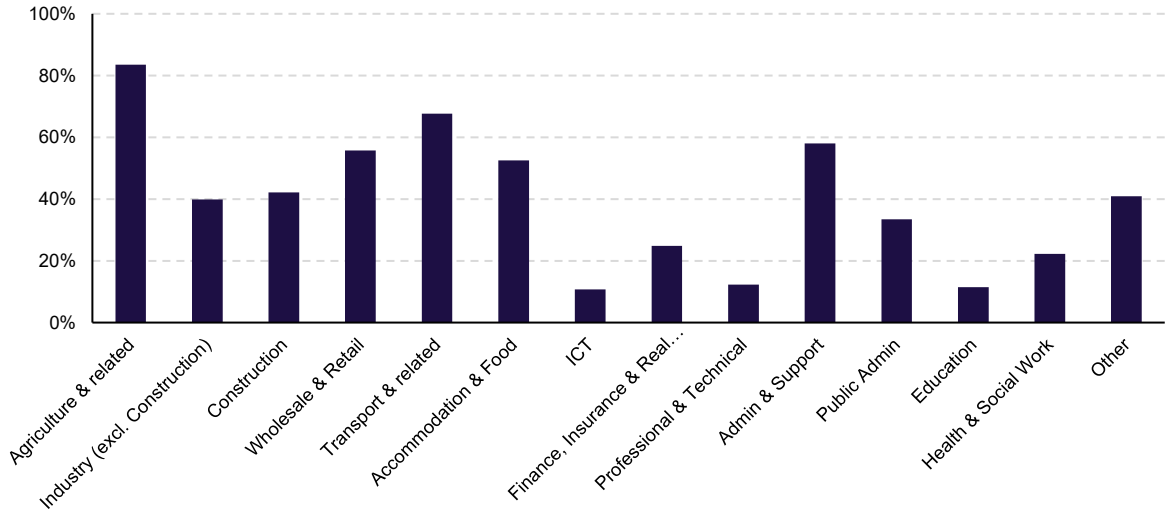
[63] 'Other' refers to all sectors excluding Health and Social Work, Construction and Education.
[64] See **Figures 14-15**.
[65] A worker is considered to be overqualified if they have a tertiary education but work in an occupation that does not require that level of training (ISCO categories 4-9). This is based on Nugent (2019). Overqualified third-level graduates in the Irish labour market. *NERI Report Series* ***19***. Available at https://www.nerinstitute.net/sites/default/files/research/NERI%2520Report%2520Series%2520no%252019%2520-%2520Overqualified%2520third-level%2520graduates%2520in%2520the%2520labour%2520market%2520Oct%252022.pdf

the economy. Overqualification implies an inefficient use of labour resources, with highly qualified individuals employed in roles which do not require their level of education. The current distribution of the Irish labour force does not accurately reflect the skill requirements in each sector, as a significant share of tertiary-educated individuals are overqualified for the role they perform.[66] This is more acute in some sectors than others (see **Figure 24**). This analysis attempts to estimate what a more appropriate distribution of human capital across sectors would look like, although it does not assess the practical likelihood of such a redistribution occurring in the future, which may require policy intervention to retrain educated workers for work in a different sector.

The data shown in **Figure 24** is used to estimate the share of overqualified tertiary-educated workers in every sector as of 2024.[67] Based on those estimates, this analysis creates a purely hypothetical scenario where those tertiary-educated workers in each sector could be replaced by either upper secondary or lower secondary-educated workers (50:50 split), without moving any existing workers from other sectors. In this hypothetical scenario, the distribution of workers with different education levels should reflect a more-efficient allocation of labour across sectors. This methodology helps to determine which sectors are currently employing a larger share of highly educated workers than they require, and which sectors could benefit if those highly educated workers could be employed elsewhere.

Based on these estimates of what the share of workers in each sector would be without overqualification, the next step is to illustrate the potential impact of a convergence towards these more appropriate shares over time. Assuming that labour demand is met in the three key sectors highlighted in **Section 4.2**, with no reduction in overqualification in those sectors, the remaining labour across the economy is assumed to be reallocated so that each sector has a more appropriate share of workers from each education cohort by 2034.[68]

Figure 24: Share of Tertiary-Educated Workers in Each Sector that are Overqualified (2019)[69]



Source: Nugent (2019)

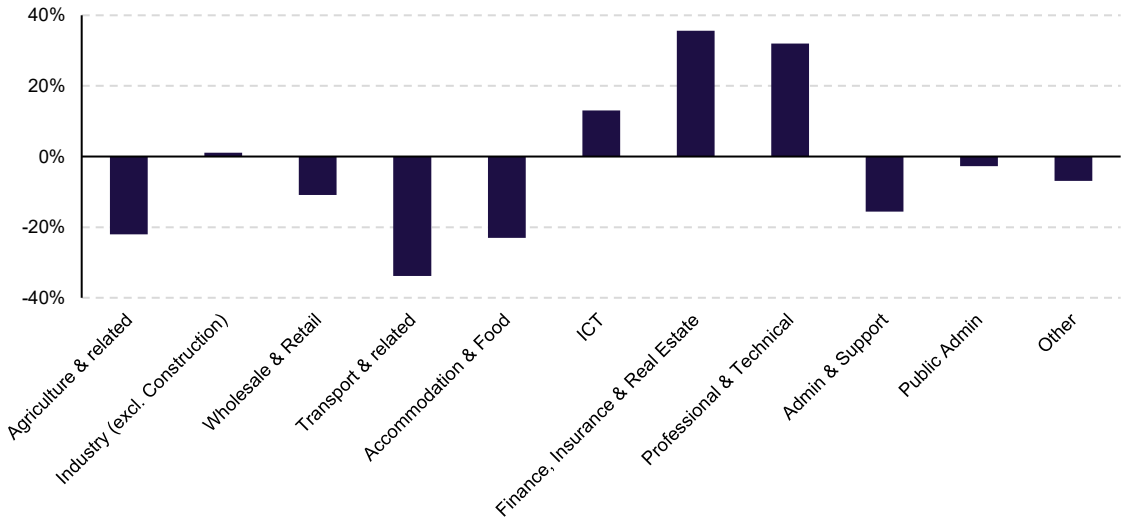
[66] For more information, see Redmond, P., & Whelan, A. (2017). *Educational Attainment and Skill Utilisation in the Irish Labour Market: An EU comparison*. ESRI. See also McGuinness, S., Bergin, A., & Whelan, A. (2018). *Overeducation in Europe: trends, convergence, and drivers*. Oxford Economic Papers, 70(4), 994-1015.
[67] Excluding Construction, Health and Social Work and Education.
[68] It must be noted that the methodology applied here is both mechanic and purely illustrative, in that it only represents a potential alternative outcome to the projections in **Section 4.3**.
[69] Nugent (2019). Overqualified third-level graduates in the Irish labour market. NERI Report Series **19**. Available at https://www.nerinstitute.net/sites/default/files/research/NERI%2520Report%2520Series%2520no%252019%2520-%2520Overqualified%2520third-level%2520graduates%2520in%2520the%2520labour%2520market%2520Oct%252022.pdf

Using the methodology outlined above, there could be significant efficiency gains from distributing highly educated labour more efficiently across the remaining sectors of the economy. **Figure 25** outlines how a more efficient distribution of the remaining supply of labour would impact all sectors of the economy.

Some sectors (such as Transport & Storage and Accommodation & Food Services) see a much larger loss in labour, due to the significant share of those sectors' current workforce being overqualified, as well as a lack of less-educated workers to replace them (see **Figure 12B**). Conversely, other, often higher value sectors (such as Financial, Insurance & Real Estate Activities and Professional, Science & Technical Activities) could benefit considerably, as they already have low overqualification rates and could absorb tertiary-educated workers from other sectors. Given that these high value sectors tend to deliver larger gains for the economy and the State's fiscal balance, tackling the issue of overqualification could lessen the wider economic impacts of labour shortages in the future.[70]

These findings are based on the assumption that all newly available highly educated workers have suitable skills for roles within high value sectors. It is possible that some tertiary-educated workers that are currently overqualified in their roles may lack the appropriate skills for alternative employment opportunities in other sectors. As such, policy must focus on preparing university graduates for roles in sectors which fully utilise their skills, as well as assisting those seeking to move into growing high-value sectors by providing opportunities to upskill or reskill throughout their life. This is particularly important in the context of broader economic shifts, with some new sectors emerging and existing sectors changing. In the Irish context, offshore wind development if an example where many workers have adjacent qualifications, therefore with a short targeted skills option, they may be enabled to enter new roles more easily. This approach will ensure that Ireland can fully reap the productivity benefits from having an exceptionally well-educated population.

Figure 25: Net Gain from Addressing Overqualification by 2065[71]



Source: Department of Finance calculations

[70] These findings fit with the theory of allocative efficiency, where high mobility of resources such as labour between less productive firms or sectors and their more productive counterparts can lead to aggregate productivity gains. The allocation of resources in the Irish economy (excluding the multinational-dominated sectors) is currently relatively inefficient, indicating that there could be considerable gains from alleviating this issue. See Papa, J., Rehill, L, & O'Connor, B. (2021). Patterns of firm-level productivity in Ireland. *The Economic and Social Review 52.3: 241-268.*

[71] 'Net Gain' refers to the increased size of the workforce in a given sector relative to what is projected in **Figure 23**. The gains from reducing overqualification are less pronounced for the ICT sector relative to Financial, Insurance & Real Estate or Professional & Technical as, unlike those sectors, the trend of ICT labour growth is strongly positive (see **Figures 14-15**).

5. Policy Considerations and Limitations

This paper outlines in detail some of the challenges that the labour market may face in the decades ahead, as constrained supply across the economy is met with growing demand in key sectors. Current labour market trends point to significant undersupply of healthcare and construction workers, which will be essential to care for Ireland's ageing population and to address housing and infrastructure needs.

If the trajectory of these key sectors can be altered to ensure that this demand is met, it will have knock-on impacts, dampening the availability of labour across all other sectors, some of which are crucial for elevating Ireland's productivity levels and provide a significant portion of tax revenues. As *Future Forty* illustrates, the Central Scenario expects labour market growth to stagnate in the mid-2040s. Should growth in high value sectors stagnate even earlier due to a larger share of labour moving into Health & Social Work or Construction, it may have considerable economic and fiscal impacts.

This analysis also provides an insight into how reducing the prevalence of overqualification could ease the impact of labour shortages for high value sectors. The approach envisages a more efficient distribution of human capital across the economy by 2034. However, this scenario also comes with complications as it may lead to shortages in other sectors which currently rely on overqualified workers to fill less-skilled roles.[72]

There are multiple policy implications from this analysis. Primarily, policymakers will increasingly need to be aware of the trade-offs involved in addressing labour market challenges. Ireland will undoubtedly require more workers in key sectors such as Health & Social Work and Construction, however meeting these demands will inevitably constrain the capacity for further expansion in many other areas of the economy.

This challenge introduces the potential need for explicit prioritisation of labour allocation across sectors to meet social needs, a shift from the current and long-standing assumption that market forces alone should balance labour supply and demand. Policy responses to address any mismatch between supply and demand may include a combination of education and training programs aligned with national needs, direct incentives to attract workers into priority sectors and targeted immigration policies.

However, prioritisation carries consequences. High-value sectors that have historically driven productivity growth and tax receipts, such as ICT and professional services, may face greater constraints on their ability to scale, with implications for innovation and competitiveness across the economy. This challenge is particularly significant given *Future Forty's* findings that long-run economic growth will depend heavily on sustained productivity gains.

More broadly, in the context of finite resources, this may prompt a re-examination of how progress in the Irish labour market is measured. The emphasis may need to shift from the quantity of jobs created, to the quality and societal value of employment. Therefore, Government must act to facilitate rather than obstruct the reallocation of workers across sectors, ensuring that the country's incredibly valuable resource of skilled labour is used as efficiently as possible. This will require an agile education and skills policy response to market developments as they occur over the coming decades, with a strong focus on boosting the country's overall productivity levels.

This analysis has several limitations. First, although *Future Forty* aims to base its projections on current policy, this is challenging across different and diverse sectors within the labour market. The trend-based supply projections above are based on a broad continuation of existing trends,[73] however they are not predictive and do not account for government policies that are actively seeking to address worker shortfalls in specific sectors. Similarly, the projections for labour demand do not account for policies that aim to curb demand growth by improving productivity levels.

[72] Automation and the expanded use of AI might have a role to play in addressing these problems.
[73] Additionally, restricting the trend analysis to a relatively short period of time (2008-2024) could obscure the scale of longer-term trends which are underway. However, data limitations prevented the use of a larger sample size.

Second, this analysis aims to split the population of workers into three broad education cohorts, however there are significant differences in the type of skills and training within each cohort, which determine whether workers can smoothly move between different sectors. For some occupations, the knowledge and skills obtained through education can be easily transferable across numerous sectors of the economy (leading to high flexibility amongst these workers); however, in many cases, skills are sector-specific (such as medical expertise). Therefore, the practicality of redistributing labour across sectors is premised on a flexible policy approach to education and training, which facilitates cross-sectoral movements as well as possible.

Third, net migration is modelled independently of future labour market conditions, however labour shortages in some sectors may be mitigated by higher levels of inward migration than what is projected in *Future Forty*. For example, the growing demands on the Irish healthcare system have resulted in the consistent growth of work visas for the sector.[74] Although higher inward migration may not be a sustainable solution for all sectors, a lack of skilled workers in Ireland could have a considerable influence on future migration levels.[75]

Finally, this analysis does not account for potential future shocks that may affect workers in some sectors more than others. For example, the widespread use of new technologies such as AI or robotics may significantly and suddenly reduce the need for more workers in sectors such as healthcare, which could free-up labour for other sectors. Alternatively, these new technologies may raise demand for complementary labour in some sectors, placing a greater strain on the available supply of workers.

This analysis builds on *Future Forty – A Fiscal and Economic Outlook to 2065* by highlighting how Ireland's evolving demographic profile is likely to slow, and ultimately halt, labour market growth. As labour supply tightens, sustaining economic growth will depend less on the expansion of employment and more on improvements in productivity. This shift may require a fundamental rethinking of how economic value from work is measured. In particular, if employment growth is concentrated in relatively low-productivity sectors, this may come at the expense of higher-value activities, weakening overall productivity and limiting long-term economic prosperity.

In this context, labour market policy may need to evolve beyond a primary focus on the quantity of jobs created, towards a stronger emphasis on the social value, quality and productivity of employment. This could involve prioritising sectors with high innovation potential, supporting firm-level productivity improvements, and enabling the reallocation of labour towards more productive uses. Achieving this will likely require policies that facilitate workforce transitions, including investment in skills development, lifelong learning, and reskilling pathways, as well as measures to reduce barriers to mobility across sectors and occupations.

[74] Economic Insights (Spring 2024). *Department of Finance*. Available at https://www.gov.ie/en/department-of-finance/publications/economic-insights-spring-2024/

[75] Other factors, such as disparities in living standards between countries, economic or political crises, conflict and environmental disasters will also likely influence migration flows over the next forty years.