Market Education and Healthcare in the Irish Economy

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Summary

Healthcare and education are two large and growing sectors in the Irish economy. While a large share of these services are delivered by the public sector, large parts of both, especially in particular types of activity such as elderly care, disability services, and pre-primary education, are delivered outside the traditional public sector. This can be by either fully private actors or by community and voluntary organisations, contracted to deliver public services on behalf of the state.

Although these services are technically being delivered by the market, very little is known about this economic activity, the characteristics of the firms involved, or how many workers are engaged and what their working conditions are.

Recent updates to Eurostat business statistics allow us to see economic indicators for the market activity in these sectors for the first time, giving us a novel insight.

Eurostat data for 2021 shows that around 62,000 and 178,000 people are working in market education and healthcare, respectively. This is equivalent to 32% and 55% of the respective workforces in these sectors.

Additional indicators on wages, value added, and firm size give us a data-driven understanding of the market portion of these sectors for the first time, providing an evidence base to begin to understand the composition of these sectors and to assess their viability.

While there are limitations to assessing one year's data in isolation, particular 2021 being a year of significant disruption due to the COVID-19 pandemic, this paper provides a baseline for augmenting our understanding of wages, working conditions, and the viability of market health and education services.

The data highlights the disparity in outcomes between the various subsectors, and provides evidence on whether market provision of these vital services is adequate or appropriate. Taking pre-primary education (or early-years childcare) as an example, concerns about working conditions and firm viability have led to increased government intervention in the sector, providing subsidies for firms to cover costs and increase wages[1]. This paper builds on this evidence base and draws attention to other subsectors where such an approach may be appropriate.

1 https://www.workplacerelations.ie/en/what_you_should_know/hours-and-wages/employment%20regulation%20orders/early-learning-and-childcare-sector/

Context

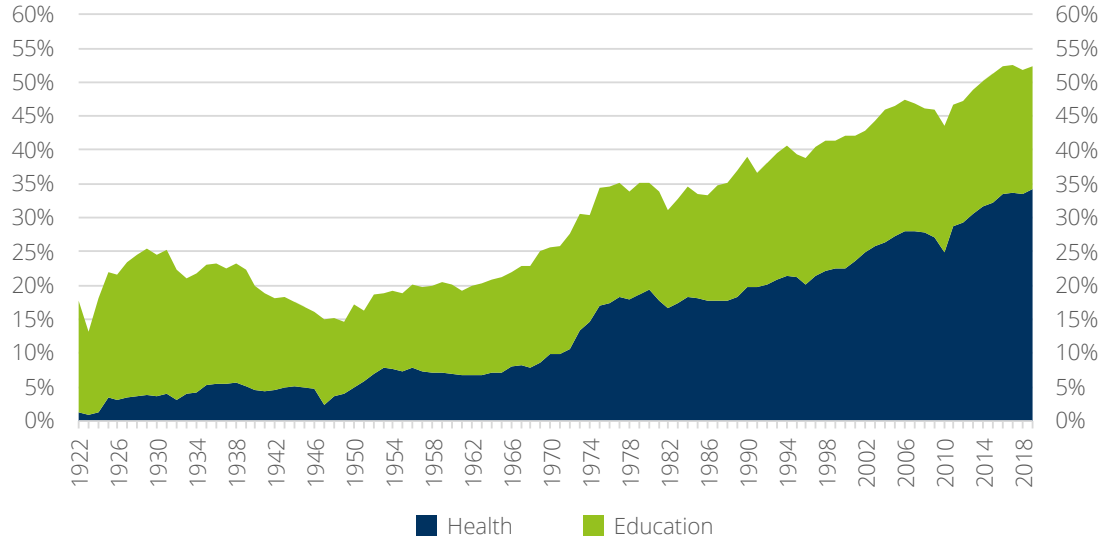
The late 20th century witnessed a global wave of privatisation, driven by perceptions of public sector inefficiency, the rise of neoliberal ideologies, and fiscal pressures on governments. Countries such as the UK, France, and New Zealand set the stage with initiatives that included the sale of state-owned enterprises (SOEs), deregulation, and contracting out of public services[2]

Healthcare privatisation reflects broader global trends, including some of the ideological arguments covered above, but also the increasing demand for healthcare services as populations age and the demand for healthcare services increases.

In a paper looking at Ireland's long-run health expenditure from the Irish Fiscal Advisory Council[3], it can be seen that health expenditure has risen significantly from less than 10% of government expenditure in the 1950s and 1960s, to over 30% today. Additionally, education has consistently been a large share of government spending since the foundation of the State, typically between 15% to 20%.

Taking these together, this supports the argument that requirements on the State in these areas have grown significantly. As these demands have grown, services have increasingly been delivered by a combination of public and market actors.

Figure 1 - Health & Education expenditure as % of government spending, 1922 - 2019



Source: Irish Fiscal Advisory Council

When it comes to healthcare more generally, policies promoting private health insurance and dual consultant practices have been a feature of the Irish system since the middle of

2 Hemming, R., & Mansoor, A. M. (1998) Privatization and Public Enterprises. USA: International Monetary Fund. Available at: https://www.elibrary.imf.org/display/book/9781557750051/9781557750051.xml
3 https://www.fiscalcouncil.ie/wp-content/uploads/2021/11/The-path-for-Irelands-health-budget.pdf

the 20th century, creating a two-tiered system where privately insured individuals enjoy faster access and better services[4].

Looking specifically at home-care services for the elderly and the disabled, these were typically delivered by religious and charitable organisations during the 20th century, with a tendency towards large-scale institutions particularly in the latter case.

Movement towards a more human-rights focused approach to disability services increased the role of private provision towards the end of the century, whether by wholly private providers or the expansion of charitable and voluntary services[5].

Particularly in elderly care, privatisation has allowed for-profit providers to dominate home care services, driven by deregulation and increased demand, with a concentration of market power among large firms[6]

Increased participation of women in the labour force throughout the 20th century also meant that in-home care by relatives was not able to supplement provision in elderly and disabled care, necessitating greater involvement of private and charitable operators.

In the case of education, one area dominated by private provision is early childhood education and care (ECEC), with 99% of pre-primary education delivered by private providers, an outlier among OECD countries[7].

Rising female labour force participation in the late 20th century created a surge in demand, which the private sector met with limited state support[8].

Ireland's government investment in childcare remains one of the lowest in the OECD, with some of the highest costs[9]. In recent years, there have been moves to reduce costs by providing subsidies to providers in return for reductions in costs for parents, but this involves subsidies to private providers rather than a public model for ECEC services as is the norm in peer OECD countries.

While it is clear that large parts of education and healthcare services are delivered outside the public sector, there is relatively little information on this activity; what the wages and working conditions are like, what types of firms are involved, or how productive or viable the firms are. This paper will attempt to examine these questions, with the following section examining the available information on conditions in the market segments of these sectors, as well as looking at how productivity is typically measured in education and health services in order to contextualise how our approach differs.

4 Mercille, J. (2018) Privatization in the Irish hospital sector since 1980, Journal of Public Health. Available at: https://doi.org/10.1093/pubmed/fdy027
5 https://nda.ie/publications/20-years-of-disability-policy
6 Mercille, J & O'Neill, N. (2024) Institutional Business Power: The Case of Ireland's Private Home Care Providers. Journal of Social Policy. Available at: https://www.cambridge.org/core/journals/journal-of-social-policy/article/institutional-business-power-the-case-of-irelands-private-home-care-providers/63E85955E8475E24C4DAAC3AC1DB91DA
7 https://data.oireachtas.ie/ie/oireachtas/libraryResearch/2020/2020-06-16_l-rs-note-public-provision-of-early-childhood-education-an-overview-of-the-international-evidence_en.pdf
8 https://www.ihrec.ie/download/pdf/a_womans_place___female_participation_in_the_irish_labour_market.pdf
9 European Commission (2019) Key Data on Early Childhood Education and Care in Europe. Available at: https://www.hm.ee/sites/default/files/documents/2022-07/kd_ecec_2019_report_en.pdf

Literature Review

Wages and working conditions in market education and healthcare

Despite the evidence of quite a large amount of activity in these sectors being delivered by firms and employees outside the traditional public sector, there is very little analysis or data available on these sectors, their relative proportion of activity or service provision, or the conditions for those employed.

Looking at wages and working conditions, while there is little recent evidence on the wage differential between public and private operators, an OECD study from 2020 conducted a cross-country study of the long-term care sector, highlighting that in Ireland's case, "personal care workers (health care assistants) receive an average of EUR 10.40 per hour in the private LTC (long-term care) sector, which represents a wage 6% above the minimum wage but 23% lower than in the public LTC sector."[10] This finding is corroborated by the 2020 report on the Nursing Homes Support Scheme (Fair Deal) produced by the Comptroller and Auditor General (C&AG), which highlighted a significant differential between weekly charge rates between public and private care homes which it attributed to "better pay and conditions for staff in public nursing homes, including the implementation of national pay awards", as well as "higher staff-to-resident ratios in public nursing homes"[11].

While more recent data is difficult to come by, a recent Irish Government Economic and Evaluation Service paper supported the finding from the C&AG paper showing that a 64.7% differential in weekly cost per bed remained between the private and

10 https://www.oecd.org/en/publications/who-cares-attracting-and-retaining-elderly-care-workers_92c0ef68-en.html
11 https://data.oireachtas.ie/ie/oireachtas/committee/dail/33/committee_of_public_accounts/reports/2021/2021-01-22_report-on-the-committee-of-public-accounts-examination-of-c-ag-special-report-110-nursing-homes-support-scheme-fair-deal_en.pdf

public sectors, and that costs had risen more rapidly in the public sector than the private sector between 2019 and 2023, due in some part to higher wage growth in the public sector[12]. While it is not currently possible to compare private sector wage growth against public sector pay agreements, employer representative body IBEC recently gave evidence at the Joint Committee on Enterprise, Trade and Employment that the typical hourly rate for a privately employed home carer was "in the region of €13.10", slightly above the 2024 Minimum Wage of €12.70 per hour[13].

Focusing more specifically on working conditions, a recent survey carried out by researchers at University College Dublin surveyed home care workers and attempted to establish if there were statistically significant differences in key indicators of working conditions between the three main classes of healthcare service providers, namely public, non-profit, and private. Respondents reported worse conditions among non-profit and private employers in areas such as zero-hour contracts, pensions, remuneration for unsocial hours, and reimbursement for travel costs[14].

While all the above research is crucial in shining a light on a relatively unknown sector, there remains a general paucity of research on the market activity in healthcare and education more generally. With this in mind, additional data or research on these sectors, especially those firms and employees outside the public sector, is particularly welcome.

Productivity in the context of education and healthcare

The Office of National Statistics (ONS) defines productivity as follows:

> *"In simple terms, productivity is a measure of how much output is generated per unit of input. It is important because higher productivity is well understood to be linked to higher incomes and standards of living. However, differences in the way that output and inputs are defined lead to various approaches to measuring productivity, which can make comparisons between the approaches difficult."*

While labour productivity, expressed in value added (or outputs minus inputs) per hour worked, is the most easily conceptualised of the productivity measures, it is typically not deemed appropriate when looking at sectors such as healthcare, or education, or other sectors which are typically publicly-funded or "free at the point of use". The lack of a market price for the output means that value added is not calculable, and alternative measures of relating the changes in public sector inputs to their outputs are necessary to understand changes in the efficiency or otherwise of public services.

In healthcare, output is often weighted by some sort of cost-weighted index, where more expensive and more complex services are weighted more heavily in the data to reflect the increasing complexity of workload and how this might affect the translation of inputs into outputs[15].

12 https://assets.gov.ie/288198/d0a3be32-55f9-4503-af37-873c2e66bc4c.pdf
13 https://www.oireachtas.ie/en/debates/debate/joint_committee_on_enterprise_trade_and_employment/2024-06-19/2/
14 https://www.emerald.com/insight/content/doi/10.1108/IJSSP-10-2022-0276/full/html
15 https://www.ons.gov.uk/economy/economicoutputandproductivity/publicservicesproductivity/methodologies/methodologicaldevelopmentstopublicserviceproductivityhealthcare2021update

In education, the approach undertaken by the ONS is to look at the quantity of education outputs, such as number of students or attendance, then weight these through a "quality adjustment" such as examining changes in educational attainment or the average point score per student in State examinations[16].

In the case of Ireland, attempts to understand productivity in these non-market services has been limited. A notable exception is a 2024 analytical paper from the Irish Government Economic and Evaluation Service, which examined trends in healthcare expenditure and output between 2016 and 2022[17]. Taking rich data on the volume of various healthcare services delivered in acute hospitals, the authors developed a "composite activity" measure, which utilises aggregate Inpatient, Day-Case, Outpatient and Emergency outputs, weighted by unit costs for each area, and adjusted for patient complexity.

While this provides valuable insights on the drivers of efficiency in non-market services, there are significant shares of education and healthcare activity being delivered by market agents, for whom traditional output metrics are available and productivity can be calculated.

These metrics are available for both education and healthcare for the first time under Eurostat's newly updated Structural Business Statistics, allowing us to examine these services and their performance in a novel way.

Data & Methodology

Updates to Eurostat's Structural Business Statistics (SBS) mean that, from 2021 onwards, statistics are reported for NACE economic sectors K, P, and Q, covering Financial and insurance activities, Education, and Human health and social work activities, respectively.

While these sectors have been until now covered only in domestic statistical releases, such as the Central Statistics Office's Business Demography release, this is the first time that market indicators for education and health have been published.

These indicators include the number of firms and persons engaged, the number of employees (and hence the split between employees and others engaged, such as the self-employed), turnover, value added, and gross operating surplus, as well as the amount spent on wages and salaries by sector.

While there are some 34 economic indicators available, the ones examined here are listed below in Table 1.

16 https://www.ons.gov.uk/economy/economicoutputandproductivity/publicservicesproductivity/methodologies/sourcesandmethodspublicserviceproductivityestimateseducation
17 https://www.gov.ie/en/publication/36169-an-examination-of-trends-in-activity-expenditure-and-workforce-in-publicly-funded-acute-hospitals-in-ireland/

Table 1 – List of economic indicators

Enterprises – number
Persons employed – number
Employees – number
Share of employees in persons employed – percentage *This is the percentage of the workforce in any sector that are considered employees, with the remainder being self-employed.*
Value added (€m) *This is the surplus of outputs over inputs as discussed in the previous section.*
Value added per person employed ("apparent labour productivity") *This is the total value added for the sector divided by the number of workers, or persons employed. This statistic is also available dividing by the total number of employees, i.e., value added per employee, but this flatters sectors with a lower share of employees.*
Average hours worked by employees (annual)
Average employee benefits expense (€000) *This is the average cost of paying an employee in the sector, and includes both wages and social security contributions.*
Employee benefits expense per hours worked by employees (€) *This is the employee benefits expense divided by total hours worked in the sector by employees.*
Employee benefits expense (€m) *This is the share of value added that is spent on wages and social security contributions.*
Gross operating surplus (€m) *This is the share of value added that is left after paying for wages and social security contributions.*
Wage share (employee benefits expense as % of value added) *This is a measure of what proportion of value added is spent on wages and social security contributions. It is typically higher in labour-intensive sectors, and lower in capital-intensive sectors, or sectors with higher levels of self-employment where remuneration is paid via dividends.*

While indicators on the number of firms or workers, or the level of wages, are typically available in education and healthcare, what is novel about this dataset is the availability of market indicators such as value added, typically used as a measure of productivity or the ability of a firm and its workers to turn inputs into outputs.

In the previous section, we discussed alternative ways of measuring productivity when this "price" for what is produced is not available; by contrast, here we can examine these services as we do other economic sectors of activity.

However, it is important to draw some distinctions before proceeding.

These sectors are not traditional market sectors which produce physical goods for export or can always set their own prices. If a childcare or healthcare provider discovers some more efficient way to deliver its services that reduces costs, this might be reflected in reduced public subsidies for this service, as opposed to higher productivity. This makes understanding value added in these services more complex. What we can say is that this indicator provides some insight into how much is left of revenue after accounting for inputs that can be used to pay for wages and profits, and defines whether these firms are viable and what quality of working conditions, whether that be wages or otherwise, they can provide for their workers.

In addition to the above indicators, it is possible to disaggregate the sectors by firm size, showing each of the economic indicators grouped by the number of people working in each firm. This allows us to examine factors such as the concentration of employment in small and large firms, and the difference in value added and viability by firm size.

Looking now to the data, while the Eurostat release covers only those firms and employees operating in the "market" economy, the CSO Business Demography release encompasses all firms and employees operating in these sectors. This crossover between these two sources allows us for the first time to calculate the share of activity in these sectors which can be considered "market" activity.

Table 2 below shows the total figures for firms and persons employed/engaged for the Eurostat market employment definition, the broader CSO Business Demography definition, and the proportion of firms and employees in these sectors which can be considered market.

Table 2 – Enterprise and employment figures from Eurostat and CSO Business Demography, 2021

	Eurostat		CSO		"Market" activity	
	Enterprises	Persons employed	Enterprises	Persons engaged	Enterprises	Persons engaged
Education	12,381	61,964	15,885	194,622	78%	32%
Human health and social work activities	22,597	177,754	22,762	325,423	99%	55%
Human health activities	16,503	64,159	16,541	181,601	100%	35%
Residential care activities	975	41,978	1,002	51,255	97%	82%
Social work activities without accommodation	5,119	71,617	5,219	92,567	98%	77%

Source: CSO, Eurostat

While there are unfortunately no breakdowns for more specific subsectors in the CSO data at this time, we can see that around 30% of education is market employment, along with just over half of health employment, concentrated particularly in residential and non-residential care.

Eurostat data does have more specific breakdowns, comprising 6 education subsectors and 9 health subsectors. While it is not possible to compare public and private shares, there are various economic indicators available for the activity within these sectors that is classified as market employment, which will allow us a novel insight into market education and healthcare in Ireland.

The 6 Education subsectors are:

- Pre-primary education
- Primary education
- Secondary education
- Higher education
- Other education
- Educational support activities

The 9 Health subsectors are:

- Human health activities
  - Hospital activities
  - Medical and dental practice activities
  - Other human health activities
- Residential care activities
  - Residential nursing care activities
  - Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse
  - Residential care activities for older persons or persons with physical disabilities
  - Other residential care activities

- Social work activities without accommodation
  - Social work activities without accommodation for older persons or persons with disabilities
  - Other social work activities without accommodation[18]

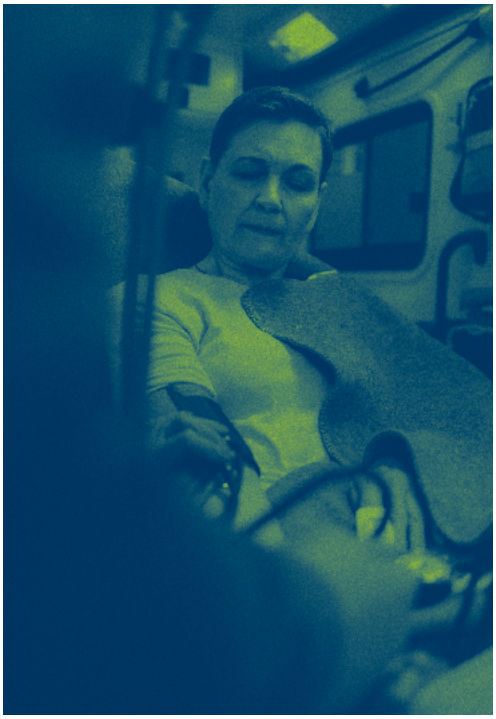
The following section will examine these subsectors using the indicators previously listed, using these as a means of understanding the market portion of these sectors and examining the differences and similarities in their characteristics.

Examination of key indicators

Table 3 below shows the number of firms or enterprises, the number of persons employed, the number of employees, and the proportion of employed persons who are classified as employees.

In most sectors, employees comprise the overwhelming majority of those engaged. However, there are several outliers. In Education, Other education and Educational support activities, as well as to a lesser extent Secondary education, stand out as having a high share of non-employees among those engaged in the market sector. The first of these, Other education, includes activities such as driving instruction, cultural education including music and art education, learning centres offering remedial instruction and academic tutoring, and foreign language instruction. Certain activities such as driving or music instruction within this activity would presumably be particularly suited to small firm size and self-employment.

Looking next at the Health subsectors, again the overall picture is of high levels of employees among those engaged, although less so for Medical and dental practice activities, and Other human health activities. Together, these sectors comprise market activity dedicated to human health which is not carried out in hospitals, and includes things like general practitioners, dentists, physiotherapists, speech and language therapists, and so on. As above, these activities would be typically at a small scale with low average firm size and high shares of self-employment.



18 These sector labels are those included in the latest update to the NACE categories, namely NACE Rev 2.1, which have updated inappropriate terms used previously. See https://ec.europa.eu/eurostat/web/products-eurostat-news/w/wdn-20230210-1 for more detail.

Table 3 – Enterprises, persons employed, employees, and share of employees in persons employed, 2021

	Enterprises - number	Persons employed - number	Employees - number	Share of employees in persons employed (%)
Education	12,381	61,964	52,718	85.1
Pre-primary education	1,655	9,772	8,605	88.1
Primary education	521	2,111	1,845	87.4
Secondary education	939	2,597	1,896	73.0
Higher education	343	30,163	29,993	99.4
Other education	8,172	15,893	9,405	59.2
Educational support activities	751	1,428	974	68.2
Human health and social work activities	22,597	177,754	161,295	90.7
Human health activities	16,503	64,159	50,120	78.1
Hospital activities	944	15,305	14,658	95.8
Medical and dental practice activities	8,523	28,290	20,762	73.4
Other human health activities	7,036	20,564	14,700	71.5
Residential care activities	975	41,978	41,742	99.4
Residential nursing care activities	528	28,554	28,440	99.6
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	81	3,983	3,948	99.1
Residential care activities for older persons or persons with physical disabilities	169	3,186	3,147	98.8
Other residential care activities	197	6,255	6,207	99.2
Social work activities without accommodation	5,119	71,617	69,433	97.0
Social work activities without accommodation for older persons or persons with disabilities	285	10,888	10,817	99.4
Other social work activities without accommodation	4,834	60,729	58,616	96.5

Next, Table 4 shows the value added generated in each of the subsectors, as well as the value added per person employed, labelled "apparent labour productivity" in the Eurostat data.

Value added per person employed, as opposed to value added per employee, accounts for the fact that there are very different shares of employees among those working in the different subsectors, and hence gives us a more realistic picture of the value added generated per unit of labour[19].

Looking at the total value-added figures in Education first, we can see it is concentrated in both Higher education, and Other education, which is logical considering this is where around 75% of market employment is concentrated for this sector. Value added per person employed is highest in Higher education, at €48,600 per person employed, with Educational support activities and Other education in a distant 2nd and 3rd place at €33,400 and €32,400 per person engaged, respectively.

Pre-primary education, which includes childcare for those not yet at primary school age, has a value added of around €25,900 per person engaged, and confirms what we know about this sector being a relatively low productivity sector which struggles with viability when it comes to maintaining profitability and paying sufficiently high wages to attract and retain workers[20].

Looking next at Health, market value added for this sector is concentrated in Human health activities, followed by Social work activities without accommodation, and finally Residential care activities.

Looking at value added per person employed, Human health activities is the most productive subsector, at €54,300 per person employed. This is concentrated in Medical and dental practice activities, with value added of €64,400 per person employed.

19 Another metric available in the database, "Value added per hours worked by employees", suffers from similar issues as value added per employee, in that it overstates productivity for subsectors where there is a lower share of employees. This gives a false picture of higher productivity in certain sectors and is hence not examined here.

20 It is also important to caveat, as shall be discussed later, that these figures are for a particularly atypical year where the Education sector, among others, suffered significant disruption due to the COVID-19 pandemic, and any findings must be viewed in that context.

Value added per person employed in Social work activities without accommodation for the elderly and disabled is particularly low, at €19,900 per person employed, although the bulk of employment in the broader sector is concentrated in Other social work activities without accommodation, which has a higher average value added per person employed of €27,600.

Table 4 – Value added (€m) and value added per person employed, 2021

	Value added (€m)	Value added per person employed (€000)
Education	2,390.6	38.6
Pre-primary education	253.5	25.9
Primary education	40.9	19.4
Secondary education	67.7	26.1
Higher education	1,466.2	48.6
Other education	514.6	32.4
Educational support activities	47.7	33.4
Human health and social work activities	6,748.8	38.0
Human health activities	3,485.6	54.3
Hospital activities	783.6	51.2
Medical and dental practice activities	1,823.0	64.4
Other human health activities	879.0	42.7
Residential care activities	1,373.3	32.7
Residential nursing care activities	938.5	32.9
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	115.7	29.1
Residential care activities for older persons or persons with physical disabilities	106.0	33.3
Other residential care activities	213.1	34.1
Social work activities without accommodation	1,889.9	26.4
Social work activities without accommodation for older persons or persons with disabilities	216.6	19.9
Other social work activities without accommodation	1,673.3	27.6

Table 5 looks at further indicators of average hours worked by employees in the various subsectors, as well as the average employee benefits expense (wages and salaries plus employer social charges), and employee benefits per hour worked[21].

In Education, average hours worked are quite low relative to the wider economy, averaging 932 hours annually for the wider sector, ranging from 887 hours in Primary education to 950 hours in Higher education.

21 It is important to note that these indicators refer to employees only; those who are not employees are paid out of gross operating surplus, and their hours worked are not available to calculate an average figure.

However, Education typically has a quite low number of average hours worked as educators typically work 20 to 25 contact hours per week which is then supplemented by additional work such as preparing lessons, correcting assignments, and so on, which is not necessarily counted in the data[22].

Average employee benefits expense for the sector as a whole is €41,800 per annum, driven predominantly by the relatively highly paid Higher education subsector, with average employee benefits expense here of €55,100. This compares favourably with the other subsectors, with Pre-primary education having the lowest at €20,700 per employee.

It is important to note that a higher incidence of part-time employment in certain sectors will produce a lower reading for this indicator, as workers employed less intensively will bias per worker indicators downwards. When looking instead of employee benefits expense per hours worked by employees, Pre-primary education comes in at €23.18, higher than Primary education at €19.43, but still significantly below Higher education at €57.97, or €44.80 for the wider sector.

It is important to note that a higher incidence of part-time employment in certain sectors will produce a lower reading for this indicator

In Health, the figures for average hours worked by employees vary significantly between the various subsectors, with Human health activities and Residential care activities having much higher average annual hours worked than Social work activities without accommodation. Additionally, it is important to restate that these figures refer to employees only; in sectors such as Medical and dental practice activities, or Other human health activities, those working in the sector who are not employees may have significantly greater average working hours than their peers who are traditional employees.

Average employee benefits expense for the market Health sector is €31,700 per annum, and again is subject to variation between subsectors, being as low as €23,200 for Other social work activities without accommodation, and as high as €52,500 in Hospital activities.

Some sectors produce unexpected figures, such as €38,900 per employee in Medical and dental practice activities, a sector dominated by highly-paid occupations such as dentists and general practitioners. However, it is again important to highlight that a large share of the well-paid within this subsector will either be owners or be receiving remuneration outside the traditional wage bill, leaving those who are traditionally employees in such practices making up a greater share of the average.

22 Comparing these findings for the market economy against data from the Earnings, Hours and Employment Costs Survey (EHECS), in the latest quarter (Q1 2024), average weekly paid hours in the Education sector were 24.5 hours, compared with 32.5 hours in the wider economy. This figure has been reasonably consistent over the previous several years even during the COVID-19 pandemic, fluctuating between 23.1 hours per week and 24.8 hours per week in the 4-year period until Q1 2024.

Looking finally at employee benefits expense per hours worked by employees, the average for the Health sector as a whole is €27.68 per hour worked, with most subsectors producing similar figures, with the exception of Hospital activities which comes in at €37 per hour worked by employees.

Table 5 – Average hours worked by employees (annual), average employee benefits expense (€000), and employee benefits expense per hour worked (€), 2021

	Average hours worked by employees (annual)	Average employee benefits expense (€000)	Employee benefits expense per hours worked by employees (€)
Education	932	41.8	44.8
Pre-primary education	892	20.7	23.2
Primary education	887	17.2	19.4
Secondary education	910	25.2	27.7
Higher education	950	55.1	58.0
Other education	922	28.0	30.4
Educational support activities	944	28.6	30.3
Human health and social work activities	1145	31.7	27.7
Human health activities	1319	42.1	31.9
Hospital activities	1418	52.5	37.0
Medical and dental practice activities	1303	38.9	29.9
Other human health activities	1243	36.3	29.2
Residential care activities	1302	32.2	24.7
Residential nursing care activities	1307	30.4	23.3
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	1410	30.8	21.9
Residential care activities for older persons or persons with physical disabilities	1258	31.5	25.0
Other residential care activities	1231	41.8	34.0
Social work activities without accommodation	925	23.9	25.8
Social work activities without accommodation for older persons or persons with disabilities	909	27.8	30.6
Other social work activities without accommodation	929	23.2	24.9

Table 6 shows again the total value added for each of the subsectors, which is divided into employee benefits expense and gross operating surplus, all expressed in millions of euro. A rough calculation of the wage share (how much of the value generated by a business is used to remunerate employees) is provided in the final column. Activities which are low margin typically have a wage share closer to 100%, whereas activities with high profitability or that are capital intensive have a lower wage share.

It is important to highlight that some of the sectors also have atypical remuneration structures, with a high concentration of firms with low or no employees whose workers may be remunerated through profits (and hence gross operating surplus) rather than the wage bill.

Before looking at the wage share for the subsectors, we should again restate that 2021 was an atypical year, with huge increases in the complexity and cost of delivering Education and Health services in the context of varying levels of demand due to the COVID-19 pandemic. This goes some way to explaining the negative gross operating surplus figure in some subsectors and the subsequent wage share of over 100%; these may be sectors that had falling revenue due to pandemic-related disruptions, or significantly increased wage bills which could not be covered by that year's turnover after other costs were considered. It will not be possible to see whether these figures are a feature of these subsectors or a pandemic effect until several years' worth of data become available.

In this context, it is difficult to draw too may conclusions from the wage share, other than that for those sectors which have a high share of self-employment, the wage share is lower; for example, in Medical and dental practice activities, only 44.3% of value added is spent on wages, with the rest being allocated to gross operating surplus. A similar trend is viewed in Other human health activities, Other education, and Educational support activities. All other sectors have a wage share close to or above 100%, which is understandable considering both the context of 2021 as well as the fact that these are highly labour-intensive sectors.

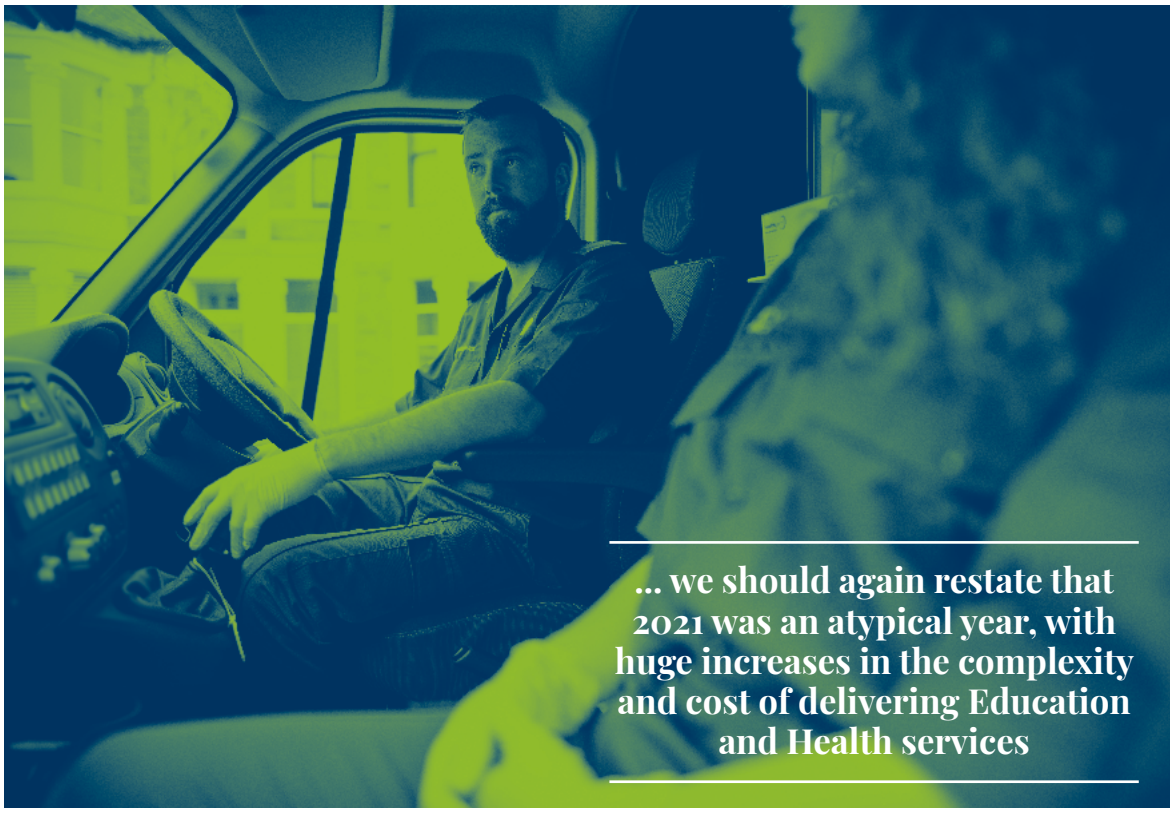


Table 6 – Value added, employee benefits expense, gross operating surplus (€m), and wage share of output, 2021

	Value added (€m)	Employee benefits expense (€m)	Gross operating surplus (€m)	Wage share (%)
Education	2390.6	2201.1	189.5	92.1
Pre-primary education	253.5	177.9	75.6	70.2
Primary education	40.9	31.8	9.1	77.8
Secondary education	67.7	47.7	20.0	70.5
Higher education	1466.2	1652.5	-186.3	112.7
Other education	514.6	263.4	251.2	51.2
Educational support activities	47.7	27.8	19.9	58.3
Human health and social work activities	6748.8	5112.4	1636.3	75.8
Human health activities	3485.6	2110.2	1375.4	60.5
Hospital activities	783.6	769.1	14.5	98.1
Medical and dental practice activities	1823.0	808.1	1015.0	44.3
Other human health activities	879.0	533.1	345.9	60.6
Residential care activities	1373.3	1344.3	29.0	97.9
Residential nursing care activities	938.5	864.0	74.5	92.1
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	115.7	121.7	-6.0	105.2
Residential care activities for older persons or persons with physical disabilities	106.0	99.0	7.0	93.4
Other residential care activities	213.1	259.5	-46.4	121.8
Social work activities without accommodation	1889.9	1657.9	231.9	87.7
Social work activities without accommodation for older persons or persons with disabilities	216.6	300.7	-84.2	138.9
Other social work activities without accommodation	1673.3	1357.2	316.1	81.1

Characteristics of subsectors by firm size

Eurostat also provides breakdowns for a selection of these indicators by firm size category. Firms can be categorised as small, medium, or large, with small firms having less than 50 persons employed, medium firms between 50 and 250 persons employed, and large firms having greater than 250 persons employed.

Of the indicators referenced in the previous section, a significant majority of the variables are not available by firm size, and another proportion have been redacted due to confidentiality concerns[23]. While this limits what we can draw from this data source,

23 In the Irish case, if any one firm makes up over 80% of the value of any of the economic indicators, or two firms make up over 90%, or if there are less than 5 firms in any of the breakdowns, these are redacted to protect the confidentiality of those responding to the survey. Additionally, if only one box is redacted for the above reasons, at least one other box must also be redacted to protect against the risk of secondary disclosure.

the following section focuses on 3 of the economic indicators for which data is available and it is possible to gain insight in spite of the necessary redactions.

For each of the indicators, the total column is the absolute figure, and the breakdowns by firm size category show the proportion of each indicator attributed to firms of this size.

Persons employed

Table 7 shows the total number of persons employed by subsector, as well as the proportion of employees in each of the firm size categories. While a majority of firms are categorised as small, both Education and Health show a more even distribution of persons employed across the firm size categories, although there are differences between the various subsectors.

In Education, the headline figure of 45.7% working for large firms is driven by the redacted figure in Higher education, which is logical considering what we know about universities and the scale they typically operate at.

For all other subsectors, either a majority, or a large minority, are employed by firms with less than 10 persons employed. This is particularly true in Other education and Educational support activities, sectors which we highlighted earlier as having outsized shares of individuals working who were not employees, and consisting of activities that lend themselves to small firm size and self-employment.

In Health, the redactions for specific subsectors make the findings less revealing. Residential care activities stands out relative to the others, with nearly 70% of persons employed working for a firm with 50 persons employed or more.

The lack of further breakdowns limits our ability to examine differences between, as an example, hospital-delivered human health activities and those delivered by specialists at smaller scales in clinics.

The lack of large-scale firms in Social work activities without accommodation is potentially a limitation when considering flexibility for staffing when workers fall ill, engaging in investment in physical or human capital, along with the other factors which feed into firm productivity and viability.

Table 7 – Persons employed by firm size category, 2021

	Total	From 0 to 9 persons employed (%)	From 10 to 19 persons employed (%)	From 20 to 49 persons employed (%)	From 50 to 249 persons employed (%)	250 persons employed or more (%)
Education	61,964	29.4	8.4	9.2	7.3	45.7
Pre-primary education	9,772	48.9	23.8	N/A	N/A	0.0
Primary education	2,111	57.7	26.7	N/A	N/A	0.0
Secondary education	2,597	47.2	11.8	N/A	N/A	0.0
Higher education	30,163	1.4	0.5	N/A	N/A	N/A
Other education	15,893	61.2	11.4	N/A	N/A	N/A
Educational support activities	1,428	60.0	5.2	N/A	N/A	0.0
Human health and social work activities	177,754	20.3	10.4	16.2	29.4	23.7
Human health activities	64,159	41.4	10.0	5.3	12.0	31.3
Hospital activities	15,305	N/A	N/A	N/A	N/A	N/A
Medical and dental practice activities	28,290	N/A	N/A	N/A	N/A	N/A
Other human health activities	20,564	N/A	N/A	N/A	N/A	N/A
Residential care activities	41,978	1.8	2.2	17.4	49.8	28.8
Residential nursing care activities	28,554	N/A	N/A	N/A	N/A	N/A
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	3,983	N/A	N/A	N/A	N/A	N/A
Residential care activities for older persons or persons with physical disabilities	3,186	N/A	N/A	N/A	N/A	N/A
Other residential care activities	6,255	N/A	N/A	N/A	N/A	N/A
Social work activities without accommodation	71,617	12.3	15.5	25.3	32.9	13.9
Social work activities without accommodation for older persons or persons with disabilities	10,888	N/A	N/A	N/A	N/A	N/A
Other social work activities without accommodation	60,729	N/A	N/A	N/A	N/A	N/A

Value added – million euro

Table 8 shows the breakdown of value added generated in each of the subsectors by firms in each of the firm size categories, expressed in millions of euro. In general, these roughly match where the employment is concentrated, but it is worth taking time to look at particular subsectors in more detail before moving on to the final breakdown of average productivity per person employed in Table 8 below.

Looking first at Education, we can see that, of the roughly €2.4bn generated by the market Education sector, significantly more than half (57.2%) is generated by large firms with over 250 employees. While there are significant redactions in the figures, we can see that, for every subsector except Higher education, the majority of value added is generated by firms with less than 20 employees. Combining these two findings would lead us to suggest that, when looking at market Education, a large majority of value added is generated by Higher education, and this is predominantly concentrated in universities that are here classified as large firms.

The other economically meaningful sectors are Other education, which has value added concentrated in small scale firms much like its employment, and Pre-primary education, which again operates on a relatively small scale.

Linking back with the point when discussing the previous table, having employment and value added concentrated in firms of such small scale limits the potential of these sectors engage in practices that might increase output per worker and improve their viability.

Looking next at Health, we can see the value added generated by the sector is spread reasonably across the distribution of firm size categories, although the 32.5% attributed to firms with less than 10 persons employed is driven almost entirely by Human health activities. Presumably, this is due to the inclusion in this sector of the small-scale firms in areas such as Medical and dental practice activities, and Other human health activities, while Hospital activities will be by its nature dominated by larger firms.

Looking at both Residential care activities and Social work activities without accommodation, the value added generated by these sectors is predominantly concentrated in the same places where the employment is concentrated, in firms with 20 to 49 persons employed, or 50 to 249 persons employed. Residential care activities has very little activity at smaller scale, which matches its shares of employment by firm size.

Table 8 – Value added (€m) by firm size category, 2021

	Total (€m)	From 0 to 9 persons employed (%)	From 10 to 19 persons employed (%)	From 20 to 49 persons employed (%)	From 50 to 249 persons employed (%)	250 persons employed or more (%)
Education	2,391	22.0	5.8	7.2	7.8	57.2
Pre-primary education	253	45.8	21.0	N/A	N/A	0.0
Primary education	41	60.3	26.0	N/A	N/A	0.0
Secondary education	68	50.4	8.4	N/A	N/A	0.0
Higher education	1,466	1.2	0.5	N/A	N/A	N/A
Other education	515	58.5	11.8	N/A	N/A	N/A
Educational support activities	48	68.4	3.0	N/A	N/A	0.0
Human health and social work activities	6,749	32.5	7.6	13.0	23.9	23.0
Human health activities	3,486	54.5	7.0	4.8	7.8	25.9
Hospital activities	784	N/A	N/A	N/A	N/A	N/A
Medical and dental practice activities	1,823	N/A	N/A	N/A	N/A	N/A
Other human health activities	879	N/A	N/A	N/A	N/A	N/A
Residential care activities	1,373	4.3	1.8	21.3	44.6	28.0
Residential nursing care activities	939	N/A	N/A	N/A	N/A	N/A
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	116	N/A	N/A	N/A	N/A	N/A
Residential care activities for older persons or persons with physical disabilities	106	N/A	N/A	N/A	N/A	N/A
Other residential care activities	213	N/A	N/A	N/A	N/A	N/A
Social work activities without accommodation	1,890	12.4	12.9	22.2	38.4	14.1
Social work activities without accommodation for older persons or persons with disabilities	217	N/A	N/A	N/A	N/A	N/A
Other social work activities without accommodation	1,673	N/A	N/A	N/A	N/A	N/A

Value added per person employed – thousand euro

The final indicator we will examine is value added per person employed, which is calculated by dividing value added by the total number of workers in any sector. While this statistic does not correct for higher average hours worked in particular sectors than others, it allows us to see divergences both between sectors and within sectors for firms of different sizes.

In Education, the sector as a whole has increasing value added in size, with firms with less than 10 employees generating roughly €28,900 in value added per person employed compared with €48,300 per person employed in firms with over 250 employees. As stated above, while the subsector breakdowns are redacted for the larger size classes, we can deduce that a large share of this activity is in the Higher education sector. This aligns with the overall value added figure for that subsector, generating on average €48,600 in value added per employee, which is by far the highest figure of any of the Education subsectors.

Pre-primary education shows value added per worker of €24,300 and €22,900 for firms with less than 10 employees, and firms with between 10 and 19 employees, respectively, compared to an average value added per worker for the sector as a whole of €25,900. This infers that value added per worker is greater among the larger firms for whom the data is redacted. This is an important finding as the majority of employment (over 70%) is concentrated in firms with less than 20 employees, and viability concerns and difficulties in paying for and retaining staff have been a consistent feature of this sector in recent years.

In Health, the trend of increasing value added in size is also visible, but there is an interesting caveat of micro firms having significantly higher value added per worker than their larger peers, with firms with less than 10 employees producing €60,700 in value added per person employed for the sector as a whole, and even higher figures of €71,600 and €79,900 for Human health activities and Residential care activities, respectively.

Table 9 – Value added per person employed (€000), 2021

	Total (€000)	From 0 to 9 persons employed (€000)	From 10 to 19 persons employed (€000)	From 20 to 49 persons employed (€000)	From 50 to 249 persons employed (€000)	250 persons employed or more (€000)
Education	38.6	28.9	26.5	30.1	41.5	48.3
Pre-primary education	25.9	24.3	22.9	N/A	N/A	N/A
Primary education	19.4	20.2	18.9	N/A	N/A	N/A
Secondary education	26.1	27.8	18.4	N/A	N/A	N/A
Higher education	48.6	42.1	45.3	N/A	N/A	N/A
Other education	32.4	30.9	33.6	N/A	N/A	N/A
Educational support activities	33.4	38.1	19.6	N/A	N/A	N/A
Human health and social work activities	38.0	60.7	27.8	30.4	30.9	36.9
Human health activities	54.3	71.6	38.1	48.7	35.5	44.9
Hospital activities	51.2	N/A	N/A	N/A	N/A	N/A
Medical and dental practice activities	64.4	N/A	N/A	N/A	N/A	N/A
Other human health activities	42.7	N/A	N/A	N/A	N/A	N/A
Residential care activities	32.7	79.9	27.0	40.0	29.3	31.9
Residential nursing care activities	32.9	N/A	N/A	N/A	N/A	N/A
Residential care activities for persons living with or having a diagnosis of a mental illness or substance abuse	29.1	N/A	N/A	N/A	N/A	N/A
Residential care activities for older persons or persons with physical disabilities	33.3	N/A	N/A	N/A	N/A	N/A
Other residential care activities	34.1	N/A	N/A	N/A	N/A	N/A
Social work activities without accommodation	26.4	26.5	22.0	23.1	30.8	26.8
Social work activities without accommodation for older persons or persons with disabilities	19.9	N/A	N/A	N/A	N/A	N/A
Other social work activities without accommodation	27.6	N/A	N/A	N/A	N/A	N/A

Discussion

This paper takes an initial look at a new data source highlighting market activity in the Education and Health sectors, something which has not been possible previously. At this early stage, data is only available for 2021, limiting what conclusions can be drawn until further years of data become available. That being said, the following discussion will highlight some of the key findings evident in the data, as well as highlighting potential for further research either using further releases of this dataset or alternative sources.

While it is not possible to have a more detailed subsectoral breakdown of public/private splits in employment or activity, the very high market share of residential and non-residential health care activities in particular is of note, although what constitutes "market" here is important for discussions going forward.

An example would be charities or voluntary organisations operating in this sector; these are not technically public employment but are not operating as a market in any meaningful sense. Isolating what share of employment is fully public, fully private, and a third voluntary/charitable/sheltered sector is key for developing our understanding of the sector going forward.

Another area of note is the high shares of self-employment in particular subsectors, which deserves further analysis. Self-employment is typically synonymous with higher-than-average hours of work[24], inconsistent savings for old age and retirement[25], and difficulties accessing credit[26].

In the context of a developing legal framework and discussion about self-employment, assessing whether this is genuine self-employment and whether it meets the five tests set out in a recent Supreme Court ruling[27], or whether it is self-employment that is incentivised by our current legal frameworks and is imposed upon the worker, is something that deserves further scrutiny.

Low value added in particular subsectors poses challenges, whether that be on a per worker or per hour worked basis, as it limits the ability for firms to be viable and for workers to have sustainable working conditions. While this is true for Education and Health as a whole, but particularly in areas such as residential and non-residential social care and pre-primary education, these are not traditional market sectors with the ability to increase turnover by charging customers more which can then be divided between wages and profits. Consumption of these services is either partially or wholly supported by public funds, and how prices are set, or funds are allocated, is a public policy choice rather than the result of some market efficiently allocating resources or otherwise.

To take the example of the pre-primary or childcare sector, intervention by the State in the form of an Employment Regulation Order to mandate higher minimum wages, along with subsidies to help employers provide these, was seen as the only way to deal with the mismatch between what customers were able to pay and what was needed to have a viable childcare sector[28].

24 In Q2 2024, those who are working full-time and either self-employed with paid employees or without paid employees worked 49 and 45 hours per week, respectively, compared with 38.8 hours per week for full-time employees. (https://data.cso.ie/table/QES10)
25 Research from the Institute for Fiscal Studies in the UK highlighted irregular patterns of pension contributions among the self-employed, with many self-employed individuals not projected to reach adequacy benchmarks in retirement and making the same cash-terms contributions over successive years rather than increasing in line with earnings growth. (https://ifs.org.uk/publications/private-pensions-self-employed-challenges-and-options-reform)
26 https://www.nesc.ie/publications/the-position-of-the-self-employed/
27 https://www.williamfry.com/knowledge/part-2-supreme-court-delivers-test-for-determining-employment-status/
28 https://www.workplacerelations.ie/en/what_you_should_know/hours-and-wages/employment%20regulation%20orders/early-learning-and-childcare-sector/

Whether this situation is prevalent in other areas of education and healthcare and whether further EROs are necessary for conditions to improve is an area that deserves further analysis.

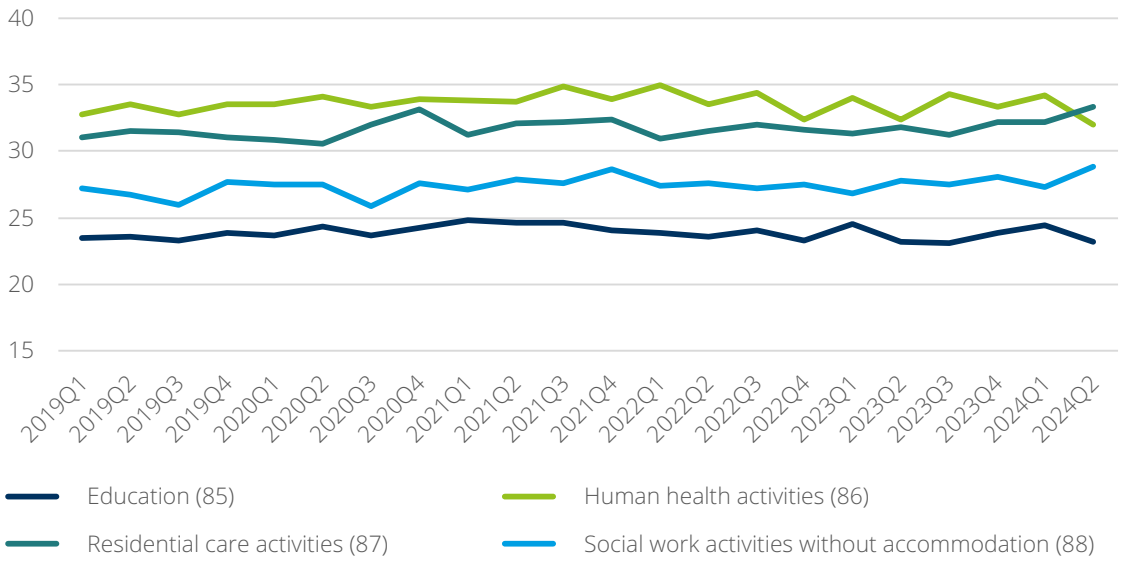
The difference between and within sectors in average hours worked is another interesting insight from this data. While data has been available previously from EHECS, the breakdown for more specific subsectors gives us additional granularity.

Low average hours worked in particular subsectors can be structural, such as in Education where contact hours are supplemented by other work which is not measured.

Alternatively, it can be a function of high levels of part-time employment or an inability to provide full-time hours to workers, whether due to low demand or how working patterns are structured.

In the case of social care, this sector has traditionally had a lower number of average hours worked and a higher share of part-time employment, particularly in the non-residential component. While these sectors would not be considered low-work intensity in terms of the experience of those who carry out the roles, it is possible that the relatively higher incidence of part-time employment, in part due to the nature of social care work, being shift-based or requiring travel to individual patient's residences, is leading to a low average hours worked result for these subsectors. This in turns makes the value added per person employed seem lower, i.e., slicing the pie relatively more compared to the volume of overall activity biases the productivity figures downwards.

Figure 2 – Average weekly hours worked in health and education subsectors, 2019 – Q2 2024



Source: Earnings, Hours and Employment Costs Survey (Q2 2024)

This compares negatively with a health service such as like physiotherapy, where the client might typically come to the clinic to receive care, meaning the worker does not need travel between locations and can carry out relatively more hours of paid work and treat a higher volume of patients.

This is also visible when comparing Social work activities without accommodation with Residential care activities; having the patients concentrated in one location, with the potential for additional value added for other services provided as well as time saved, means that value added has the potential to be relatively higher, leading to the potential to be more viable and to provide sustainable working conditions for those engaged in the sector.

Conversely, if someone working in non-residential social care is forced to work shifts at odd hours, or has to travel between residences in a way that limits the number of hours they can work, then ensuring that the needs of workers are being met in terms of adequate working conditions, appropriate payments for travel, or reasonable expectations of workload is crucial to ensuring a viable non-residential social care sector.

Further analysis

While this data is both rich and novel in terms of its focus on the market education and healthcare sectors, it still only comprises one year of data. As additional years become available, there is the potential for further analysis, as years outside the COVID-19 pandemic become available to compare against what is an atypical year's data.

Apart from this, there is potential to analyse subsectors using other data sources, such as the Labour Force Survey (LFS). However, the lack of a public/private variable here means our ability to isolate the market segment of these sectors is limited. The Labour Force Survey matched with earnings data is available with a public/private variable derived from respondents' Revenue records, which leads to a reduced sample but the potential for comparisons within sectors to a certain extent.

However, both of these LFS products lack data on more specific subsectors which is a significant limitation. Another source which contains this granularity is the Census, although this is not necessarily suitable for labour market analysis, and the self-completed nature of the survey leads to inconsistencies relative to other sources.

Conclusion

This report provides a first look at newly available data regarding market activity in Ireland's education and health sectors. It is evident that market activities are playing a significant role in overall employment and service provision, particularly in areas such as residential care and supplementary education services.

The analysis underscores important disparities, particularly in terms of value added and working conditions across various subsectors. For example, low value added in the pre-primary education and social care sectors poses challenges for viability and wage growth, while the high level of self-employment in certain health subsectors raises questions about job security and worker protections.

Further research is necessary to build on these insights, particularly as more data becomes available in the coming years. Future analyses could develop the cross-country dimension available through Eurostat data, as well as using alternative sources of labour market data to assess conditions for those employed in these sectors.

As Ireland's reliance on market involvement in healthcare and education continues, understanding this activity and the firms and workers within it is crucial to delivering beneficial outcomes for both providers and service users alike.

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