WDC Insights

providing insights on key issues for the Western Region of Ireland

Industry in the Western Region

Regional Sectoral Profile

February 2019

Contents

1.0 Introduction

The Western Development Commission (WDC) is a state agency with responsibility for promoting the economic and social development of the Western Region of Ireland.[1] To effectively deliver this remit the WDC carries out detailed analysis of a range of socio-economic issues of relevance to the region to inform policy debate and formulation.

This is the fourth in a series of 'Regional Sectoral Profiles' analysing the most recent employment and enterprise data for the Western Region on specific economic sectors and identifying key policy issues.[2]

Two short, two-page documents ***WDC Insights*: Industry Employment in the Western Region** and ***WDC Insights*: Industry Employment in Western Counties** summarise the main points from this report. All publications are available here.

1.1 Industry

Industry is the Western Region's largest employment sector. It includes extractive industries, energy generation, utilities and waste management. However the largest element is manufacturing, including food processing, engineering, electronic manufacturing, pharmaceuticals, furniture, medical devices and more. It includes both high-tech and more traditional manufacturing activities.

Employment in Industry is characterised by a wide range of occupations and skill sets. As well as factory floor operatives, it includes R&D scientists, engineers, designers, managers, quality control experts and sales and marketing specialists among many other roles. The sector is characterised by relatively high foreign ownership.

While the relative importance of Industry to national employment is in decline, with growth of the services economy, the Western Region is somewhat different. Industry's share of total employment is higher in the region than elsewhere and manufacturing continues to play a fundamental role in the regional economy. The region's industrial profile has evolved in recent years with a growing focus on high-tech manufacturing. MedTech, Chemicals & Pharma and Agri-food are the largest industrial activities. The region's MedTech cluster is a key asset. Agri-food and sectors supplying the domestic market more important in rural areas.

Issues such as digital transformation, changing work patterns and Brexit will all impact on future developments in the region's Industry sector. The skills demanded by the sector are also evolving with lower skilled positions at most risk from automation and growing demand for science, engineering and digital skills. Upskilling for the existing industrial workforce is vital to sustaining and growing the region's manufacturing sector and ultimately the regional economy.

Following a description of the data that will be used, Section 2 examines total employment in the Industry sector in the Western Region and its counties, while Section 3 focuses on jobs in agency assisted firms. Section 4 outlines the current enterprise situation of Industry in the Western Region with key policy issues examined in Section 5.

[1] Counties Donegal, Sligo, Leitrim, Roscommon, Mayo, Galway and Clare.

[2] The previous Regional Sectoral Profiles examined the Wholesale & Retail, Health & Care and Education sectors and are available here https://www.wdc.ie/publications/reports-and-papers/

1.2 Data Used

A number of data sources are used to examine Industry in the region.

CSO, Census of Population: The Census provides comprehensive data on employment by sector at both county and town level. No other data source provides this level of geographic breakdown. However there are a number of issues to bear in mind:

1. Most recent Census data is 2016.
2. Census data refers to where a person lives which may not be the same as where they work.[3] Data presented here on the number of people working in a sector in a specific county/town refers to the number of residents of that county/town working in the sector, even if they work elsewhere.
3. Census data does not give an indication of whether employment is full or part-time. Each person who works in the sector, regardless of how many hours per week they work, is counted the same.

CSO, Business Demography: Business Demography data gives the number of enterprises in each sector in each county. An enterprise is assigned to the county where it is registered with the Revenue Commissioners. Therefore a business with multiple locations e.g. a multinational manufacturing company, is only counted once where it is headquartered (often Dublin), individual units are not counted. Data for the Industry sector includes factories, mining companies, electricity generation companies etc. that are registered with the Revenue Commissioners.

Department of Business, Enterprise & Innovation (DBEI), Annual Employment Survey: Each year DBEI conducts a survey of all firms in Ireland who have ever received support from IDA Ireland, Enterprise Ireland or Udarás na Gaeltachta. These are referred to as agency assisted companies and are limited to companies involved in manufacturing or internationally traded services who are exporting or have the potential to export. For the Industry sector, the vast majority of enterprises would fall within this category. The main benefits of using employment data from the Annual Employment Survey is that it differentiates between foreign and Irish ownership and also between permanent full-time jobs and other jobs (temporary, contract or part-time). The latest data is from 2017 and a special data run was obtained from DBEI for the Western Region.

[3] See WDC (2018), Travel to Work and Labour Catchments in the Western Region: A Profile of Seven Town Labour Catchments 2018, for an analysis of travel to work patterns in the region.

2.0 Employment in Industry

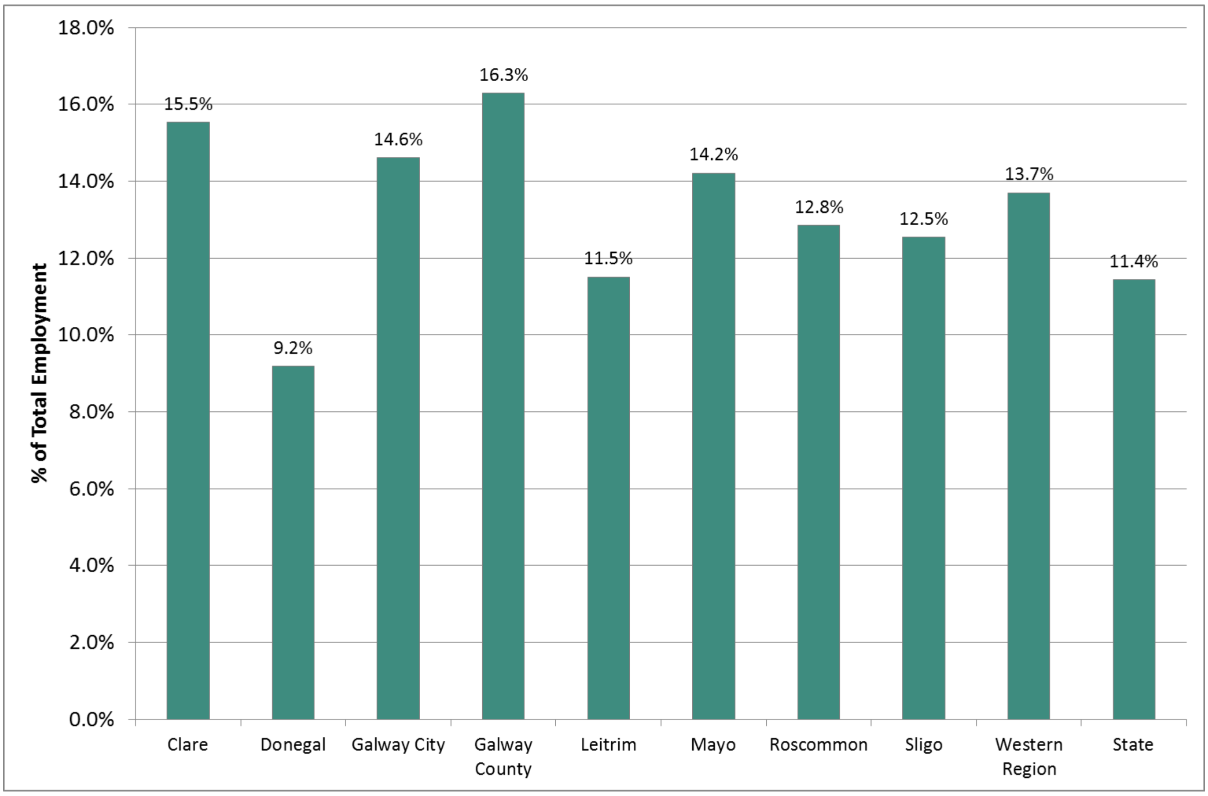
In this section we examine employment over time and by gender, as well as self-employment, in Industry in the Western Region, western counties and towns. Employment in specific industrial sub-sectors is also analysed. As this is based on Census 2016 data it refers to where the person lives.

2.1 Employment in the Western Region and its counties

According to Census 2016, 45,754 people were working in Industry in the Western Region making it the region's largest employment sector. Of everyone working in Industry in Ireland, 19.9% of them live in the Western Region. In comparison, the region is home to 16.6% of total employment which means it accounts for a considerably greater share of national industrial employment, than of total national employment.

Industry plays a greater role in the region's labour market than nationally (Fig. 1). In 2016 Industry accounted for 13.7% of total employment in the Western Region compared with 11.4% nationally. Industry is clearly a very significant regional employer and the Western Region plays a key role in Ireland's manufacturing sector.

Fig. 1: Percentage of total employment in Industry in Western Region and state, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Among western counties, Industry is most important in Galway County (16.3%) and Clare (15.5%). Nationally they have the fourth and seventh highest shares working in the sector respectively. As well as substantial industrial activity taking place in both counties, commuting to Galway and Limerick cities would be a factor. All western counties, except Donegal, have a higher share of employment in Industry than the national average and it is the single largest employment sector for Galway City, Galway County and Clare. At just 9.2%, Donegal has the smallest share working in

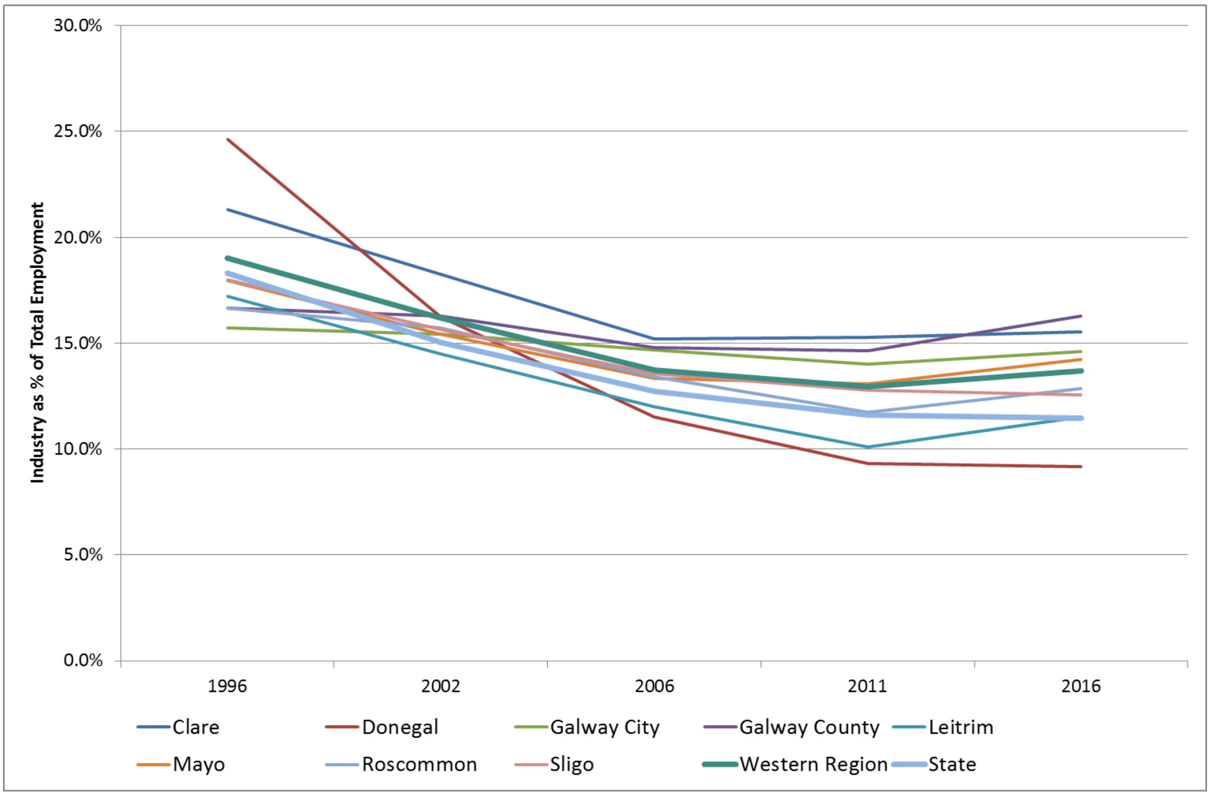
Industry in the region and in Ireland outside of Dublin.[4]

2.1.1 Trends in Industry employment in the Western Region and its counties[5]

Industry's share of total employment has changed considerably over the past two decades (Fig. 2). Ireland's move to a service-based economy, with substantial losses of more traditional, lower skilled manufacturing activities and growing focus on high value, high-tech manufacturing, has substantially changed the significance and nature of industrial activity in Ireland and the Western Region.

In 1996 19% of total employment in the Western Region was in Industry, the share declined in every Census to a low point of 13% in 2011, showing some increase in 2016. The state showed a similar pattern declining from 18.3% in 1996 to just 11.4% by 2016. While both region and state followed similar patterns, the gap between them widened over the period, from less than one percentage point in 1996 to over two percentage points by 2016 illustrating Industry's stronger role in the region.

Fig. 2: Percentage of total employment in Industry in Western Region and state, 1996-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011; CSO, Census of Population 2006, Volume 7 - Principal Economic Status and Industries, Table C0713; CSO, Census of Population 2002, Volume 5 - Principal Economic Status and Industries, Table B0513; CSO, Census of Population 1996, Volume 5 - Principal Economic Status and Industries, Table A0513

At a county level, the most dramatic change occurred in Donegal; from 1 in 4 working in Industry in 1996 to less than 1 in 10 twenty years later. Donegal's economy has been dramatically restructured over the past two decades, manufacturing, particularly the textile and clothing sector, has been

[4] The four Dublin Local Authority areas are the only areas with a lower share working in Industry.

[5] Note: This section was revised on 11 April 2019. In the previous version the 'Total Employment' figure used as the base for calculating the percentage share excluded 'Industry not stated' for the years 1996, 2002 and 2006, but included it for 2011 and 2016. This has been corrected and 'Total Employment' now includes 'Industry not stated' for all years.

replaced by international and local services e.g. Donegal has the highest share working in Education and the third highest share working in Accommodation & Food service in Ireland.

In 1996, Clare (21.3%) had the second highest share in the region working in Industry, largely due to the Shannon Free Zone. With the dramatic decline in Donegal, Clare had the region's highest share working in Industry for much of the period but was overtaken by Galway County in 2016. From having the region's second lowest share in 1996, Galway County now has the highest share working in Industry.

The share of total employment in Industry is determined both by the number of people actually working in Industry and total employment levels in the economy. If the number working in Industry did not change but total employment grew or fell dramatically e.g. during the construction boom and bust, then Industry's share of total employment would change. The next section looks at changes in the actual number working in Industry.

2.1.2 Change in employment in the Western Region and its counties

In 1996, there were 47,319 people working in Industry in the region (Table 1). The number remained relatively unchanged over the next decade however the economic collapse led to a dramatic decline to just over 40,000 by 2011. Manufacturing firms directly supplying the construction sector (e.g. cement, engineering) were badly affected, as well as those most dependent on domestic demand. 2016 saw quite a strong recovery in the region, though not quite to pre-recession levels. As will be discussed in the next section, the composition of the region's Industry sector also changed.

Many western counties experienced a similar general pattern of relative stability up to 2006, followed by substantial decline and some recovery. Donegal was an exception where the entire 1996-2011 period was characterised by substantial job losses. Both Galway City and County also had a different experience with job numbers growing strongly in the decade up to 2006. Both had a higher number working in Industry in 2016 than two decades earlier, as did Mayo.

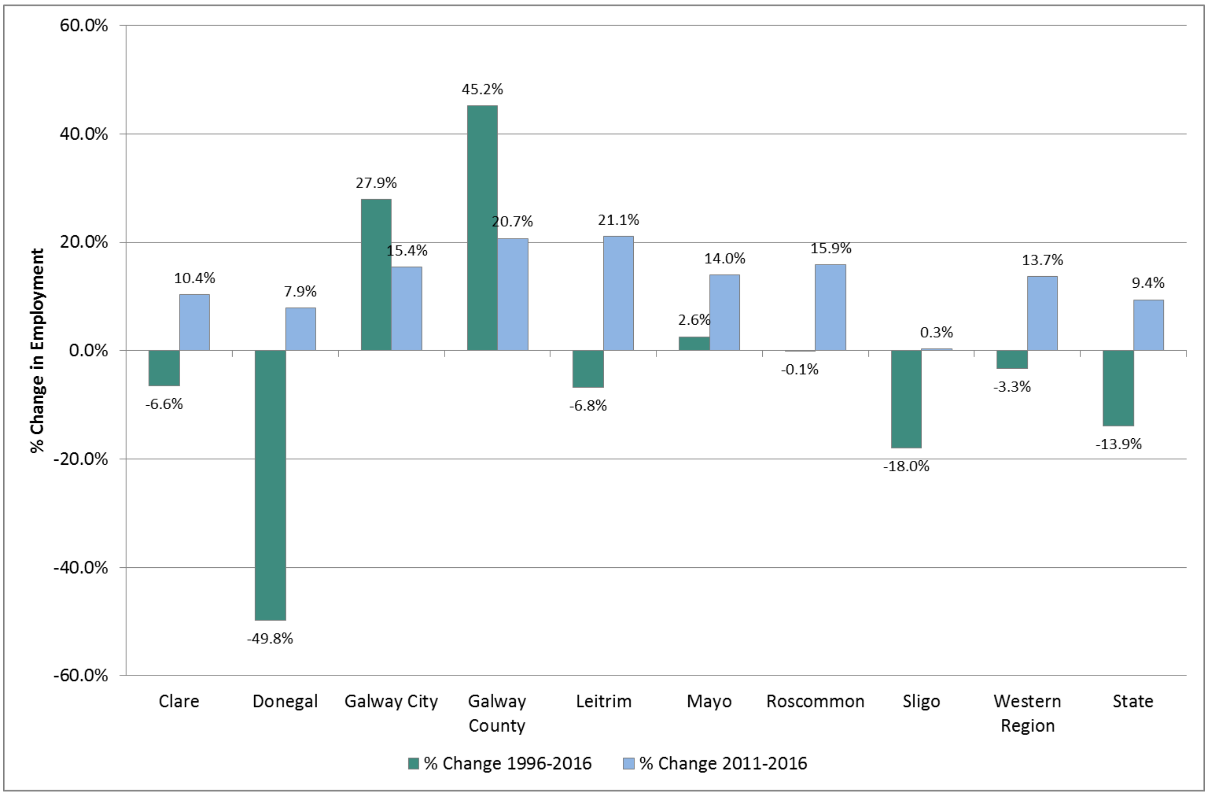
Table 1: Number employed in Industry in Western Region and state, 1996-2016

	No. Employed				
	1996	2002	2006	2011	2016
Clare	8,232	8,382	8,261	6,969	7,692
Donegal	10,670	8,302	6,824	4,967	5,359
Galway City	3,993	4,679	5,319	4,426	5,108
Galway County	8,428	9,814	11,056	10,139	12,239
Leitrim	1,572	1,532	1,581	1,210	1,465
Mayo	7,128	7,207	7,322	6,414	7,312
Roscommon	3,319	3,472	3,594	2,863	3,317
Sligo	3,977	3,959	3,871	3,253	3,262
Western Region	**47,319**	**47,347**	**47,828**	**40,241**	**45,754**
State	**266,614**	**262,224**	**262,223**	**209,803**	**229,548**

Source: CSO, Census 2016: Summary Results Part 2, Table EZ011; CSO, Census of Population 2006, Volume 7 - Principal Economic Status and Industries, Table C0713; CSO, Census of Population 2002, Volume 5 - Principal Economic Status and Industries, Table B0513; CSO, Census of Population 1996, Volume 5 - Principal Economic Status and Industries, Table A0513

Over the two decades 1996-2016, the Western Region experienced a 3.3% decline in the number of people working in Industry, compared with a 13.9% decline nationally (Fig. 3). This again emphasises the strengthening of the Western Region's position in Ireland's industrial sector as its share of total national Industry employment grew from 17.7% in 1996 to 19.9% by 2016. The state's recovery of 9.4% during 2011-2016 was exceeded by the 13.7% growth in the region.

Fig. 3: Percentage change in number employed in Industry in Western Region and state, 1996-2016 and 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011; CSO, Census of Population 2006, Volume 7 - Principal Economic Status and Industries, Table C0713; CSO, Census of Population 2002, Volume 5 - Principal Economic Status and Industries, Table B0513; CSO, Census of Population 1996, Volume 5 - Principal Economic Status and Industries, Table A0513

County Donegal's industrial workforce was halved over the two decades, with Sligo experiencing the next largest fall of 18%. In sharp contrast, Galway County had a 45.2% increase in Industry employment, with 27.9% growth in Galway City. There has been an increasing shift in the region's industrial activity from the North West to the West. In 1996 26.2% of the region's total industrial workforce lived in Galway City and County by 2016 this had risen to 37.9%.

All western counties saw growth in the most recent period ranging from only 0.3% growth in Sligo to 20.7% in Galway County and 21.1% in Leitrim. Sections 2.2 and 2.3 examine employment by Industry sub-sector which illustrates which elements of Industry drove change in the different counties.

2.2 Employment in Industry sub-sectors in the Western Region

Census data on employment in Industry is sub-divided into 46 separate activities.[6] To ease interpretation, we have grouped these 46 activities into 12 industrial sub-sectors, the details of the

[6] Appendix 1 provides detailed data for all activities for all western counties.

activities in each sub-sector are given in Appendix 1. Three of the sub-sectors are non-manufacturing industrial activities (Mining & Quarrying, Electricity, Gas & Air Conditioning and Waste & Water) and the other nine are manufacturing activities ranging across agri-food, engineering, traditional and high-tech manufacturing.

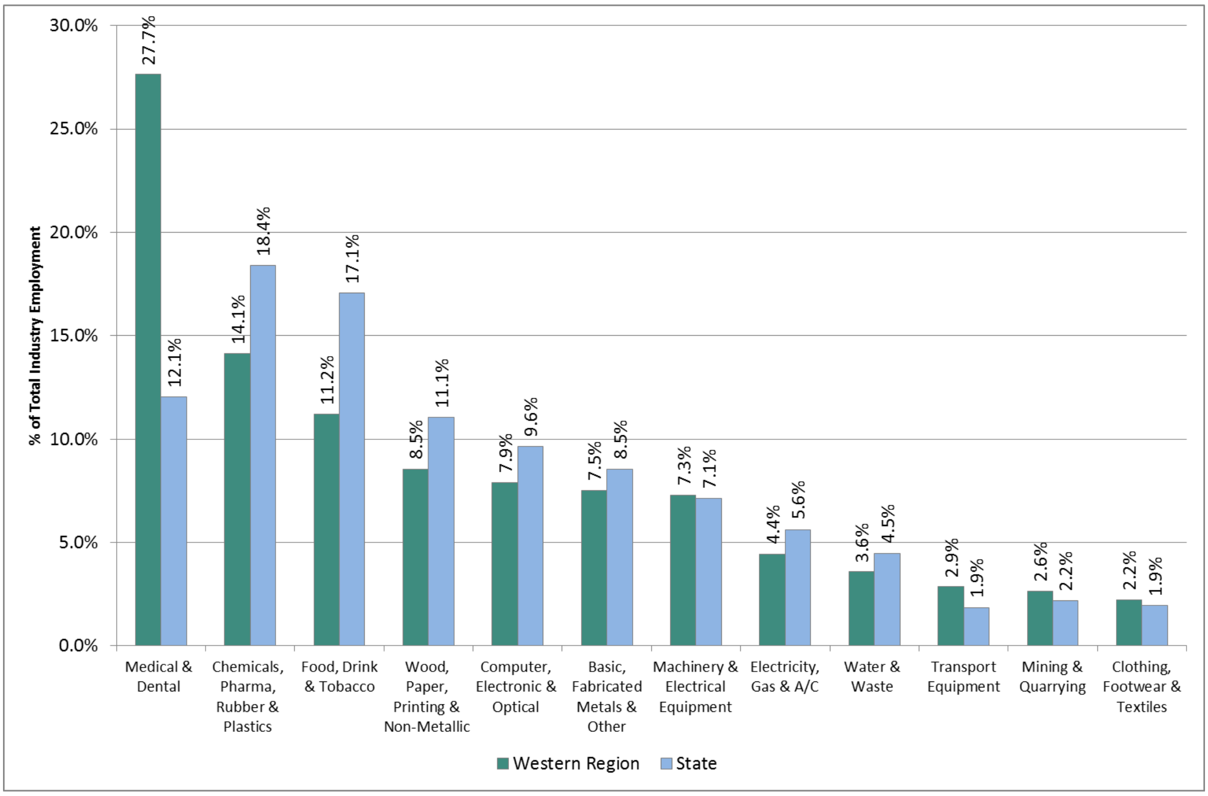
The Medical & Dental Instruments (MedTech) sector is by far the largest industrial activity in the Western Region accounting for 27.7% of the region's total industrial employment (Fig. 4). More than twice the share of industrial employment is in this sector in the region than nationally (12.1%). Because of the dominance of the MedTech sector, the relative share working in almost every other industrial activity in the region is lower than nationally. The only exceptions are the region's three smallest industrial sectors – Transport Equipment, Mining & Quarrying and Clothing & Textiles – which account for a higher share in the region.

The region's second largest industrial activity at 14.1% is Chemicals, Pharmaceuticals, Rubber & Plastics (Chemicals & Pharma) which is the largest industrial employer in the country (18.4%). The manufacture of pharmaceuticals is the largest element within this, followed by plastic products.

Food, Drink & Tobacco (Agri-food) is the region's third largest sub-sector with meat processing, bakery/confectionary, seafood and beverages the largest activities in terms of employment. Agri-food's share of industrial employment in the region (11.2%) is considerably smaller than nationally (17.1%). This is partly due to the strong concentration of such activity in the South East, South West and Cavan/Monaghan, as well as the nature of the region's agriculture with limited dairy and tillage activity.

The region's fourth largest industrial employer is Wood, Paper, Printing & Non-Metallic Minerals (Wood & Non-Metallic) which includes many activities supplying the construction sector e.g. cement, windows, fitted furniture, and would be quite sensitive to the property cycle.

Fig. 4: Percentage of total Industry employment in each sub-sector in Western Region and state, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

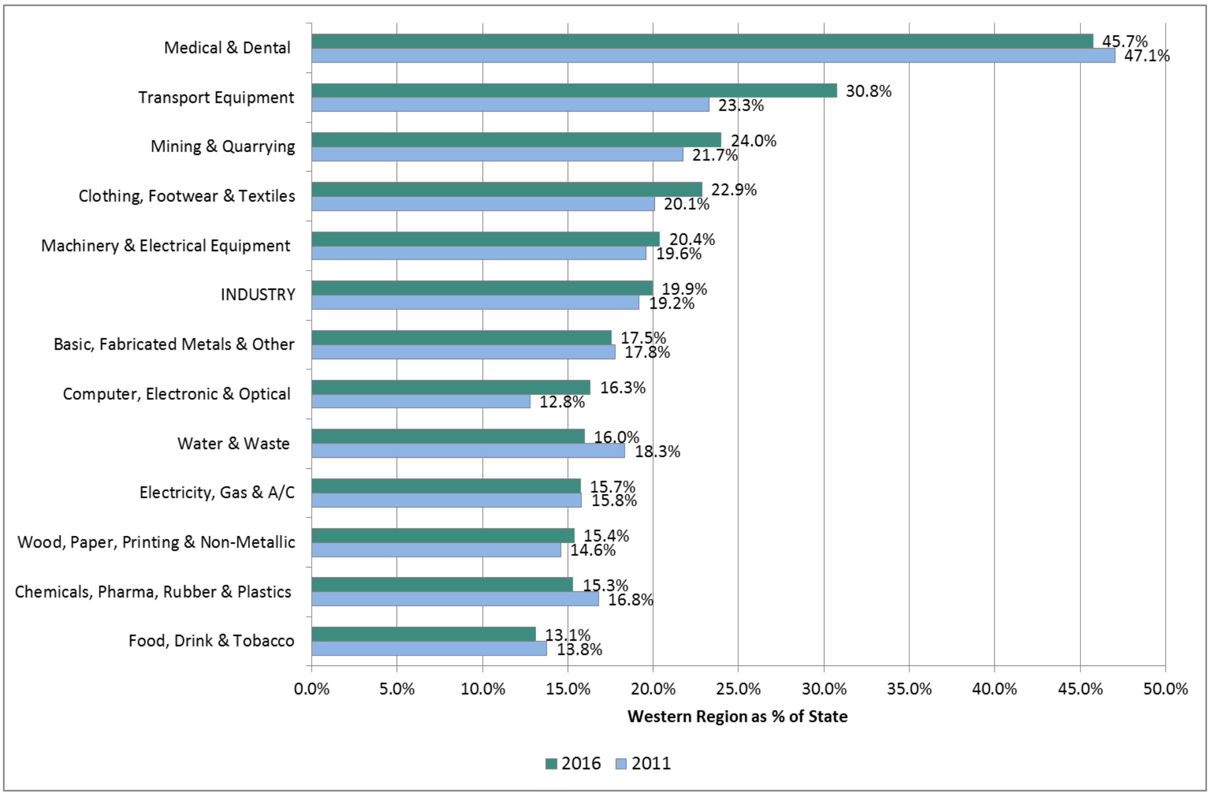
As mentioned above, 19.9% of everyone working in Industry in Ireland lives in the Western Region, this was an increase from 19.2% in 2011 (Fig. 5). Unsurprisingly MedTech is the area where the region plays its largest national role with 45.7% of all MedTech employment in Ireland based in the Western Region.

The sub-sector where the region plays it second largest national role is Transport Equipment and the region's position improved substantially from 23.3% of national employment in 2011 to 30.8% by 2016. The relatively traditional sectors of Mining & Quarrying, Clothing & Textiles and Machinery & Electrical Equipment are the other areas where the region had a higher than average share of national employment, and the region's share increased over the period.

The only other sub-sectors where the share of employment based in the region increased between 2011 and 2016 were Computer, Electronic & Optical Equipment (Computer & Electronic) where the region's share grew quite substantially and Wood & Non-Metallic.

The region's lowest share of national employment is in Agri-food, at just 13.1%, a decline from 2011. Within Agri-food, the one activity where the region accounts for a high share of national employment is seafood processing (47.6%). The region's next lowest share is in Chemicals & Pharma, with this sector strongly concentrated in the South West. Within this sub-sector however the region accounts for 55.9% of all employment in rubber products, which is the region's highest share among all 46 individual industrial activities.

Fig. 5: Western Region's share of total national employment by Industry sub-sector, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

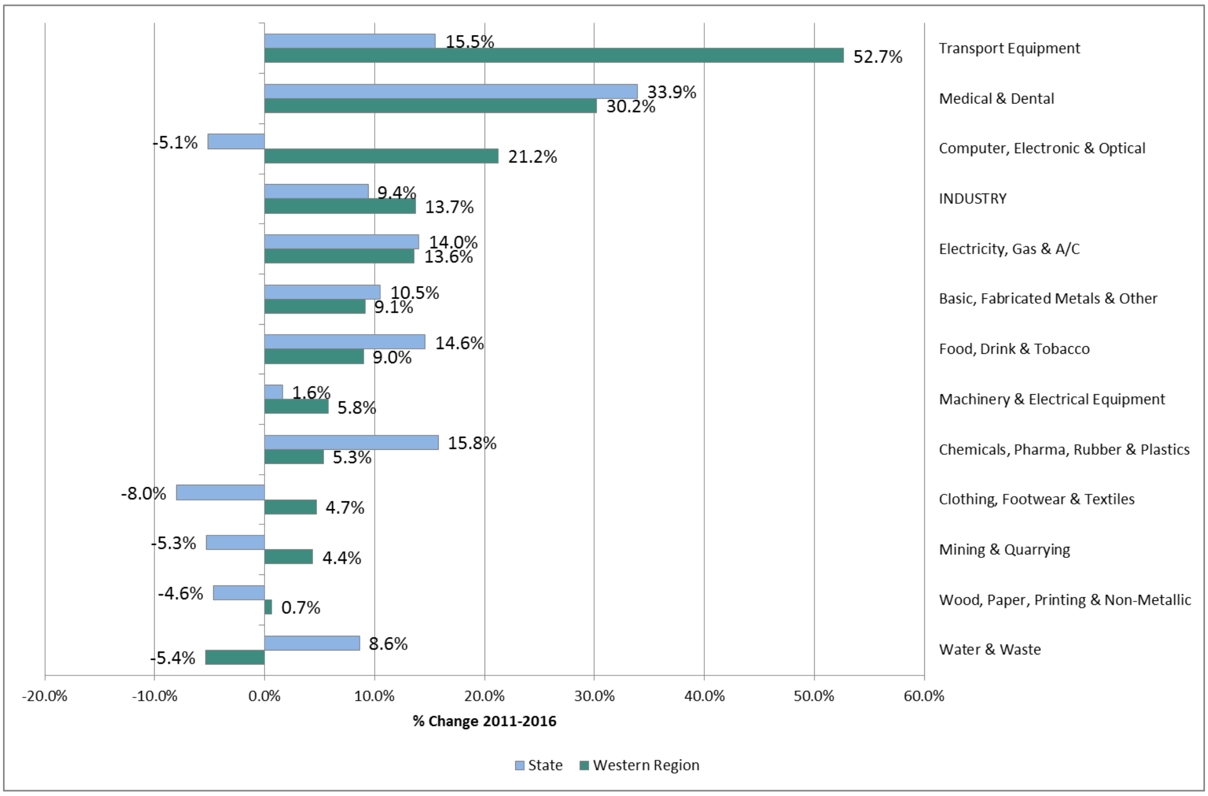
2.2.1 Change in employment in Industry sub-sectors in the Western Region

Transport Equipment experienced the largest percentage growth in employment in the Western Region between 2011 and 2016, increasing by 52.7% (+451 people) (Fig. 6). The region had far greater growth than nationally (15.5%). This sector includes companies such as Valeo Vision Systems in Tuam, Mirror Controls International in Leitrim, McHale Engineering in Mayo and Lufthansa Technik Turbine in Clare.

This next highest growth was in the region's largest sector, MedTech where employment grew by 30.2% (+2,935 people), followed by Computer & Electronic (21.2%, +633 people). Very strong growth in these three high-tech manufacturing sectors, has contributed substantially to the region's stronger than average performance. In the case of Computer & Electronic, the region's growth contrasted with decline nationally.

More traditional sectors of Electricity, Gas & Air Conditioning (Energy), Basic, Fabricated Metals & Other Manufacturing (Metals & Other) and Agri-food also saw quite strong jobs growth though lower in the region than nationally, especially in Agri-food. Overall the Western Region experienced growth in 11 of the 12 industrial sub-sectors, with a decline only in Waste & Water. In contrast, four sectors had declines nationally.

Fig. 6: Percentage change in employment in Industry sub-sectors in Western Region and state, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3 Employment in Industry sub-sectors in western counties

The composition of industrial employment differs across the western counties. It must be recalled that this refers to residents of these counties, though some may be commuting to work in other areas.

2.3.1 Employment in Industry sub-sectors in county Clare

Computer & Electronic manufacturing (22%) is the largest industrial employer in county Clare (Fig. 7). Within this electronic components and boards is the largest activity. Clare has the second highest share of industrial employment accounted for by this sub-sector in Ireland (after Cork City and more than double the national average (10%). The county clearly has a particular strength in this sector as well as in Machinery & Electrical Equipment (15%) where Clare has the fourth highest share nationally. These two sectors, together with MedTech, account for over half of all industrial employment in Clare. There is a strong manufacturing presence in the Ennis/Shannon area e.g. Ei Electronics, Smart Electronics, Modular Automation, Intel.

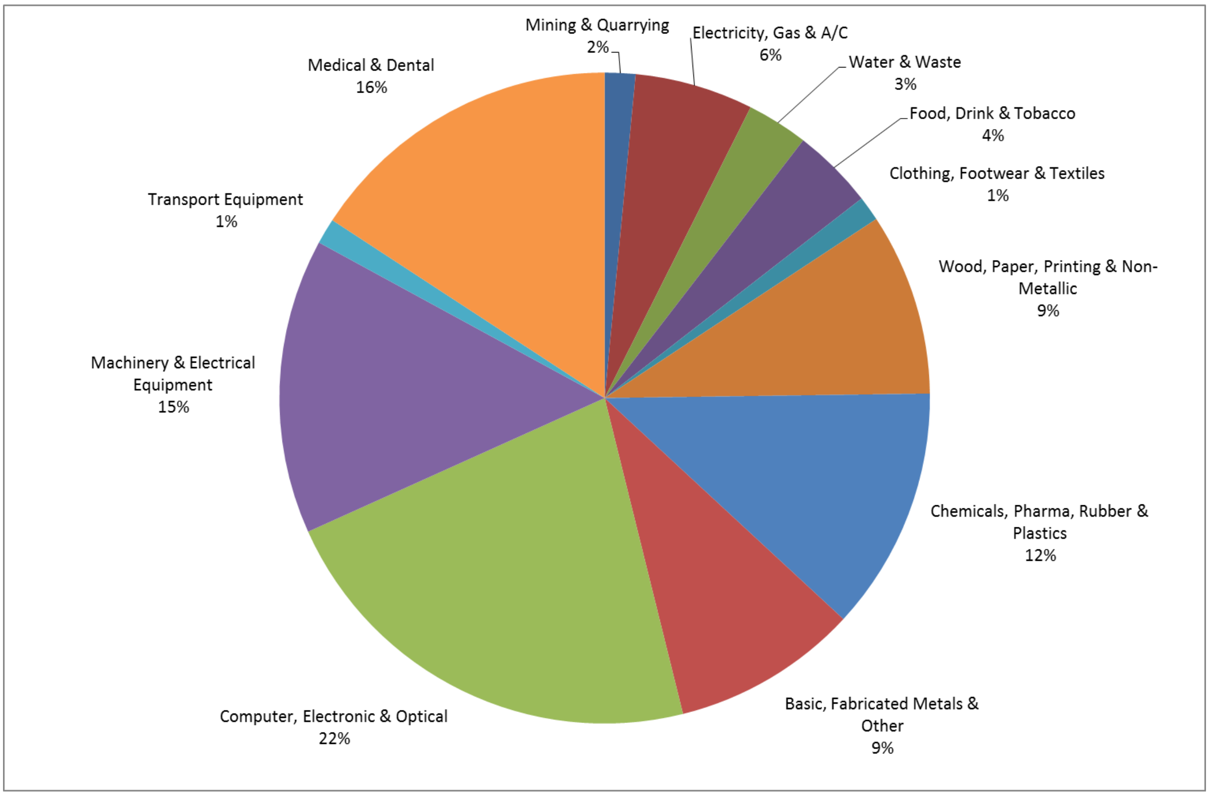
Other sectors with a notable presence are Chemicals & Pharma, Metals & Other and Wood & Non-Metallic, all of which employ 9% or more of industrial workers in the county. The Energy sub-sector accounts for 6% of industrial employment and would be influenced by Moneypoint. Unlike many other western counties, Agri-food only accounts for a small share (4%) of total Industry employment.

Between 2011 and 2016, total Industry employment in Clare grew by 10.4%, slightly more than nationally (Fig. 8). In six of the twelve sub-sectors, Clare had a better than average performance.

The Wood & Non-Metallic (51.6%, +237 people) and MedTech (45.3%, +379 people) sectors had the strongest jobs growth in the county with growth above the national average. In the case of the former, this would have been driven by some recovery in the construction sector.

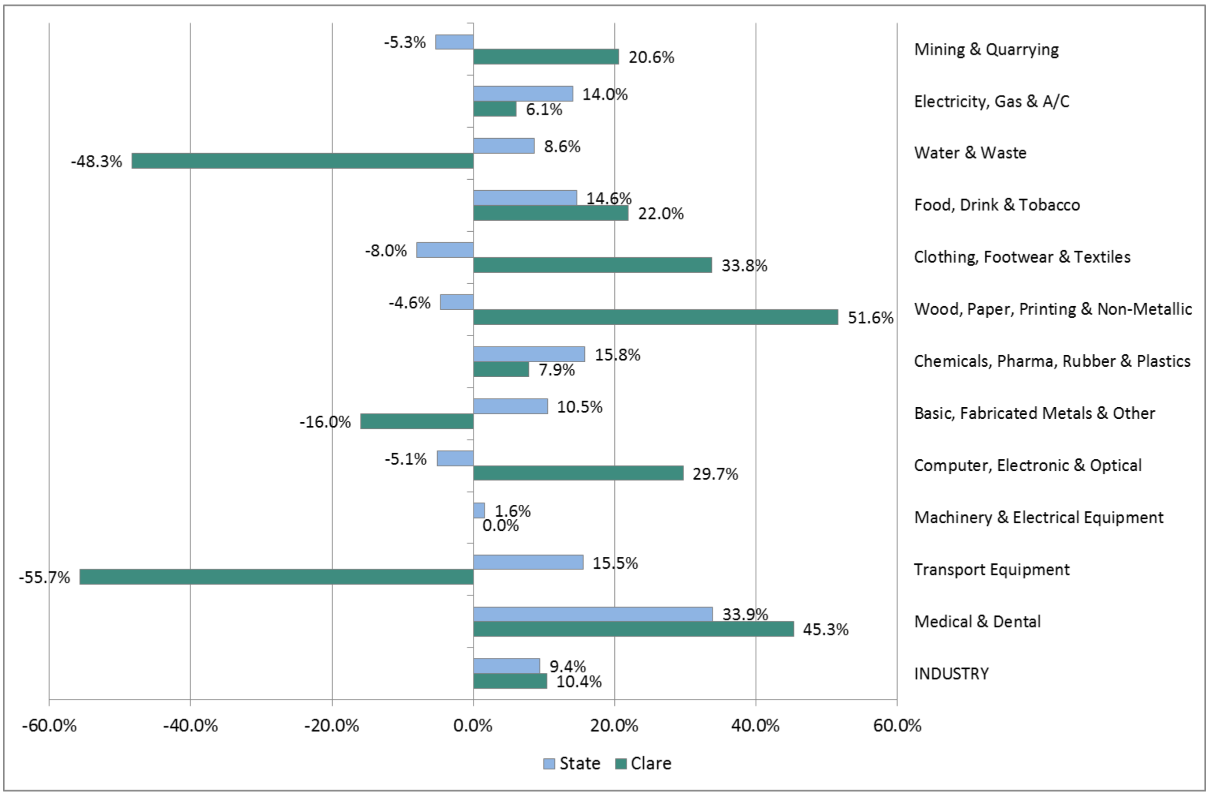
County Clare saw large losses in Transport Equipment (55.7%, -123 people), as well as Waste & Water (48.3%, -219 people) and Metals & Other (16%, -135 people), in all cases having a greater decline than nationally. Developments such as the difficulties of the waste management company Mr. Binman would have contributed.

Fig. 7: Percentage of total Industry employment in each sub-sector in county Clare, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 8: Percentage change in employment in Industry sub-sectors in county Clare, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.2 Employment in Industry sub-sectors in county Donegal

Over a quarter of industrial employment in county Donegal is in Agri-food (Fig. 9). It is quite dominant in the county's current industrial composition and Donegal has the region's highest share of industrial employment in this sector. Within Agri-food, seafood processing (507 people) is by far the largest element. The potential impact of Brexit on the Agri-food sector and Donegal's close connections with Northern Ireland would be a concern for Donegal's already small manufacturing sector.

Four other sectors account for 9% or more of industrial employment. While Clothing & Textiles experienced massive declines in the county over the past two decades, it still accounts for 9% of industrial employment (516 people). The share working in Clothing & Textiles is far higher than any other county in Ireland (national average is 2%). The continuing strength and international reputation of Donegal tweed, with companies such as Magees and McNutts, would be a core element of the sector.

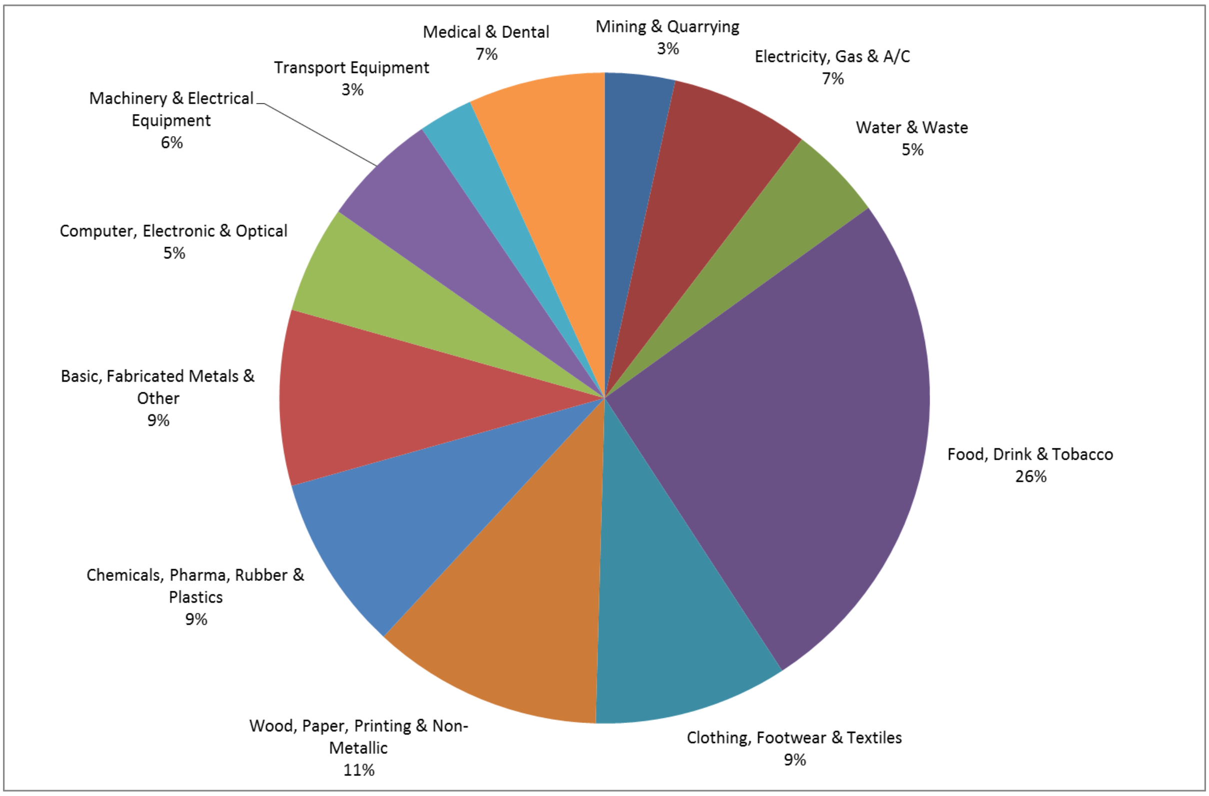
Unlike other western counties, the MedTech sector is relatively small accounting for 7% of industrial employment, Abbott would be among the companies in this sector. At 7% of industrial employment, Donegal has the region's highest share working in Energy influenced by Donegal's considerable wind energy sector and Lough Erne Hydro Station. In fact Donegal has the region's joint highest share (with Roscommon) working in the three non-manufacturing industrial sectors which jointly account for 15% of all Industry employment.

Between 2011 and 2016, total Industry employment in Donegal grew by 7.9%, lower than nationally (Fig. 10). In six of the twelve sub-sectors, Donegal had a better performance than nationally.

Energy had the strongest jobs growth in the county (38.7%, +103 people) mainly in electricity generation and Donegal had far greater growth than the national average. This was followed by Metals & Other (35.7%, +123 people) which would be an important supplier of engineering products to the construction and other sectors, and so responds to the economic cycle. The MedTech and Chemicals & Pharma sectors also grew strongly in the county.

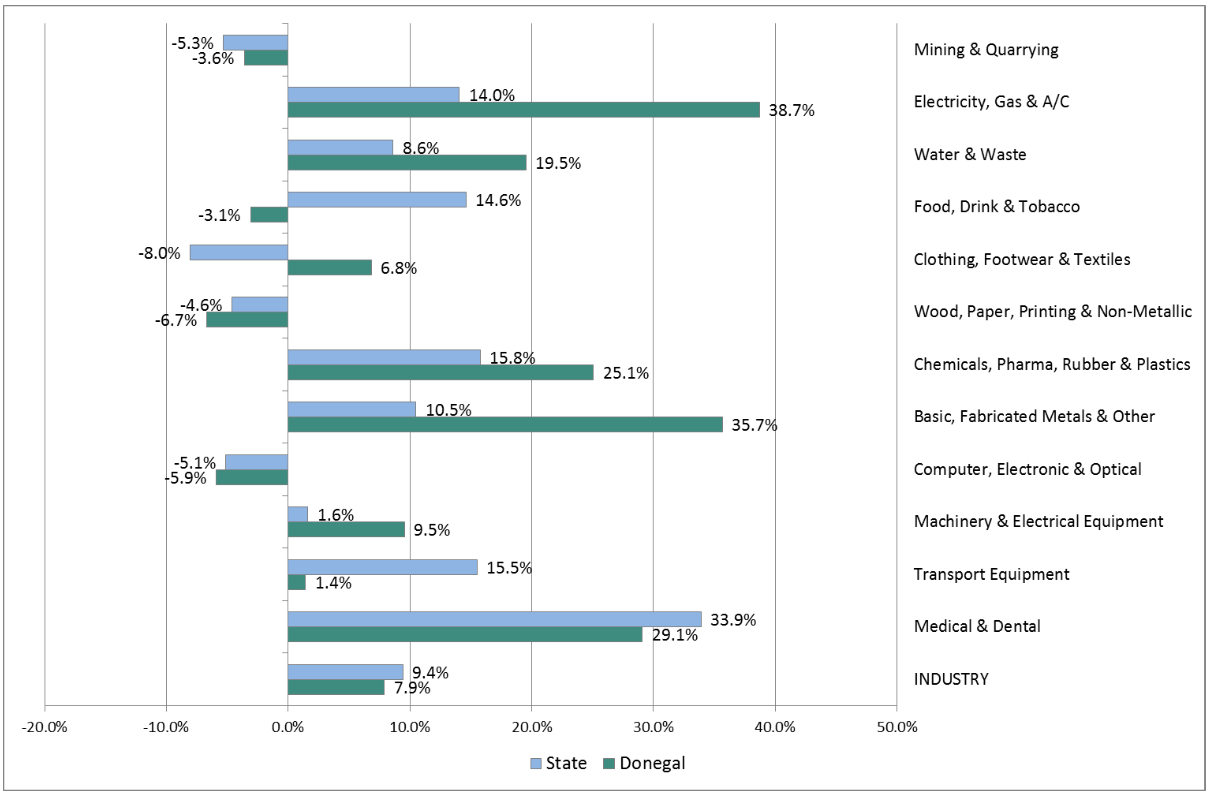
There were employment declines in four sub-sectors. Of some concern is the decline in Agri-food, the county's largest industrial sub-sector, which contrasted with growth nationally.

Fig. 9: Percentage of total Industry employment in each sub-sector in county Donegal, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 10: Percentage change in employment in Industry sub-sectors in county Donegal, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.3 Employment in Industry sub-sectors in Galway City

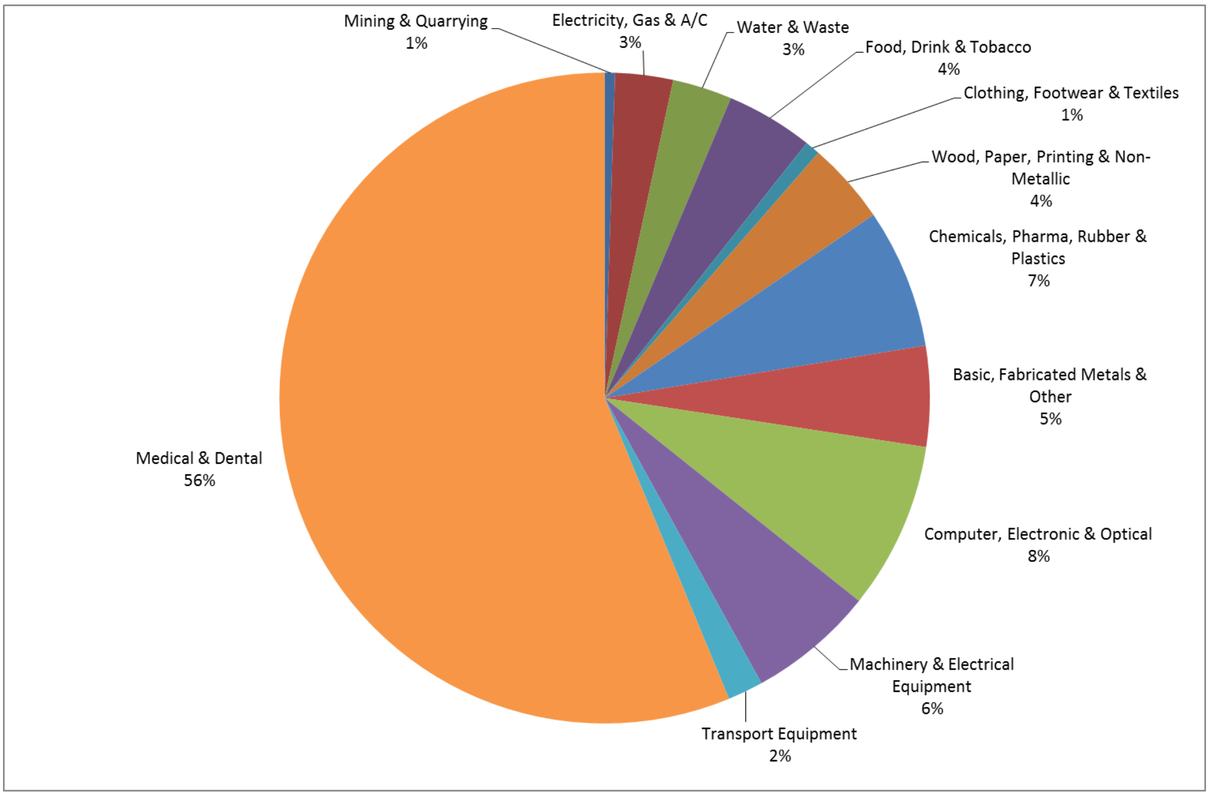
The pattern of industrial employment among Galway city residents is very different to other counties, as well as the national pattern (Fig. 11). There are clearly strong links with Galway County with many residents of the city working in factories located within the county and also residents of the county commuting to factories located within the city boundaries.

Industrial employment is dominated by MedTech which accounts for 56% (2,873 people), strongly influenced by the two large employers of Medtronic and Boston Scientific, as well as a large number of small and medium sized medical device manufacturers and sub-suppliers. Galway City is where MedTech accounts for its highest share of industrial employment in the state. Other high-tech manufacturing sectors – Computer & Electronic (8%) and Chemicals & Pharma (7%) are next largest.

Between 2011 and 2016, total Industry employment among residents of Galway City grew by 15.4%, considerably higher than nationally (Fig. 12). In 2016, Galway City had a greater number of residents working in Industry than two decades earlier.

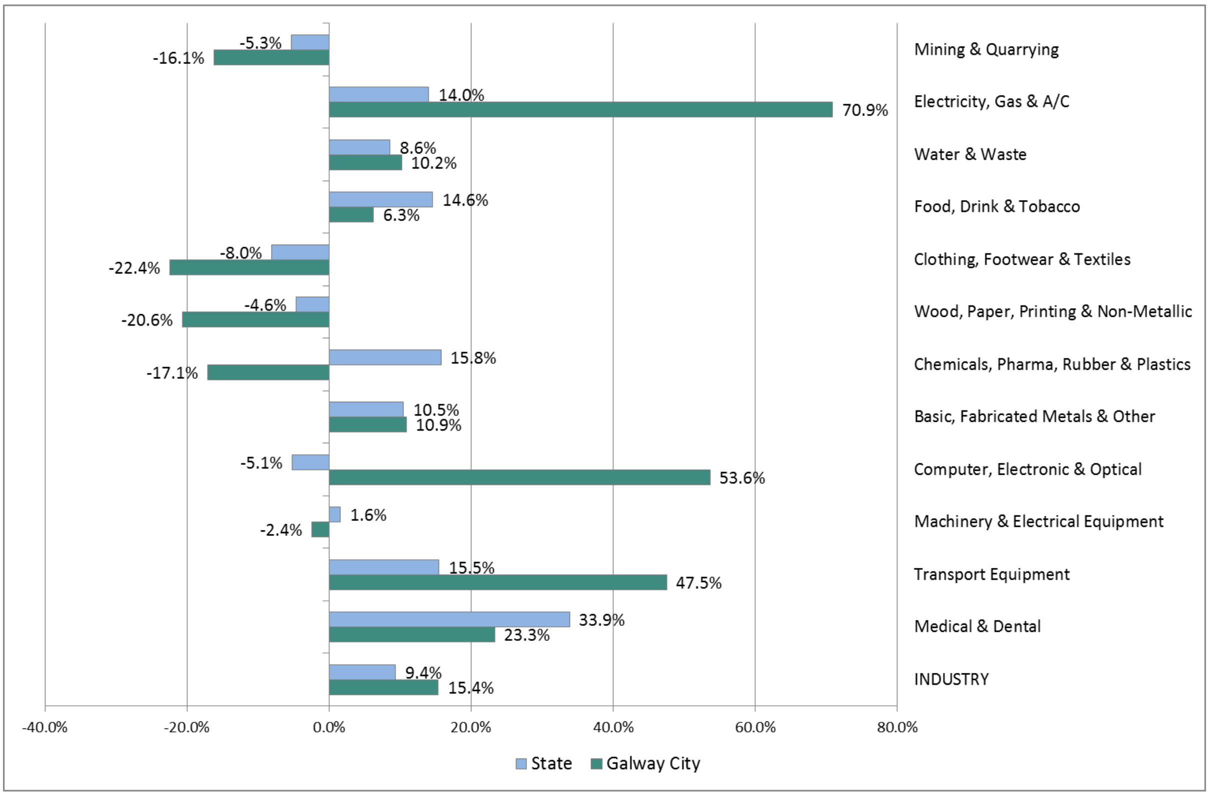
There was a 70.9% increase (+61 people) in Energy with strong percentage growth in Computer & Electronic (53.6%, +148 people) and Transport Equipment (47.5%, +29 people). The 23.3% growth in MedTech was lower than the national average but given the size of the sector in the City this represented 543 additional people working in MedTech. There were declines in five sub-sectors, mainly in more traditional activities but also in Chemicals & Pharma.

Fig. 11: Percentage of total Industry employment in each sub-sector in Galway City, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 12: Percentage change in employment in Industry sub-sectors in Galway City, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.4 Employment in Industry sub-sectors in Galway County

Similar to Galway City, MedTech plays a very dominant role in industrial employment among Galway County residents, though not quite to the same extent employing 40% of all industrial workers (Fig. 13). Galway County has the second highest share of industrial employment in MedTech in Ireland. A large share of this employment is located within or on the outskirts of Galway City e.g. Medtronic, Boston Scientific, with a number of MedTech firms also located in other towns in the county e.g. Loughrea, Oranmore.

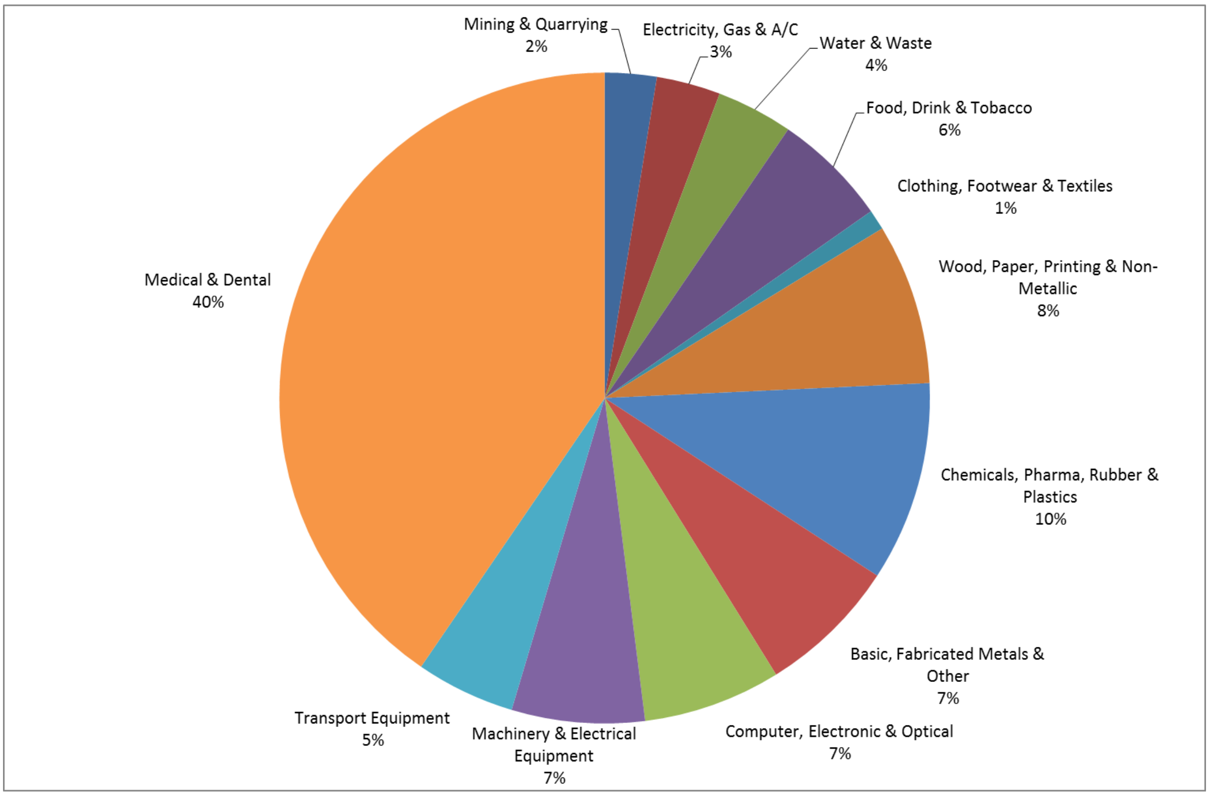
There is somewhat greater diversity in industrial employment among Galway County residents than City residents with 10% working in Chemicals & Pharma, predominantly in pharmaceuticals. A further four manufacturing sub-sectors account for 7% or more of industrial employment with quite large numbers in Metals & Other and also Wood & Non-Metallic, sectors which have quite high reliance on the domestic market and construction. Agri-food accounts for 6% of employment.

Between 2011 and 2016, total Industry employment among residents of Galway County grew by 20.7%, more than double the national increase (Fig. 14). Galway County had a higher number of residents working in Industry in 2016 than two decades earlier. In six of the twelve sub-sectors, Galway County had a better performance than nationally.

The chart is somewhat skewed by the 175.3% increase in the number of people working in Transport Equipment. The numbers grew from 219 to 603 in this period, one of the contributors to the overall strong growth of this sector in the Western Region (see Fig. 6 above). Expansion of Valeo Vision Systems in Tuam would have been a key driver.

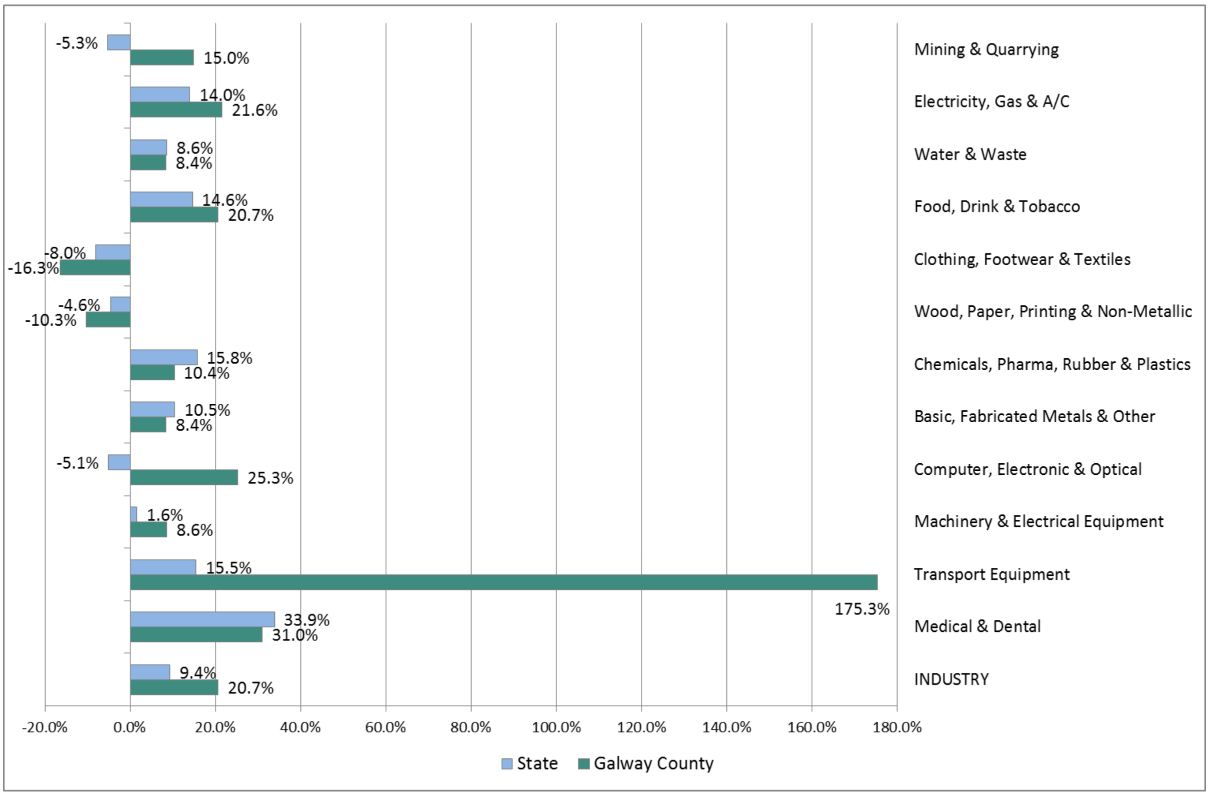
Galway County's largest industrial employer, MedTech, had the next highest growth (31%, +1,173 people) contributing to its high share of total employment. This was followed by 25.3% growth (+64 people) in another high-tech manufacturing sector – Computer & Electronic and 20+% growth in both Energy (+69 people) and Agri-food (+120 people). Two quite traditional manufacturing sectors – Clothing & Textiles and Wood & Non-Metallic – were the only ones to see employment fall.

Fig. 13: Percentage of total Industry employment in each sub-sector in Galway County, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 14: Percentage change in employment in Industry sub-sectors in Galway County, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.5 Employment in Industry sub-sectors in county Leitrim

The largest industrial employer for residents of county Leitrim is MedTech with 19% engaged in this sector (Fig. 15). The next largest is also a high-tech manufacturing sector, Chemicals & Pharma, and these two sectors jointly account for a third of all industrial employment. As well as manufacturing plants operating in the county such as VistaMed, there is considerable commuting from the county, especially from north Leitrim into Sligo.

The more traditional Wood & Non-Metallic (13%) is the next largest and Leitrim has the highest share working in this sub-sector in the Western Region. Wood and wood products is the largest element with companies such as Merenda and Glenfarne Wood Products. It is followed by Agri-food (11%) which accounts for a relatively large proportion of industrial employment in the county. Leitrim has the region's joint highest (with Sligo) share of industrial employment engaged in Metals & Other (10%). There is also a relatively large share engaged in the three non-manufacturing industrial sectors which jointly account for 13% of industrial employment.

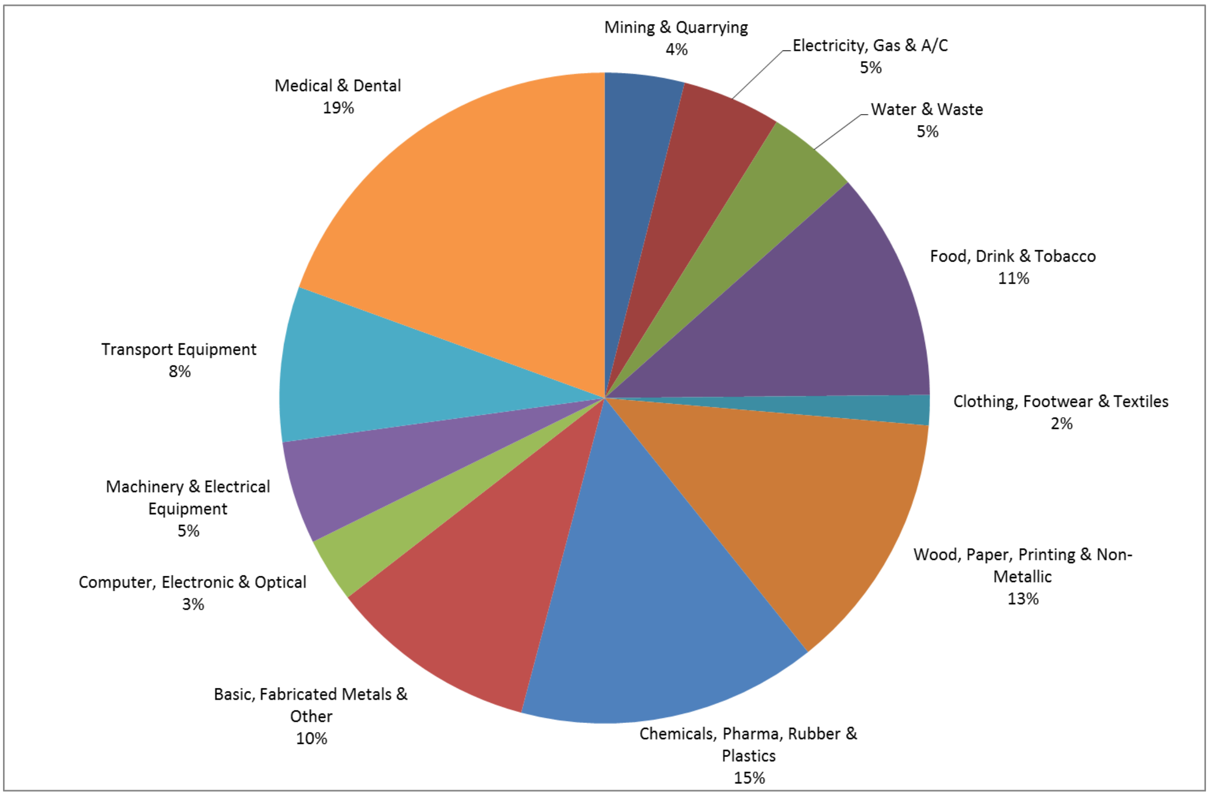
At 8%, the Transport Equipment sector accounts for a higher share of total industrial employment in Leitrim than any other county in Ireland. This would include Mirror Controls International, based in Manorhamilton, which manufactures mirror parts for the automotive business.

Between 2011 and 2016, total Industry employment among residents of county Leitrim grew by 21.1%, more than double the national increase and the highest growth among all western counties (Fig. 16). In eight of the twelve sub-sectors, Leitrim had a better performance than nationally.

The county experienced growth of 80.4% (+127 people) in MedTech, with both Computer & Electronic (51.6%, +16 people) and Metals & Other (42.1%, +45 people) also having strong percentage growth.

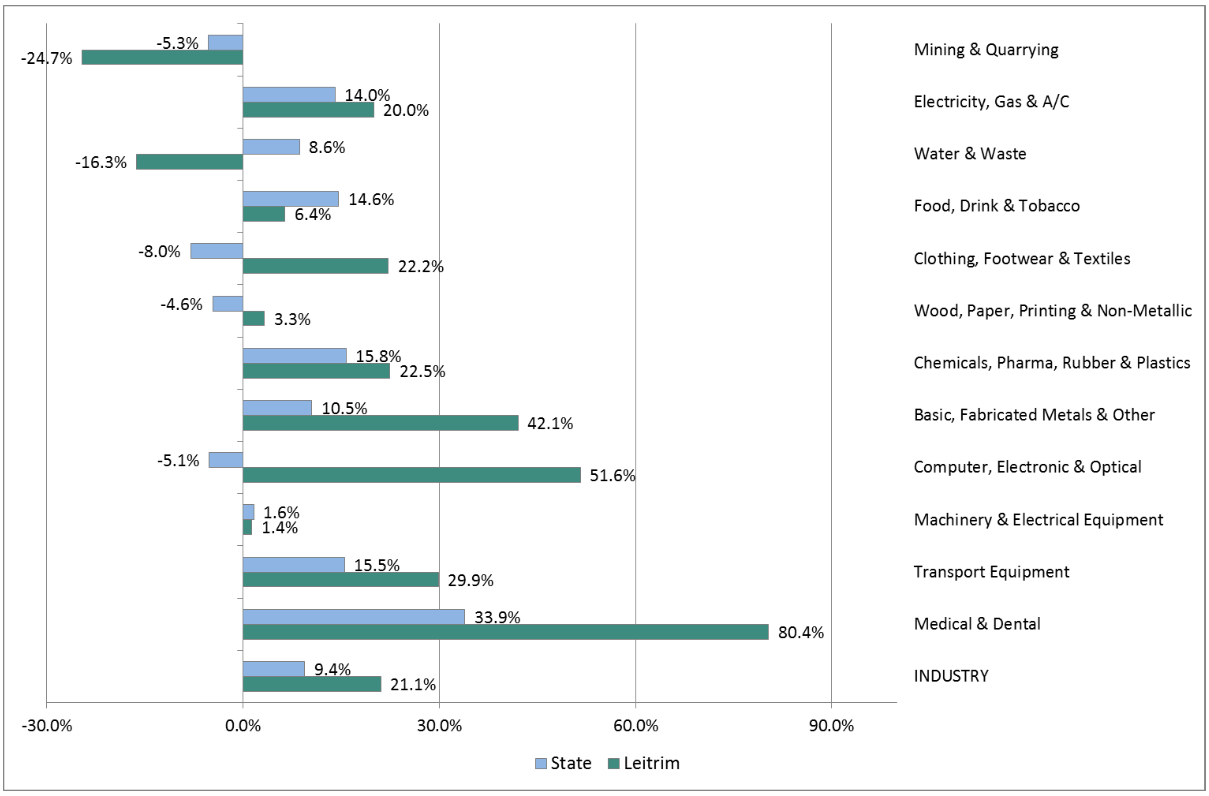
Leitrim only experienced a decline in employment in two sectors – Mining & Quarrying (24.7%, -19 people) and Waste & Water (16.3%, -13 people) – but saw growth of 20% in the other non-manufacturing industrial sector of Energy (+12 people).

Fig. 15: Percentage of total Industry employment in each sub-sector in county Leitrim, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 16: Percentage change in employment in Industry sub-sectors in county Leitrim, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.6 *Employment in Industry sub-sectors in county Mayo*

Mayo's industrial employment is dominated by three key sectors – MedTech, Chemicals & Pharma and Agri-food – each accounting for about 20% of industrial employment (Fig. 17). Within these, medical devices, pharmaceuticals, meat processing and beverages are the largest elements. A number of large multinational and indigenous operations in these sectors would have a strong influence e.g. Allergan, Baxter Healthcare, Ballina Beverages, Dawn meats, O'Haras.

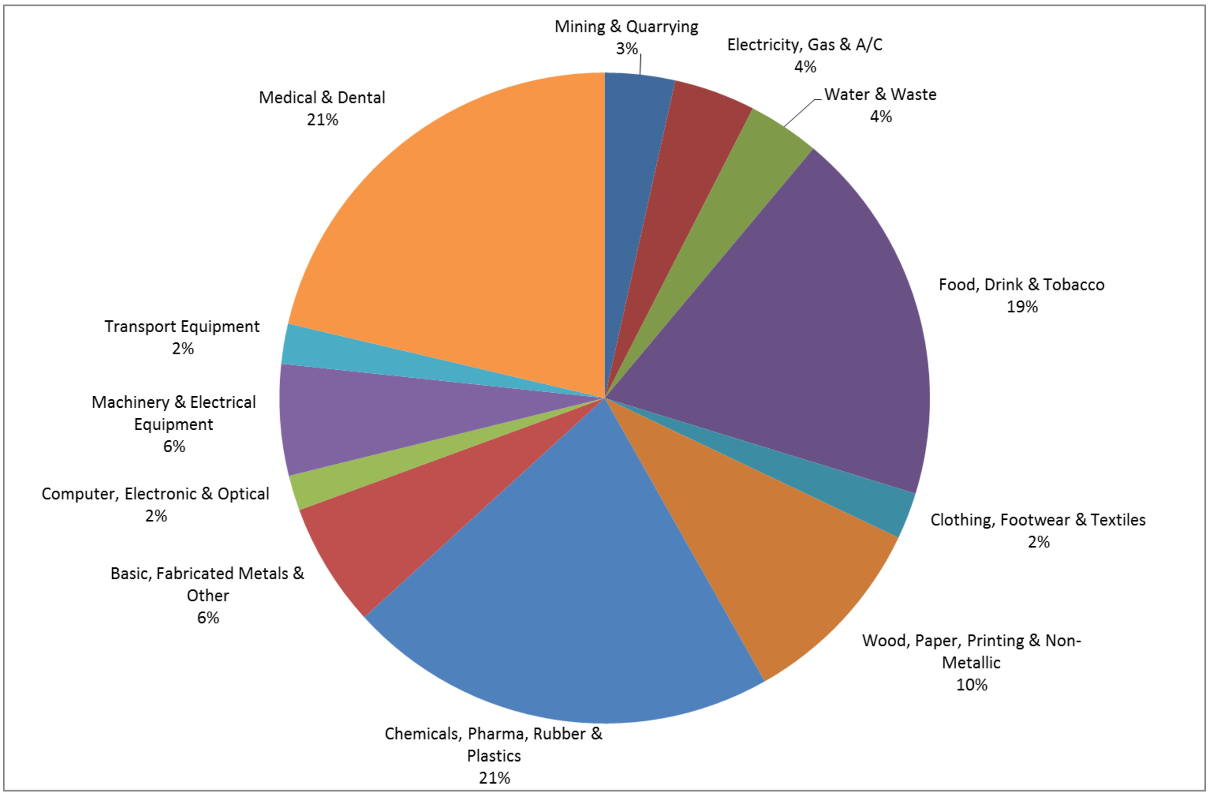
Mayo has the fourth highest share of its Industry employment in MedTech in the region state, surpassed only by Galway City and County and Sligo. Mayo has the second highest share in the Western Region (after Sligo) engaged in Chemicals & Pharma and the third highest share working in Agri-food.

The next largest industrial sub-sector in Mayo is Wood & Non-Metallic (10%), with 6% working in the two engineering areas of Metals & Other and Machinery & Electrical.

Between 2011 and 2016, total Industry employment among residents of county Mayo grew by 14%, higher than the national increase of 9.4% (Fig. 18). In seven of the twelve sub-sectors, Mayo had a better performance than nationally. Mayo along with Galway County and City was the only western county with a higher number of residents working in Industry in 2016 than two decades previously.

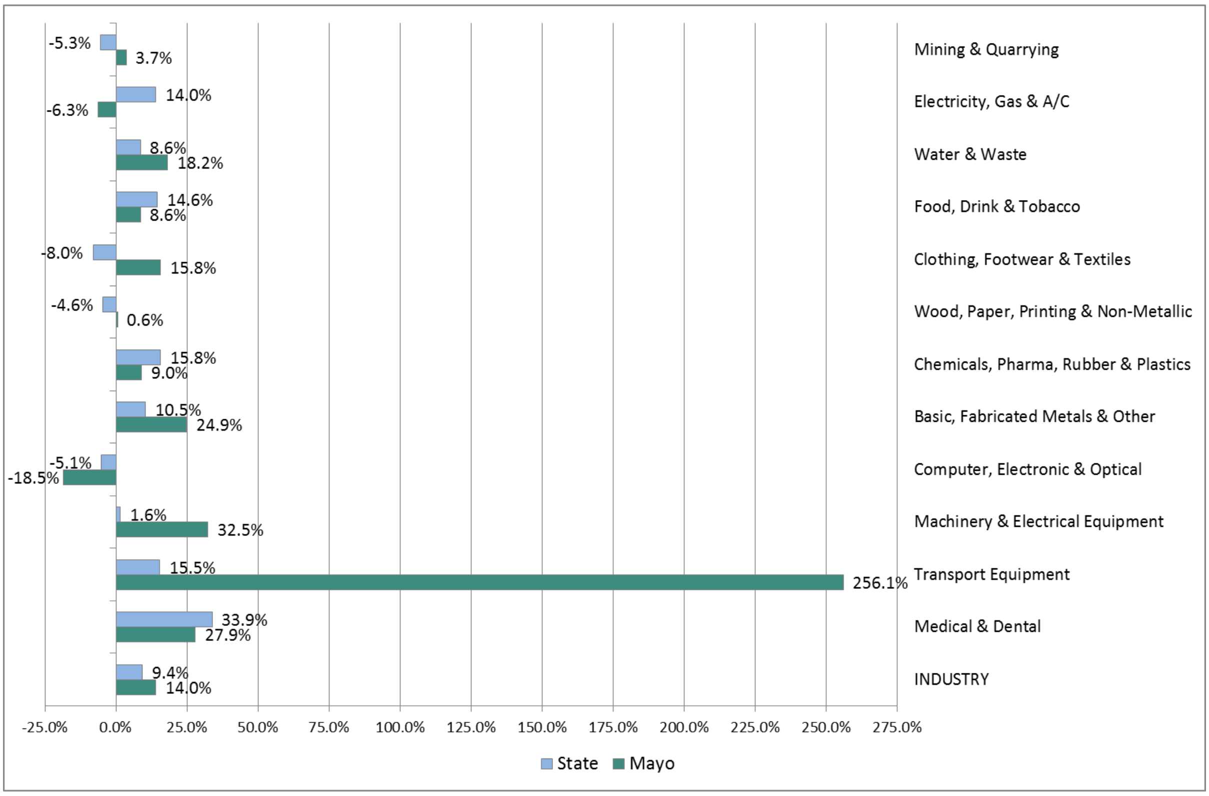
The 256.1% increase in employment in Transport Equipment skews Fig. 8. In absolute terms this involved an increase from 41 to 146 people employed in the sector, influenced by agricultural machinery manufacturers McHale and AgriSpread and also commuting to Valeo Vision Systems in Tuam. Machinery & Electrical (32.5%, +99 people), MedTech (27.9%, +340 people) and Metals & Other (24.9%, +90 people) were the other sub-sectors which saw strong growth. The largest decline was in Computer & Electronic (18.5%, -29 people).

Fig. 17: Percentage of total Industry employment in each sub-sector in county Mayo, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 18: Percentage change in employment in Industry sub-sectors in county Mayo, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.7 Employment in Industry sub-sectors in county Roscommon

Similarly to Mayo, Roscommon's industrial employment is dominated by three key sub-sectors – Chemicals & Pharma, Agri-food and MedTech which jointly account for 58% of the county's industrial employment (Fig. 19).

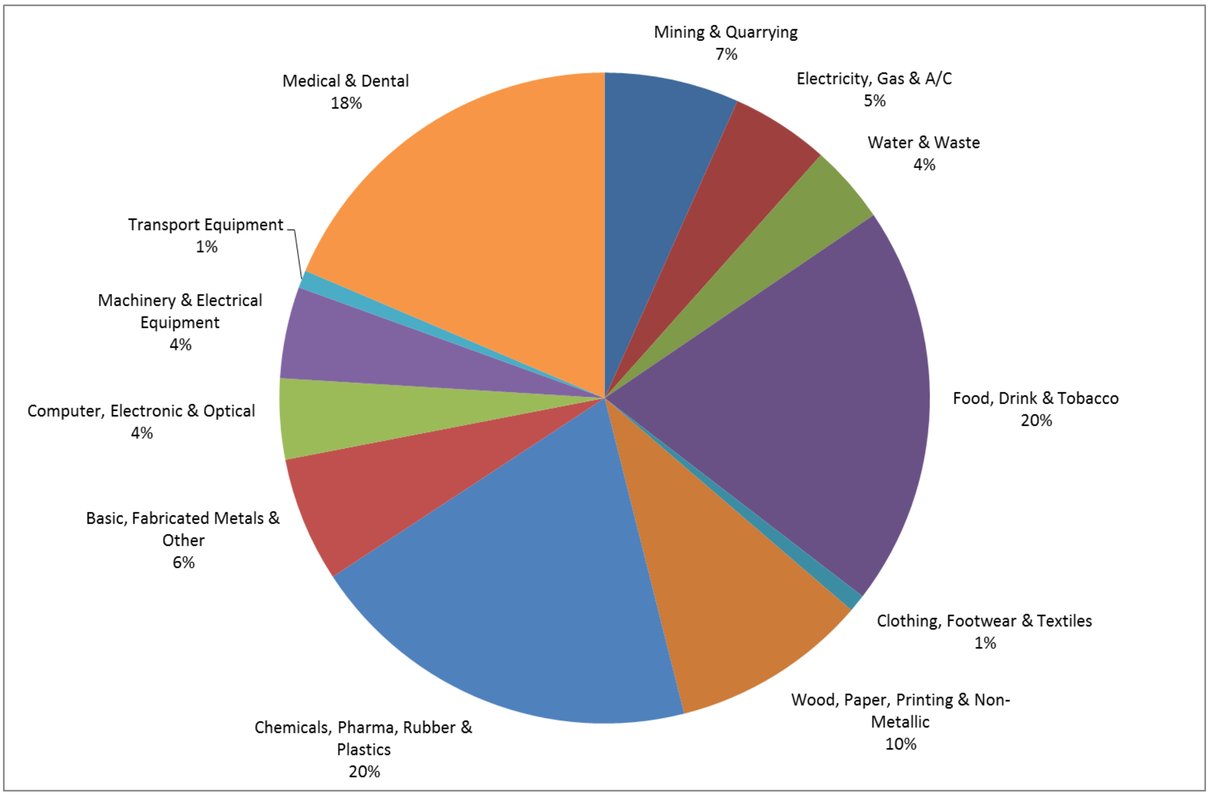
Roscommon has the region's second highest share of industrial employment in Agri-food. Within these three key sub-sectors medical devices, pharmaceuticals and meat processing are the largest activities influenced by Roscommon-based companies such as Harmac, Vention Medical, Alkermes, Aurivo, Kepak and Oliver Carty meats. There is also notable commuting from the county to work in Westmeath (Athlone), Sligo and Mayo.

At 7% of industrial employment, Roscommon has the highest share working in Mining & Quarrying in the region and the third highest nationally, with a number of significant quarry businesses. In fact Roscommon has the region's joint highest share (with Donegal) working in the three non-manufacturing industrial sectors (Mining & Quarrying, Energy and Waste & Water) which account for 15% of Industry employment.

Between 2011 and 2016, total Industry employment among residents of county Roscommon grew by 15.9%, higher than the national increase of 9.4% (Fig. 20). In seven of the twelve sub-sectors, Roscommon had a better performance than nationally.

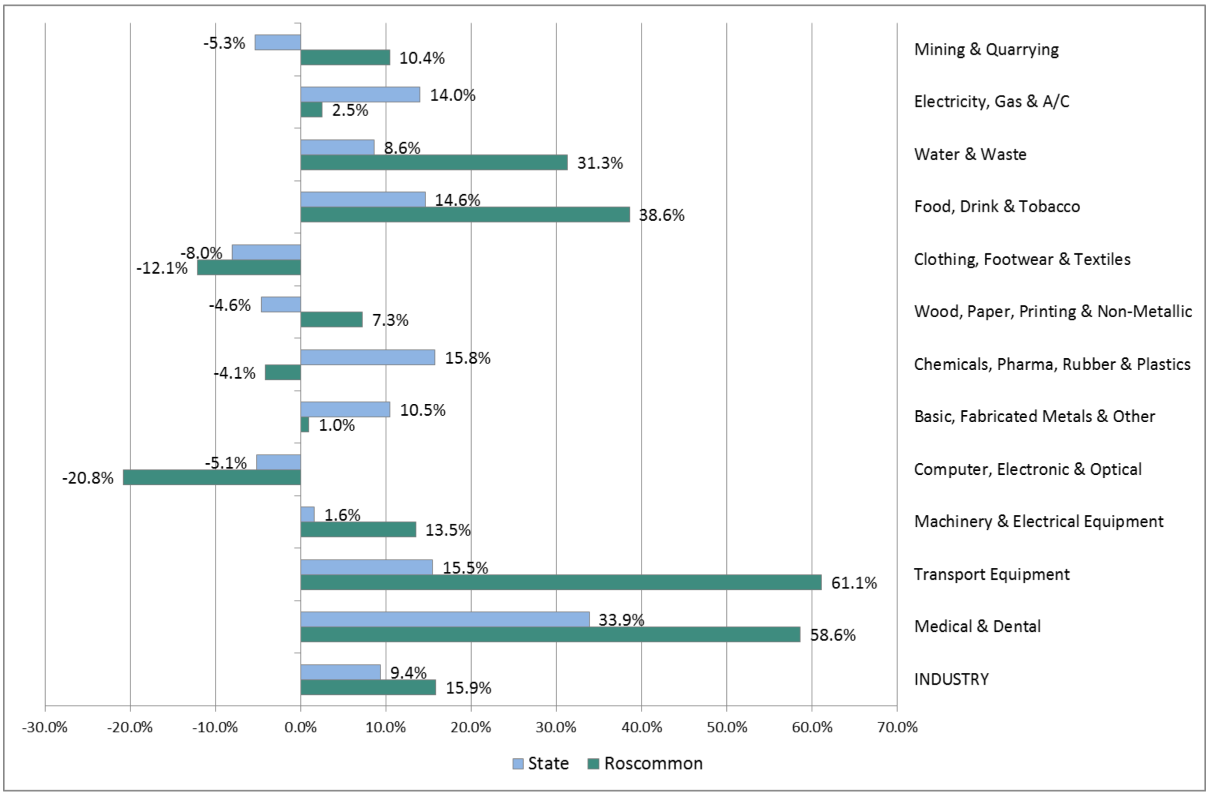
Transport Equipment (61.1%, +11 people) and MedTech (58.6%, +228 people) had the strongest growth and obviously, given its larger size, the significant growth in MedTech had a large impact. Agri-food (38.6%, +184 people) also grew substantially, with the growth mainly driven by meat processing products, a welcome development after losses in previous years. Three sub-sectors had a fall in employment, most significantly a 20.8% (-35 people) drop in Computer & Electronic.

Fig. 19: Percentage of total Industry employment in each sub-sector in Roscommon, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 20: Percentage change in employment in Industry sub-sectors in county Roscommon, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.3.8 Employment in Industry sub-sectors in county Sligo

Manufacturing of Chemicals & Pharma is by far the largest industrial employer in county Sligo, accounting for almost 1 in 3 industrial workers (Fig. 21). Within this, pharmaceutical products is the largest activity. The share of industrial employment accounted for by Chemicals & Pharma in Sligo is second highest in the country (after Waterford) and considerably greater than the next highest western county (21% in Mayo) and national average (18%). Companies including AbbVie, GSK, Bruss and TopChem are involved in this area.

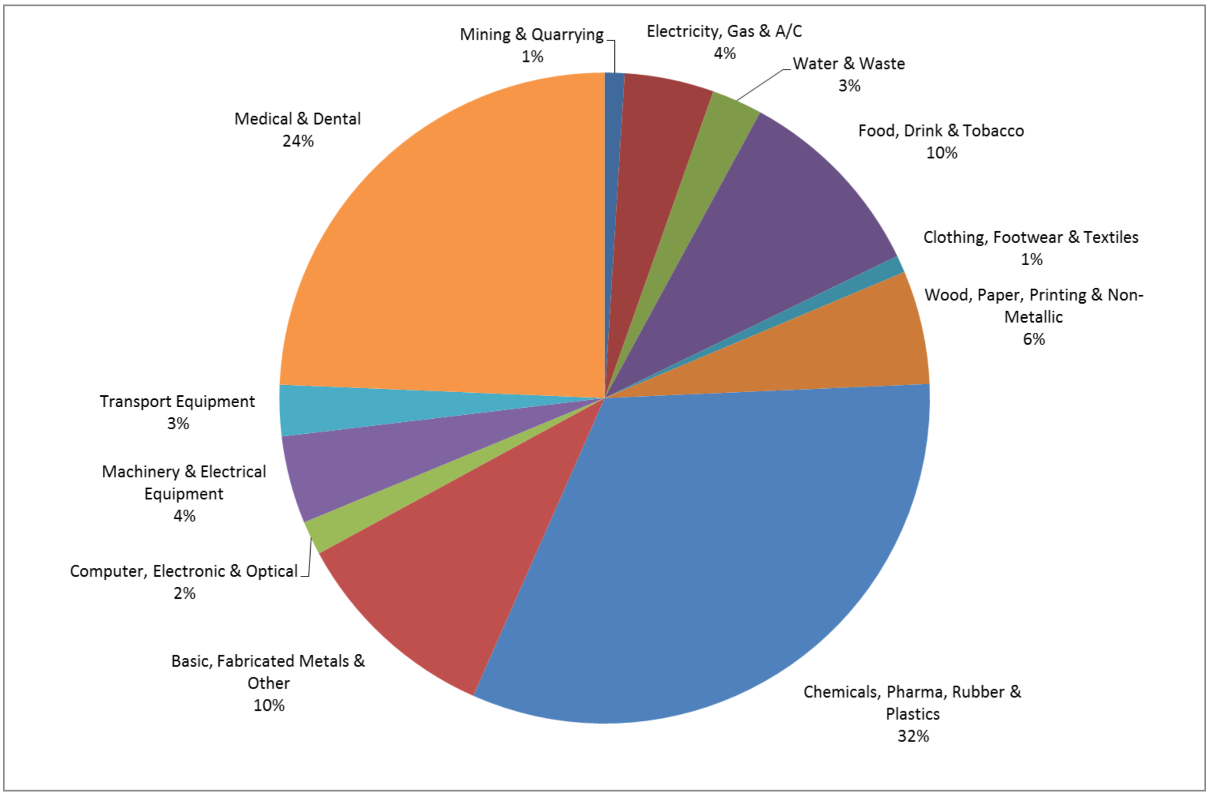
At 24%, Sligo has the third highest share of industrial employment in MedTech in the state, surpassed only by Galway City and County with Abbott Diagnostics, Arrotek, Verus Metrology Partner and SL Controls among the employers. After these two high-tech manufacturing sub-sectors, the next largest are Agri-food and Metals & Other, both accounting for 10% of industrial employment.

Between 2011 and 2016, total Industry employment among residents of county Sligo only grew marginally (0.3%), considerably lower than the national increase of 9.4% and the Western Region average of 13.7% (Fig. 22). In nine of the twelve sub-sectors, Sligo had a worse performance than nationally.

Only four industrial sub-sectors showed jobs growth among residents of county Sligo between 2011 and 2016. Metals & Other (26.8%, +72 people) and Transport Equipment (25.8%, +17 people) had the strongest growth, with 8.6% growth in the large MedTech sector (+63 people).

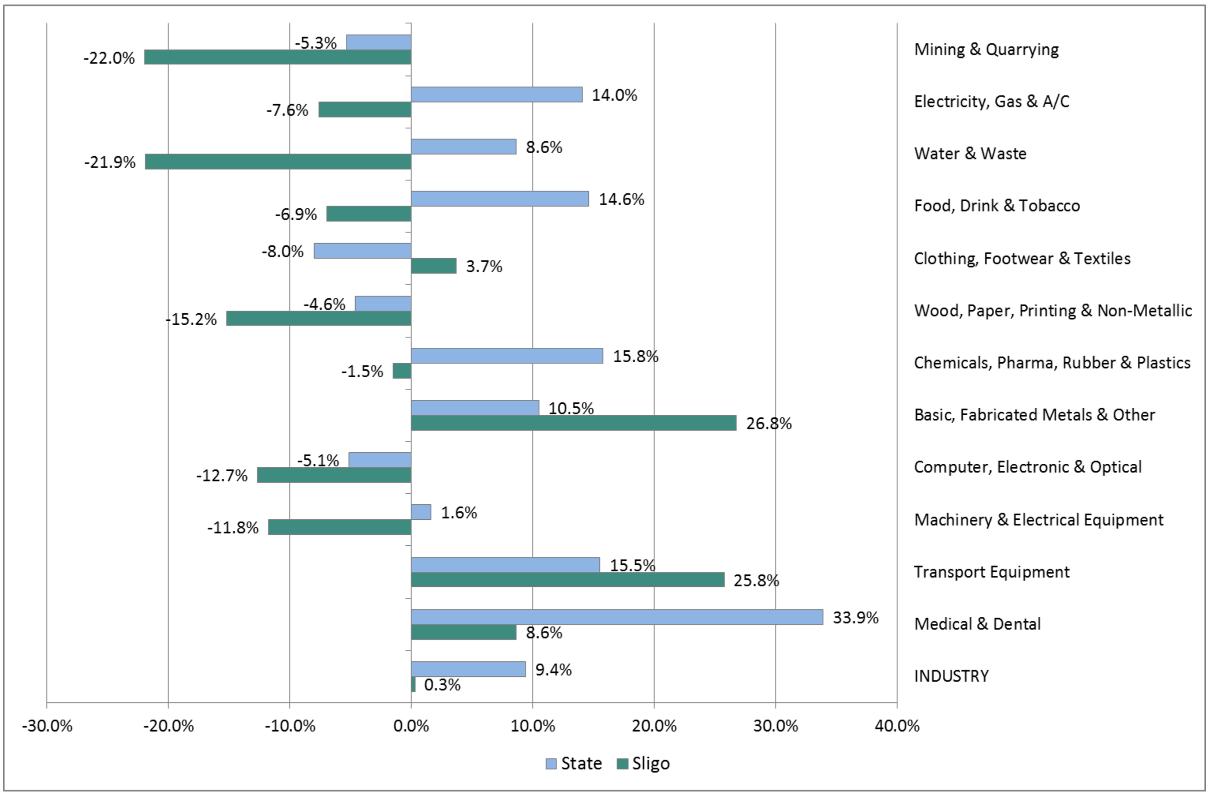
However there were declines in the numbers working in most industrial sub-sectors, Mining & Quarrying (22%, -9 people), Water & Waste (21.9%, -23 people) and Wood & Non-Metallic (15.2%, -33 people) had the largest percentage decreases.

Fig. 21: Percentage of total Industry employment in each sub-sector in county Sligo, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Fig. 22: Percentage change in employment in Industry sub-sectors in county Sligo, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

2.4 Employment in western towns

In 2016 there were 40 urban centres with a population over 1,500 in the Western Region. The relative importance of Industry varies across these towns.[7] For twelve towns, it is the largest employment sector for residents. When considering towns, commuting can be particularly important and it must be remembered that this data refers to residents of the towns, although some may work elsewhere.

At 41.9% of total employment, Ballyhaunis in Co Mayo has the highest share working in Industry among Ireland's 200 towns and cities. Shannon (31.9%) and Tuam (25%) are also in the top 10 nationally (Fig. 23). In the case of Ballyhaunis the presence of a number of meat processing factories as well as farm machinery would be a key influence, in Shannon electronics and other manufacturing in the Shannon Free Zone, while Tuam has a number of relatively large manufacturing plants including JFC Group, Valeo Vision Systems and Unilokomotive.

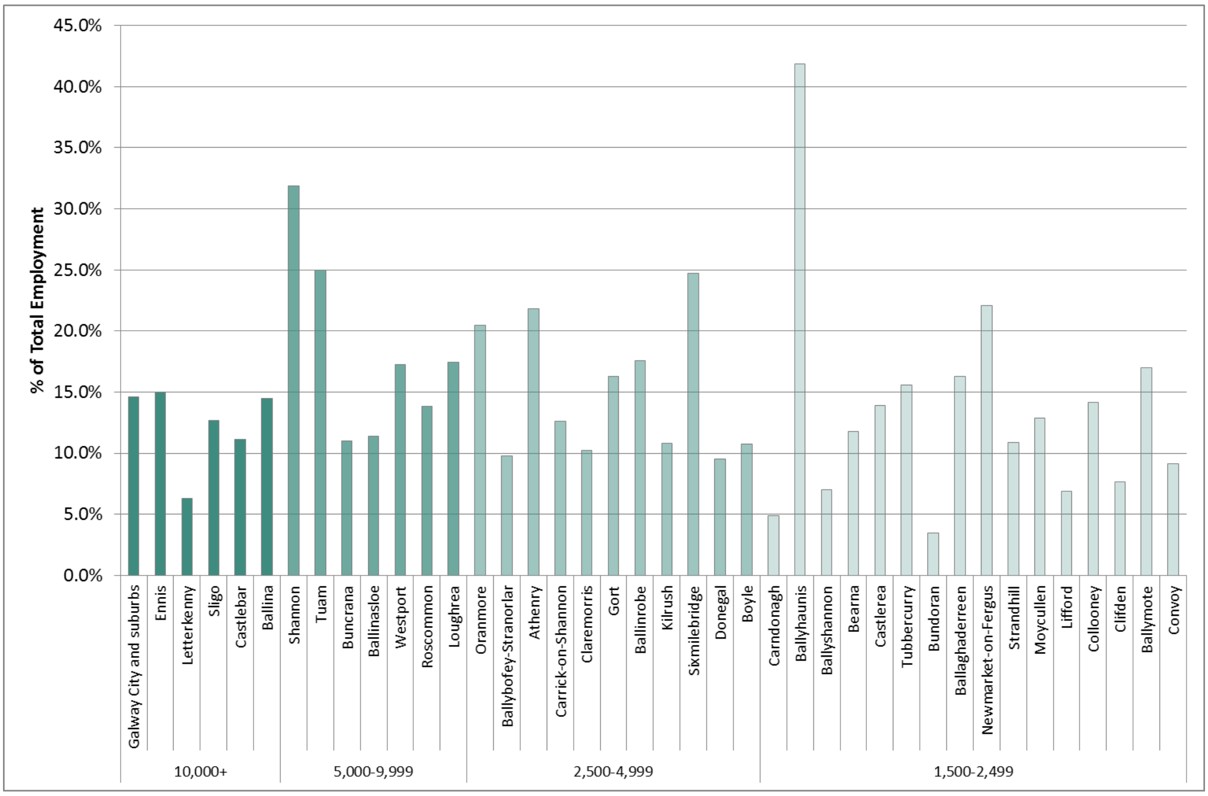
There is no clearly discernible pattern in the relative importance (as a percentage of total employment) of Industry across the 40 towns, ranked by descending size (Fig. 23). The location of one or more sizeable factories in a town, proximity to larger urban centres, diversity of the local economy and alternative job options combine to determine the role played by the sector in a town.

Among the region's six largest urban centres (10,000+), Ennis (15%, 1,586 people) has the highest share of employment in Industry, closely followed by Galway City (14.6%, 5,192 people) and Ballina (14.5%, 524 people). The presence of manufacturing plants in all of these towns is a key factor, as is commuting to both Limerick and Shannon in the case of Ennis.

Clearly illustrating the dramatic change in county Donegal's economy and the shift from manufacturing to services Bundoran and Carndonagh not only have the smallest shares working in Industry in the Western Region, but in the country as a whole, at under 5%. While Letterkenny (6.3%, 489 people) has the fourth smallest share nationally.

[7] See Appendix 2 for more detailed data on Industry employment in towns.

Fig. 23: Percentage of total employment in Industry in towns in the Western Region, 2016



Source: CSO, Census 2016: Profile 11 – Employment, Occupations and Industry, Table EB030

2.4.1 Change in employment in western towns

There are 38 towns in the Western Region which had a population above 1,500 in both 2011 and 2016.[8] Of these, most (27) experienced growth in the number of people working in Industry between 2011 and 2016, in line with the regional trend (Fig. 24).

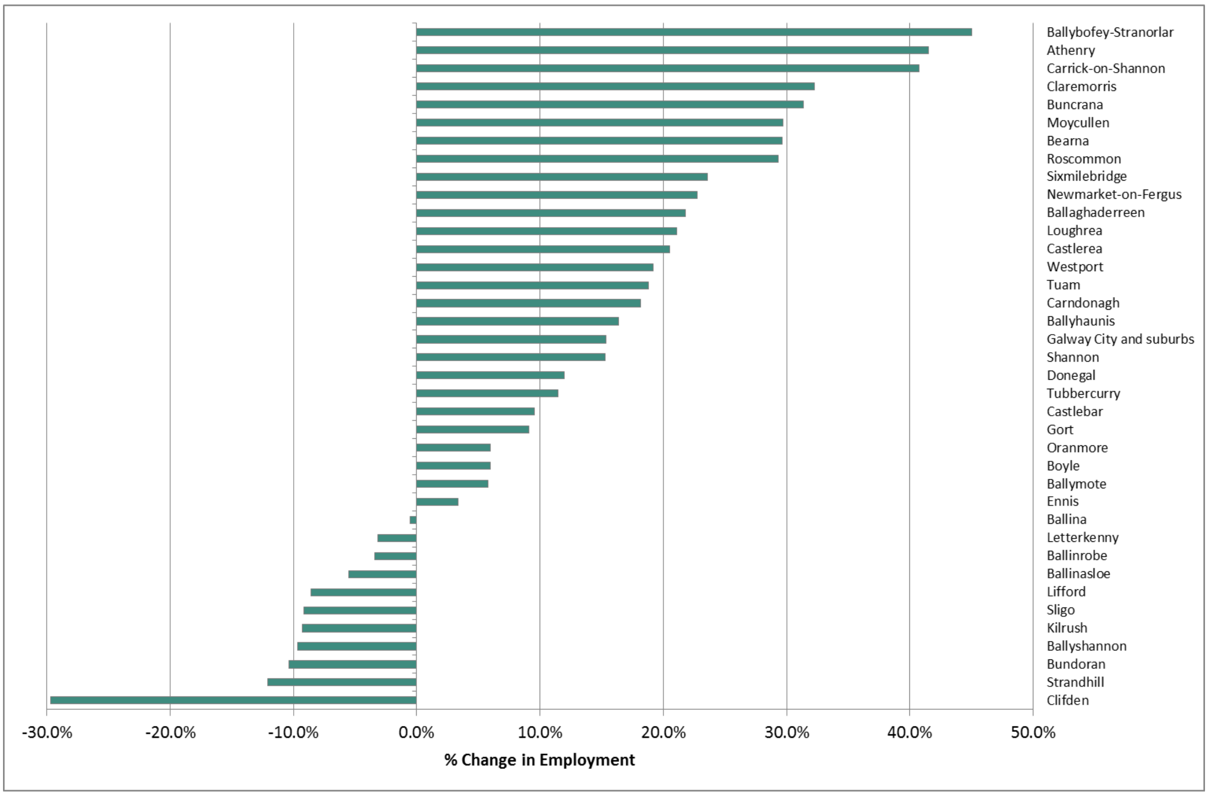
Ballybofey-Stranorlar in Co Donegal (45%, +50 people), Athenry in Co Galway (41.5%, +122 people) and Carrick-on-Shannon in Co Leitrim (40.8%, +64 people) had the most substantial percentage growth. For Ballybofey-Stranorlar a number of engineering and agri-food processing businesses in the town performed well, for Athenry its growing role as a commuting centre for Galway City would be a factor, while medical devices employment expanded in Carrick-on-Shannon.

These and other medium-sized towns such as Claremorris, Buncrana and Roscommon, seem to have performed particularly strongly, as did smaller towns in close proximity to either Galway or Limerick cities e.g. Moycullen, Sixmilebridge.

Eleven towns had a fall in Industry employment with four of the eleven located in county Donegal. The largest decline in the region was in Clifden (-29.7%, -22 people) which also suffered the largest population decline of all western towns. Sligo town (9.2%, -91 people) as well as its commuter town of Strandhill were among those to see a fall in residents working in Industry.

[8] Two towns with a population above 1,500 in 2011 (Portumna and Bunbeg-Derrybeg) dropped below in 2016. Two towns (Collooney and Convoy) rose above the 1,500 threshold in 2016. There were also town boundary changes between 2011 and 2016 for 15 of the 40 towns in the Western Region which has an impact when considering change over time. For most towns the impact was relatively minor, however there was a quite substantial change for Ballina.

Fig. 24: Percentage change in employment in Industry in towns in the Western Region, 2011-2016



Source: CSO, Census 2016: Profile 11 – Employment, Occupations and Industry, Table EB030; CSO, Census 2011: Profile 3 – At Work, Table CD320.
Note: In the case of Ballina, a significant town boundary change reduced its population and the actual change in employment in this sector is likely less than it appears in Fig. 24.

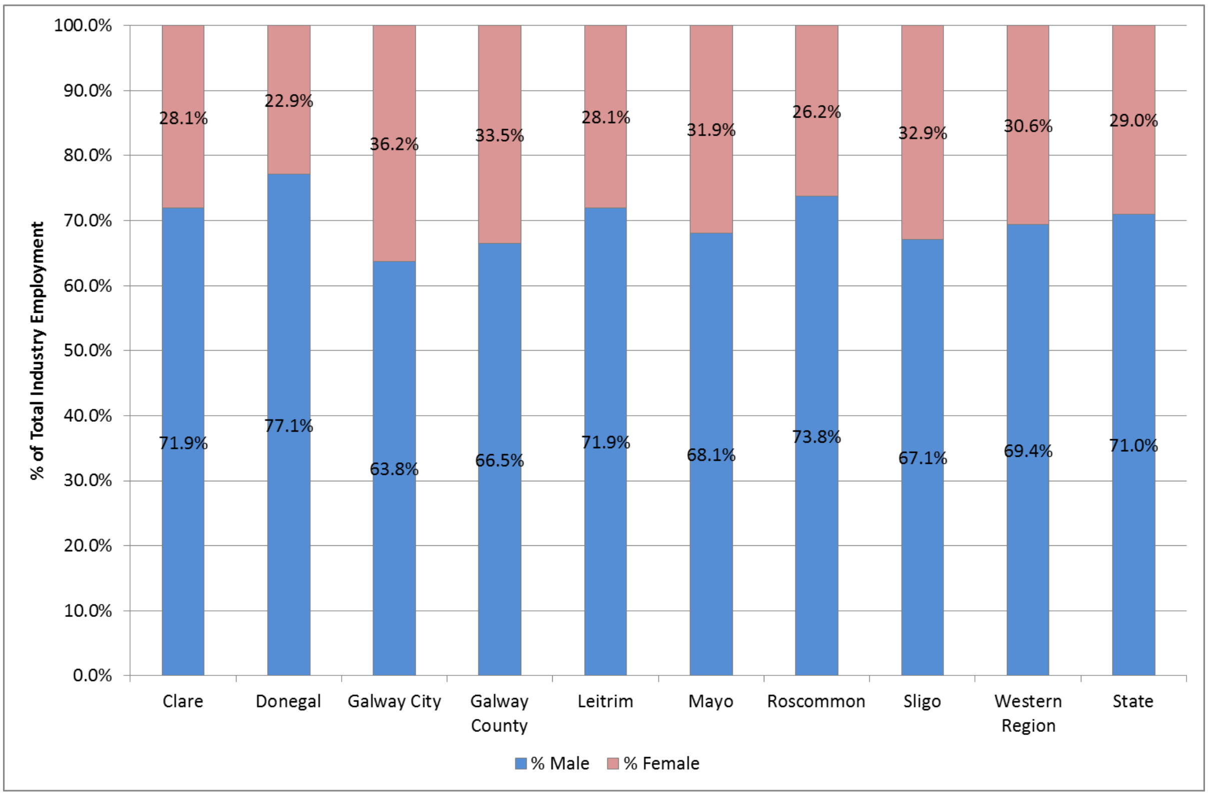
2.5 Employment by gender

In the Western Region 69.4% of people working in Industry are male, slightly below the national share of 71% (Fig. 25). The male share of Industry employment increased since 2011, when it was 67.7% in the region and 70.5% nationally. The lower share in 2011 was partly due to the previous large job losses in male-dominated, construction-related manufacturing.

Men account for the majority of the industrial workforce in all western counties, with Donegal (77.1%) having the highest male share and Galway City and County (63.8% and 66.5% respectively) the lowest. While data is not published on employment by gender for Industry sub-sectors,[9] this pattern implies that MedTech, which is strongest in Galway, may have greater female employment, while Agri-food which is strongest in Donegal and Roscommon, has lower female employment.

[9] Data is provided for the non-manufacturing Industry sub-sectors, but not the manufacturing sub-sectors which is the largest element of Industry.

Fig. 25: Percentage of total employment in Industry in Western Region and state by sex, 2016



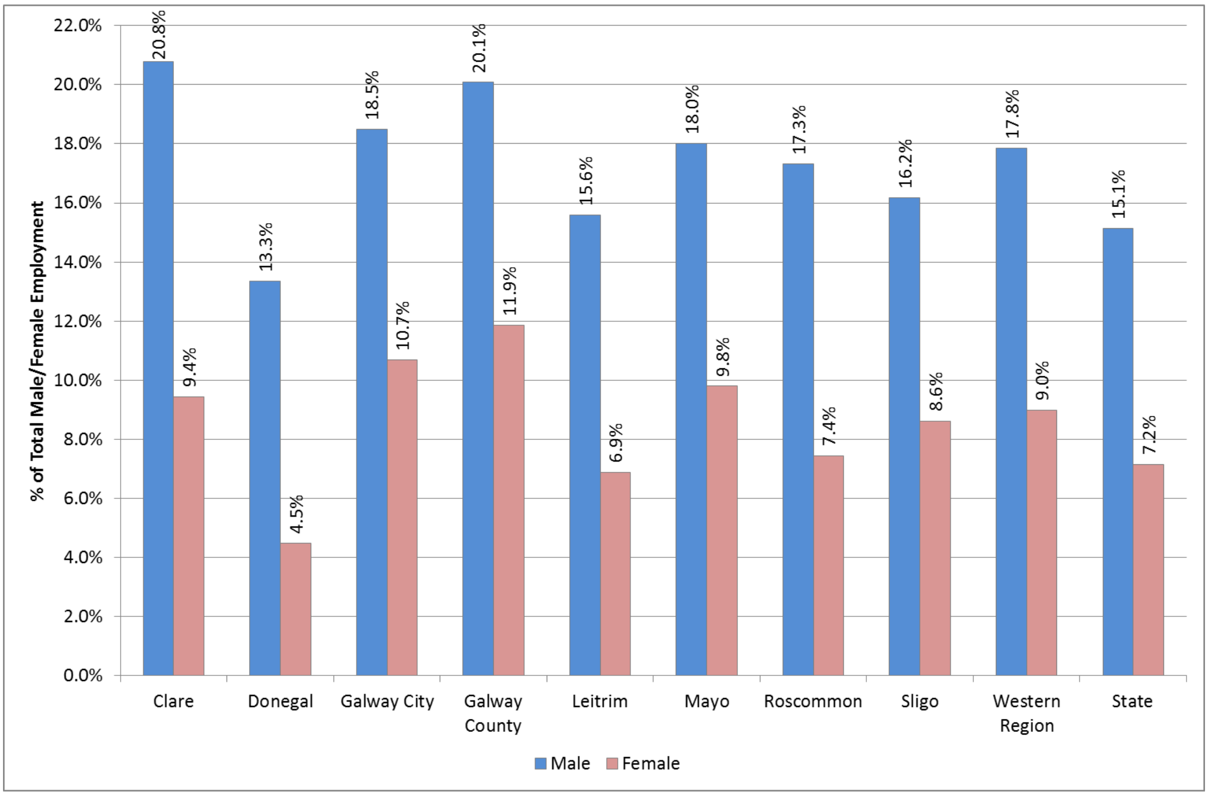
Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

In terms of the sector's relative importance to total male and female employment (Fig. 26), 17.8% of all working men and 9% of all working women in the Western Region work in Industry. Industry plays a more significant role in both male and female employment in the region than nationally and this is also true for all western counties except Donegal (and Leitrim for female employment).

Over 1 in 5 working men in Clare and Galway County work in Industry, with the sector also accounting for a high share of male employment in Galway City and Mayo. As with total employment, Donegal is where Industry accounts for the smallest share of total male employment (13.3%).

Donegal is also where Industry plays the smallest role in female employment with only 4.5% of working women in Donegal working in Industry. This is a massive decline from two decades ago when 30.8% of all working women in Donegal worked in Industry, clearly illustrating the impact of the massive job losses from the female-dominated Clothing & Textiles sector. At over 10% of all female employment, Galway County and City is where Industry is most important for working women.

Fig. 26: Percentage of total male and female employment that is in Industry in Western Region and state, 2016



Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

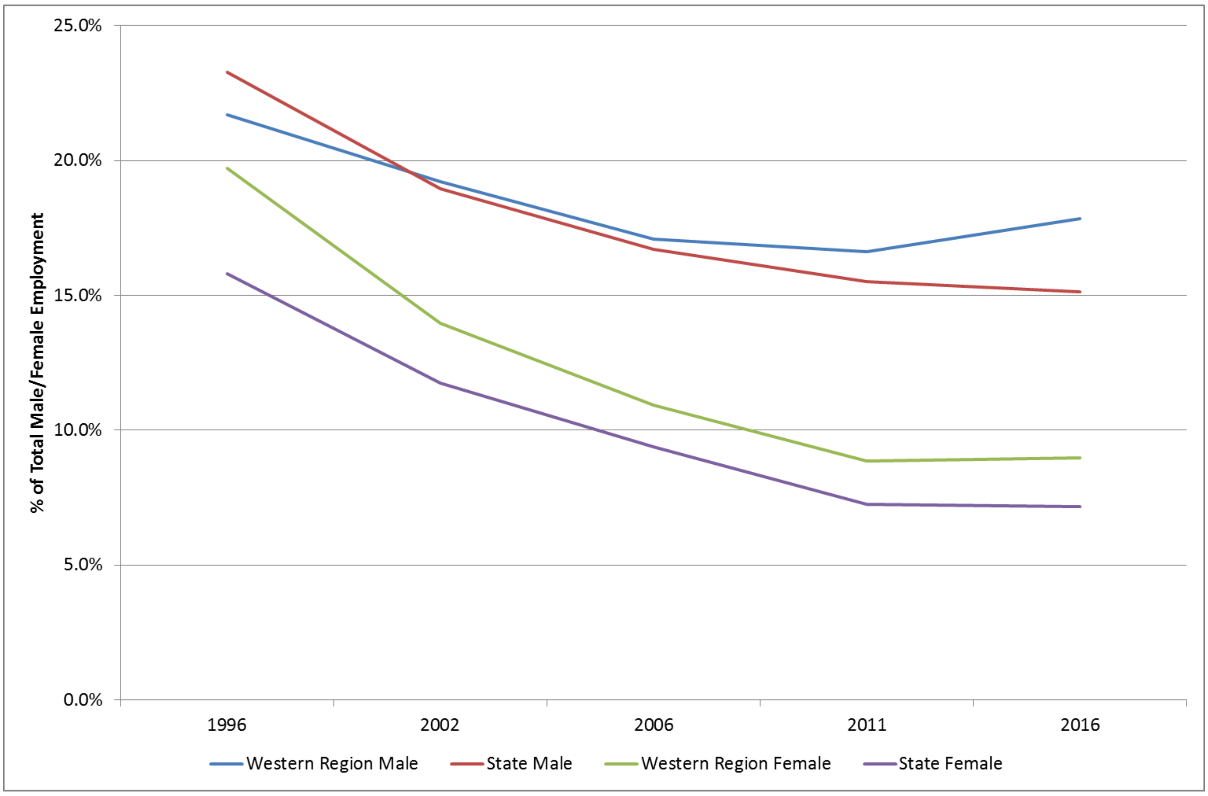
2.5.1 Trends in Industry employment by gender

Industry's share of both male and female employment has changed significantly over the past two decades (Fig. 27). In 1996, Industry accounted for 21.7% of all male employment and 19.7% of all female employment in the Western Region, but by 2016 the shares had dropped to 17.8% and 9% respectively with the sector's importance declining far more among working women.

The region's experience, compared with the national pattern, differed by gender. For women, a notably higher share worked in Industry in the region than nationally in 1996 (19.7% v 15.8%). Since then the share has declined and even rapidly in the region. This narrowed the gap and by 2016 with it was 9% in the region and 7.2% nationally.

For male employment, Industry accounted for a smaller share in the region than nationally in 1996 (21.7% v 23.3%) partly due to agriculture's strong role. Between 1996 and 2011, Industry's share of male employment declined more rapidly in the state than the region so that by 2011 the region had a notably higher share of working men, working in Industry. The 2011-2016 period saw a markedly different trend with Industry's share of total male jobs continuing its downward trend nationally, but increasing strongly in the Western Region. In 2016 17.8% of men in the Western Region worked in Industry compared with 15.1% nationally.

Fig. 27: Percentage of total male and female employment that is in Industry in Western Region and state, 1996-2016

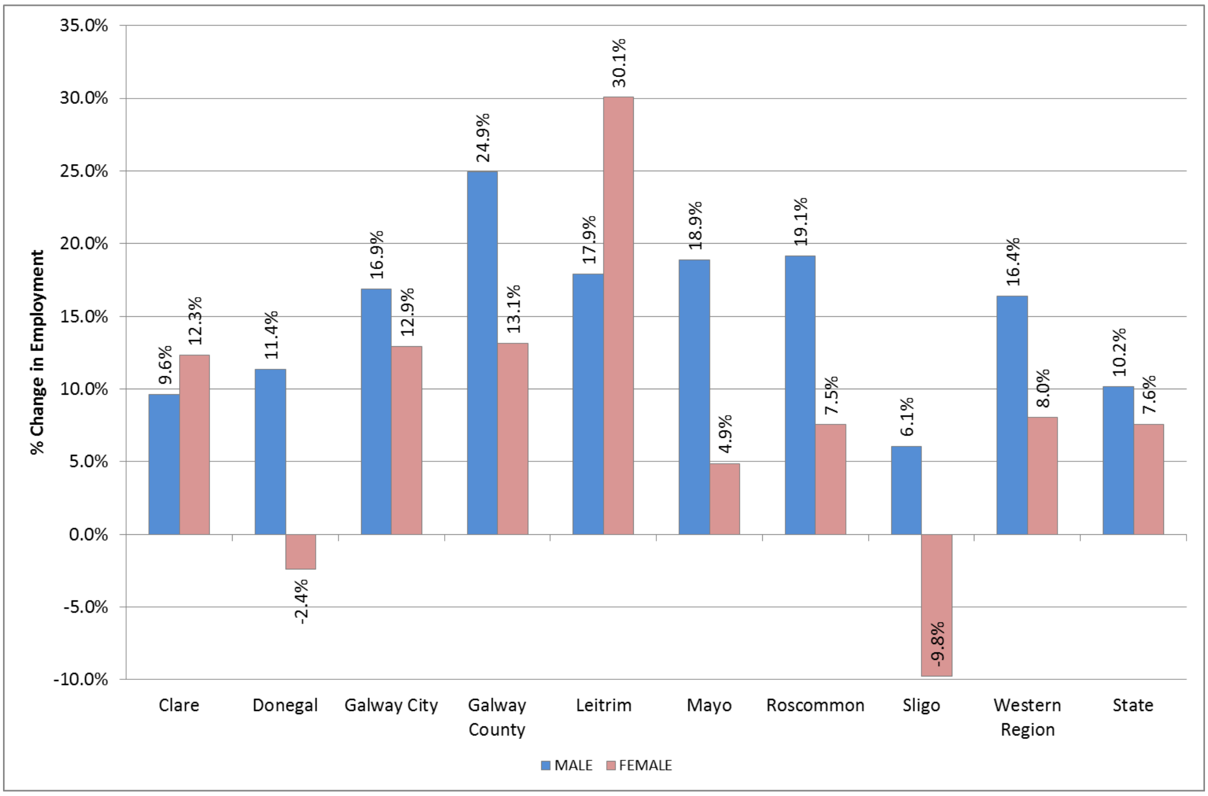


Source: CSO, Census 2016: Summary Results Part 2, Table EZ011; CSO, Census of Population 2006, Volume 7 - Principal Economic Status and Industries, Table C0713; CSO, Census of Population 2002, Volume 5 - Principal Economic Status and Industries, Table B0513; CSO, Census of Population 1996, Volume 5 - Principal Economic Status and Industries, Table A0513

2.5.2 Change in employment by gender

The period 2011 to 2016 saw male employment in Industry in the Western Region increase twice as much as female (16.4% v 8%) (Fig. 28). While male employment growth also surpassed female in the state, the difference as far smaller. Female employment growth in the region was relatively similar to nationally, whereas the region had a considerably stronger performance in male industrial employment (16.4% v 10.6%). The region's stronger than average growth in Transport Equipment, Computer & Electronic, Machinery & Equipment and Mining & Quarrying may have contributed to the stronger male performance.

Fig. 28: Percentage change in employment in Industry in Western Region and state by sex, 2011-2016



Source: CSO, Census 2016: Summary Results Part 2, Table EB027

The majority of western counties had stronger male than female Industry employment growth and in the case of Sligo and Donegal, there was actually a fall in the number of women working in the sector. This contributed to these two counties having the smallest total employment growth in Industry in the region (see Section 2.2.2). Galway County, Mayo and Roscommon also saw far higher growth in male Industry employment. This followed a period (2006-2011) of high job losses in male-dominated industrial sectors supplying the construction industry and the strong male employment growth was in some ways a recovery of previous losses.

Leitrim and Clare were the only counties with stronger female jobs growth, and the difference as particularly striking in Leitrim where MedTech was the strongest growing industrial sub-sector.

2.6 Self-employment in Industry

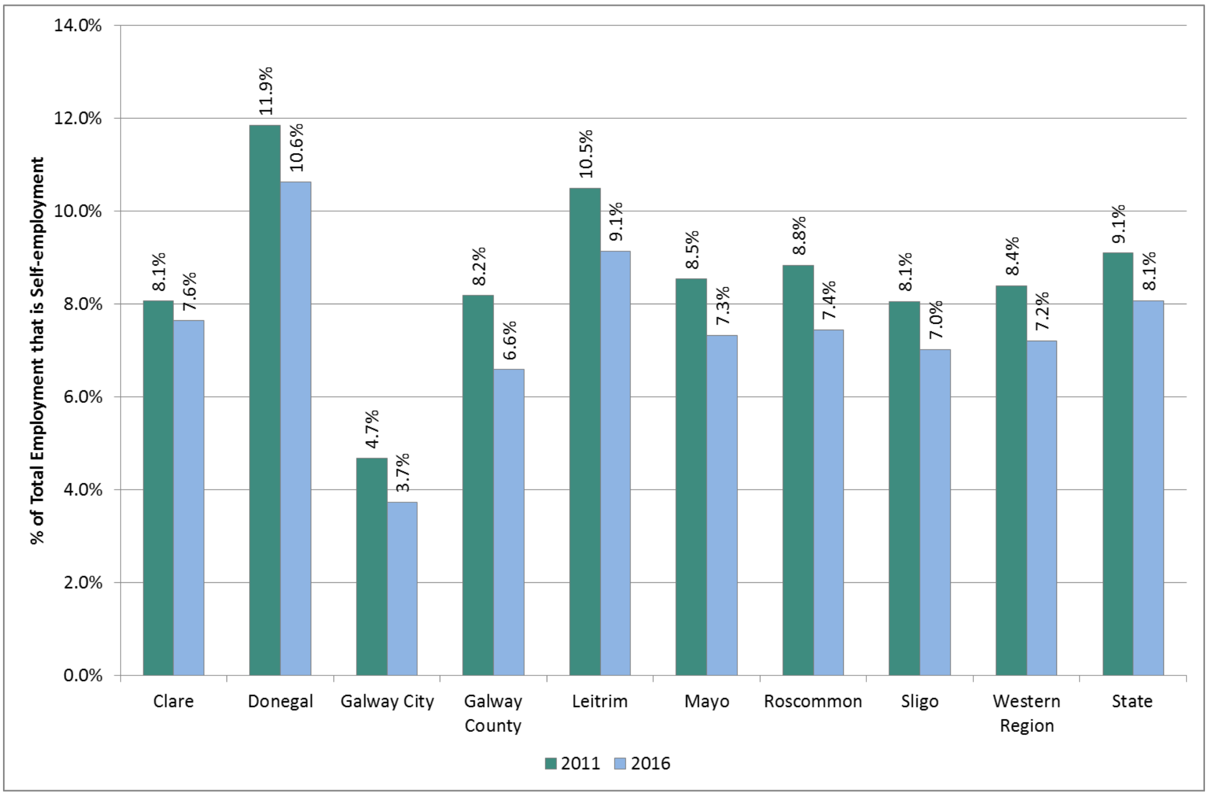
Of the 45,754 people working in Industry in the Western Region, 7.2% (3,302 people) are self-employed (employer or own account worker) (Fig. 29). The Western Region is characterised by lower self-employment in Industry than the national average (8.1%). The high level of foreign owned activity in the region's Industry sector (see Section 3.4) would contribute to this. As Industry includes many relatively large companies and a high degree of multinational involvement, self-employment is less common than generally across the economy.[10] As well as owners of industrial businesses, the self-employment figures would also include those working for Industry businesses on a self-employed contract basis.

[10] 18.3% of all employment in the Western Region is self-employment, compared with 7.2% in Industry. In the state, 15.6% of all employment is self-employment compared with 8.1% in Industry.

At 10.6%, Donegal had the highest level of self-employment in the region in 2016, followed by Leitrim (9.1%). This indicates a greater share of Irish-owned SMEs operating in the industrial sector in these counties. At only 3.7%, Galway City has the lowest share of self-employment illustrating the dominance of large multinationals in overall Industry employment. Section 4.1 examines enterprise numbers in Industry and shows Industry accounts for its highest share of all registered enterprises in Donegal and lowest in Galway, pointing to higher local involvement in Industry in Donegal (and perhaps smaller scale enterprises) and greater MNC involvement in Galway (with larger employers).

Between 2011 and 2016 the share of all employment that was self-employment decreased in all counties. This could be due to a number of reasons including strong growth in the number of employees working in the sector, sales of some owner/manager run manufacturing businesses to multinationals and some reduction in the practice of hiring staff as self-employed contractors which increased considerably in response to the recession.

Fig. 29: Percentage of total employment in Industry that is self-employment in Western Region and state, 2011 and 2016



Source: CSO, Census 2016: Profile 11 – Employment, Occupations and Industry, Table EB033. Special run from CSO.

2.6.1 Change in self-employment

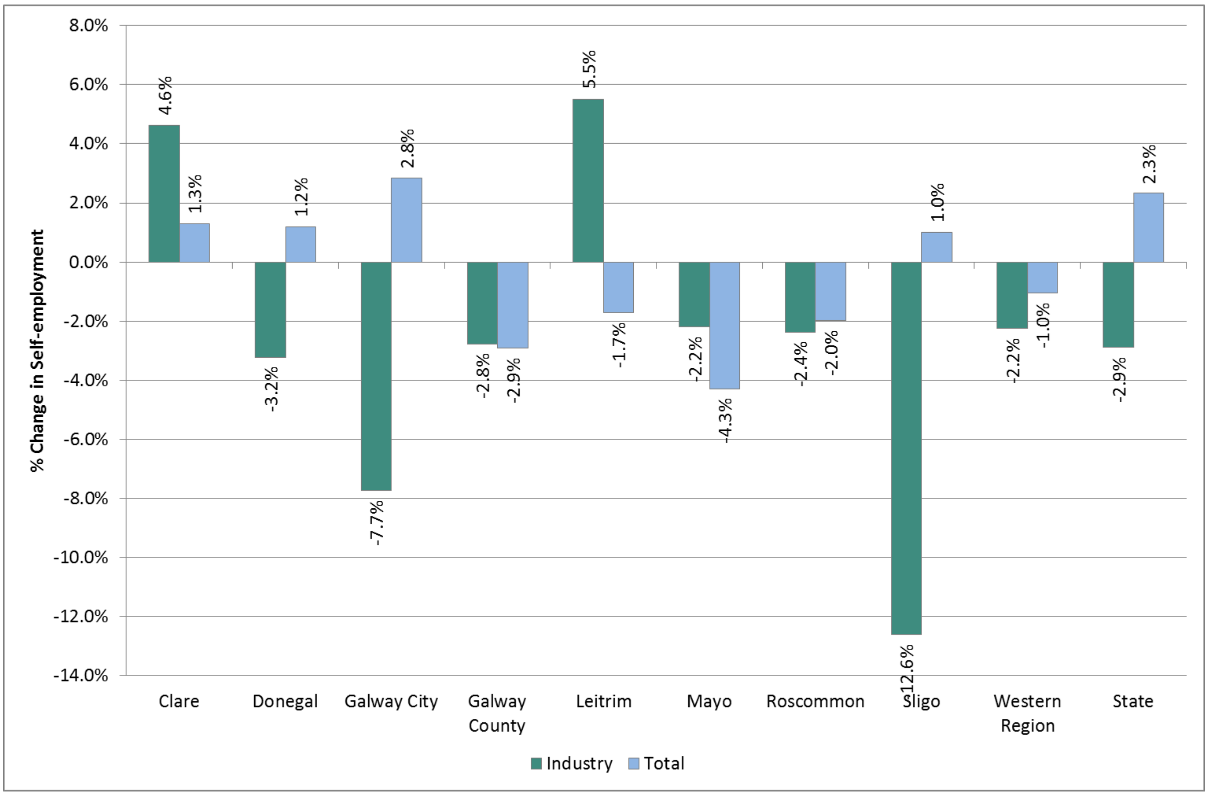
As noted above, the share of total employment that was self-employment declined in all counties between 2011 and 2016. In most counties, there was also a decline in the actual number of self-employed people working in the sector (Fig. 30).

In the Western Region, the number of self-employed people working in Industry fell by 2.2% (Fig. 9) compared with 1% decline in total self-employment over the same period. The region had a somewhat less of a decline in Industry self-employment than nationally (2.9%).

Sligo (12.6%) and Galway City (7.7%) experienced the largest declines in Industry self-employment, though both saw rising numbers of self-employed generally. For Sligo, this decline coincides with a generally weak performance for Industry overall and may indicate a particularly difficult period for Irish-owned SMEs. For Galway City however, the decline in the numbers of self-employed in Industry contrasts with strong overall industrial jobs growth illustrating the dominant role of multinationals in driving recent jobs growth.

Leitrim (+5.5%) and Clare (+4.6%) were the only counties with rising self-employment in Industry. In both, the growth in Industry self-employment out-performed total self-employment. Though data is not available for self-employment by gender, these were also the only two counties with higher female than male employment growth over the period, which may indicate a greater prevalence of self-employment among women working in Industry.

Fig. 30: Percentage change in self-employment in Industry and total self-employment in Western Region and state, 2011-2016



Source: CSO, Census 2016: Profile 11 – Employment, Occupations and Industry, Table EB033. Special run from CSO.

3.0 Agency Assisted Jobs in Industry

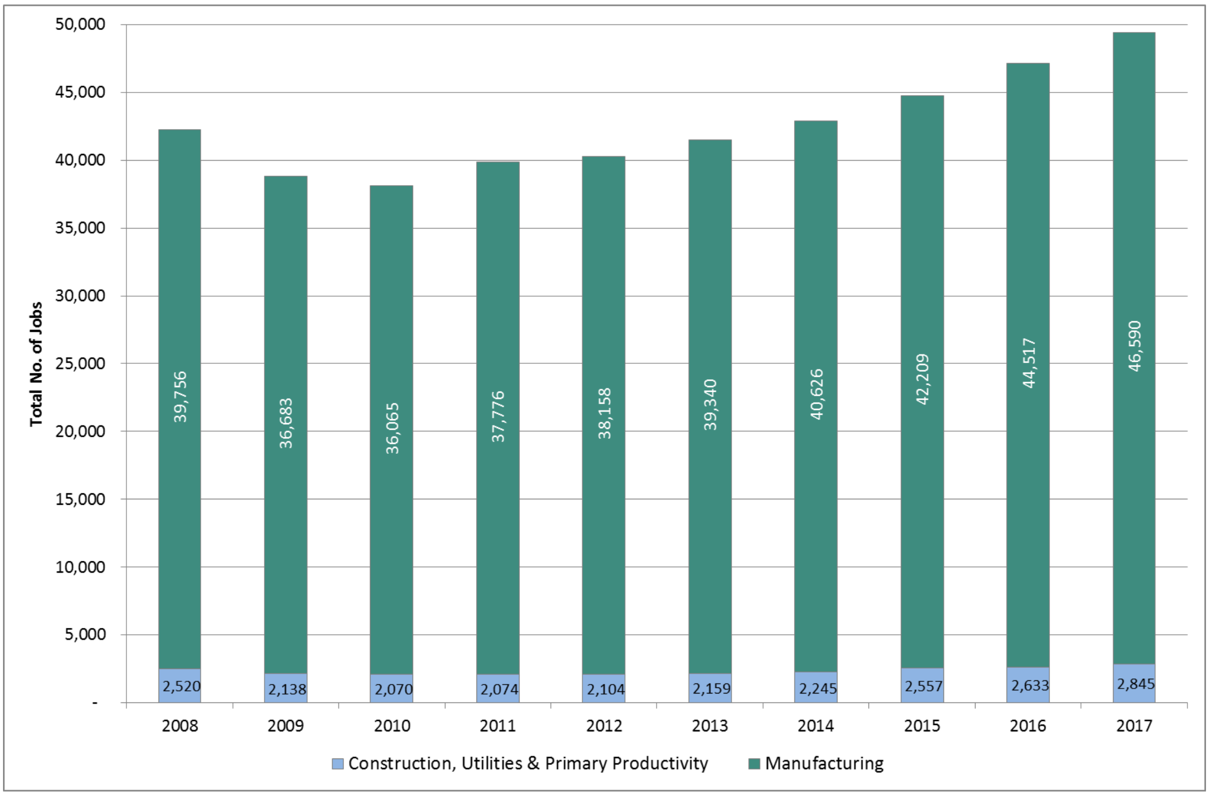
Each year DBEI conducts a survey of all firms in Ireland who have ever received assistance from IDA, EI or Udarás na Gaeltachta. These are referred to as agency assisted companies and are limited to Industry or internationally traded services. For Industry, a large majority of total enterprises would be included as agency assisted. Unlike Census data, which is based on where a person lives, Annual Employment Survey (AES) data is based on where the company is located, so is the location of the job, even if the person travels from another county.

In this section we examine agency assisted jobs in Industry for the Western Region and its counties including the type of jobs and employment by ownership of the company (foreign or Irish).

3.1 Trends in assisted jobs in Industry in the Western Region

In 2017, there were 49,435 agency assisted jobs in the Industry sector based in the Western Region. Manufacturing accounted for the vast majority (46,590) with non-manufacturing industrial activities accounting for 2,845 jobs (Fig. 31). The number of assisted Industry jobs in the region declined in the early years of the decade and reached a low of 38,000 in 2010. Since then, there has been steady growth, accelerating since 2013.

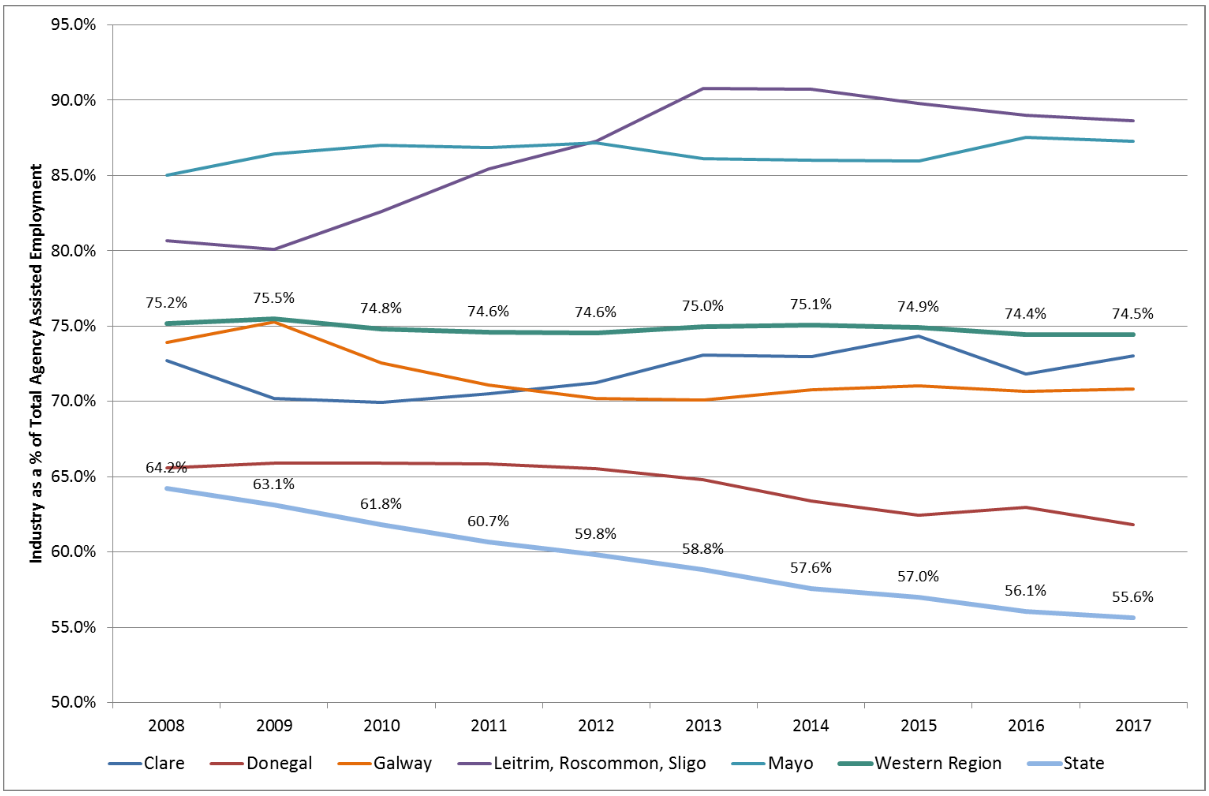
Fig. 31: Total assisted jobs in Industry in Western Region, 2008-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

In the Western Region, the share of total assisted jobs accounted for by Industry has remained extremely stable at around three-quarters over the past decade (Fig. 32). This contrasts strongly with a steady decline in Industry's share nationally from 64.2% in 2008 down to 55.6% by 2017. International services account for a far higher share of total assisted jobs nationally than in the Western Region and this share is growing steadily with the trend heading towards a 50:50 split nationally. As was clear from Section 2, Industry plays a considerably greater role in the Western Region's labour market.

Fig. 32: Industry as a percentage of total assisted jobs in Western Region and state, 2008-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run
Note: For ease of interpretation the vertical axis starts at 50%.

Due to confidentiality reasons, data on assisted jobs in Industry at county level is combined for Leitrim, Roscommon and Sligo. In 2017, this is where Industry accounts for its highest share of total assisted jobs (88.6%). This is the fifth highest share nationally.[11] There has been a considerable increase in Industry's share of the total in these counties over the decade; it was just 80% in 2009. Some substantial losses in assisted international services employment over this period[12] would have contributed to Industry's growing role, as well as some growth in the numbers working in Industry (see Section 3.1.1).

Mayo has the next highest share of all its assisted jobs in Industry (87.3% in 2017) and while it dropped to second place over the decade, Industry's share of assisted employment grew. In Galway[13] Industry's share declined markedly between 2009 and 2012 and has remained relatively steady at just over 70% since. Given that there was strong growth in the actual number of assisted jobs in Industry in Galway during 2012-2017 Industry's steady share is due to the county also seeing strong growth in assisted services employment (see Section 3.1.1).

---

[11] The highest are Cavan & Longford, Offaly, Monaghan and Tipperary.
[12] The numbers employed at the former MBNA (now Avantcard) call centre in Carrick-on-Shannon reduced substantially over this period, as well as a number of call centre closures in Sligo.
[13] AES data does not differentiate between Galway City and County.

For Clare, following a decline in Industry's relative importance initially, it began to increase from 2010 and surpassed Galway to move into third position in the region. The past few years have seen some fluctuation and by 2017 73% of assisted jobs were in Industry, the same as a decade earlier. In line with Census data, Industry's role in assisted jobs in Donegal declined throughout the period and particularly since 2013 with very strong growth in assisted services. At 61.8% of assisted jobs in Industry, Donegal has the lowest share in the region but is still above the state average.

3.1.1 Change in assisted jobs in Industry

All western counties had a higher number of assisted Industry jobs in 2017 than they had in 2008 (Table 2). During the 2008-2012 period there was a 4.8% decline in the number of assisted Industry jobs in the Western Region, less of a decline than occurred nationally (11.6%). All western counties had a decline in this period, ranging from a 12.6% drop in Donegal to a marginal decline in Galway.

Since 2012 there has been strong growth across the region. Again the Western Region had a stronger performance than nationally (22.8% v 20.8%). Among western counties, Galway had the strongest growth (29.2%) with Donegal also showing strong recovery (22.2%) making up for the previous decline. All other western counties had lower growth than the national average, with Leitrim, Roscommon & Sligo having the smallest increase (14%).

Table 2: Number of total assisted jobs in Industry in Western Region and state, and percentage change 2008-2012 and 2012-2017

	Industry Assisted Jobs					Services Assisted Jobs
County	**2008**	**2012**	**2017**	**% Change 2008-2012**	**% Change 2012-2017**	**% Change 2012-2017**
Clare	6,955	6,385	7,657	-8.2%	19.9%	9.7%
Donegal	5,370	4,691	5,733	-12.6%	22.2%	43.5%
Galway	15,980	15,898	20,535	-0.5%	29.2%	25.2%
Leitrim, Roscommon & Sligo	6,925	6,430	7,329	-7.1%	14.0%	0.4%
Mayo	7,046	6,858	8,181	-2.7%	19.3%	18.6%
Western Region	**42,276**	**40,262**	**49,435**	**-4.8%**	**22.8%**	**23.4%**
State	**222,946**	**197,135**	**238,102**	**-11.6%**	**20.8%**	**43.4%**

Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

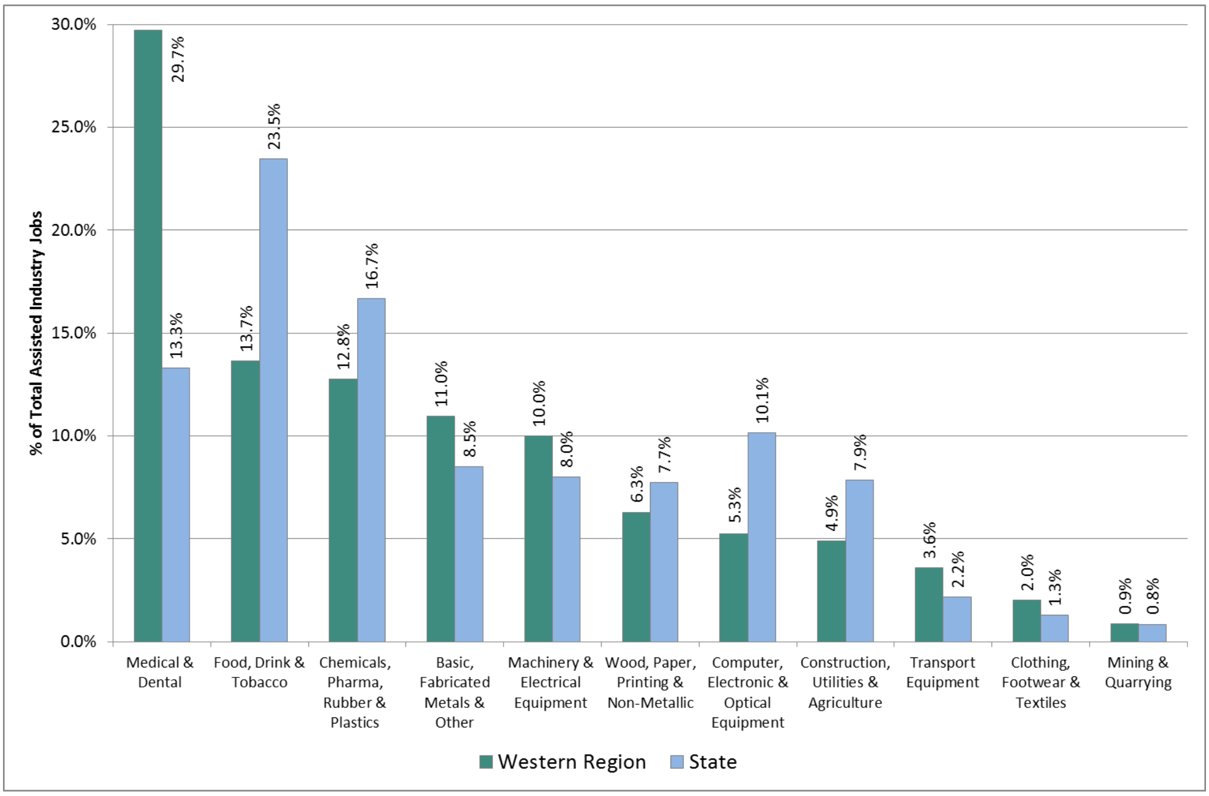
Comparing the performance of Industry with assisted services during 2012-2017, the Western Region had a quite similar growth in both Industry and services helping to explain Industry's very stable share of total assisted jobs (see Fig. 32). Nationally however, assisted jobs in services grew over twice as much as in Industry, explaining the continuing decline of Industry's share.

Donegal was the only western county where assisted jobs in services grew far more than in Industry (43.5% v 22.2%) contributing to the ongoing decline of Industry's role in the county. Industry growth outperformed services in all other western counties, though was relatively similar in Galway and Mayo. The very poor performance of assisted services in Leitrim, Roscommon & Sligo explains the growing role of Industry in its assisted jobs profile (see Fig. 32), despite quite low growth in Industry.

3.2 Assisted jobs in Industry sub-sectors

As expected, MedTech dominates assisted Industry jobs in the Western Region (Fig. 33).[14] Of total assisted Industry jobs in the Western Region it accounts for 29.7%, compared with 13.3% of such jobs nationally. For the country as a whole, Agri-food is by far the largest assisted Industry sector with 23.5% of assisted Industry jobs, whereas in the Western Region it only accounts for 13.7%. The region also has a lower share involved in the high-tech Chemicals & Pharma and Computer & Electronic sectors. As well as MedTech, other sectors where the region has a higher share are those engaged in engineering and equipment manufacturing including Transport Equipment.

Fig. 33: Percentage of total assisted jobs in Industry in each sub-sector in Western Region and state, 2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

3.2.1 Change in assisted jobs in Industry sub-sectors

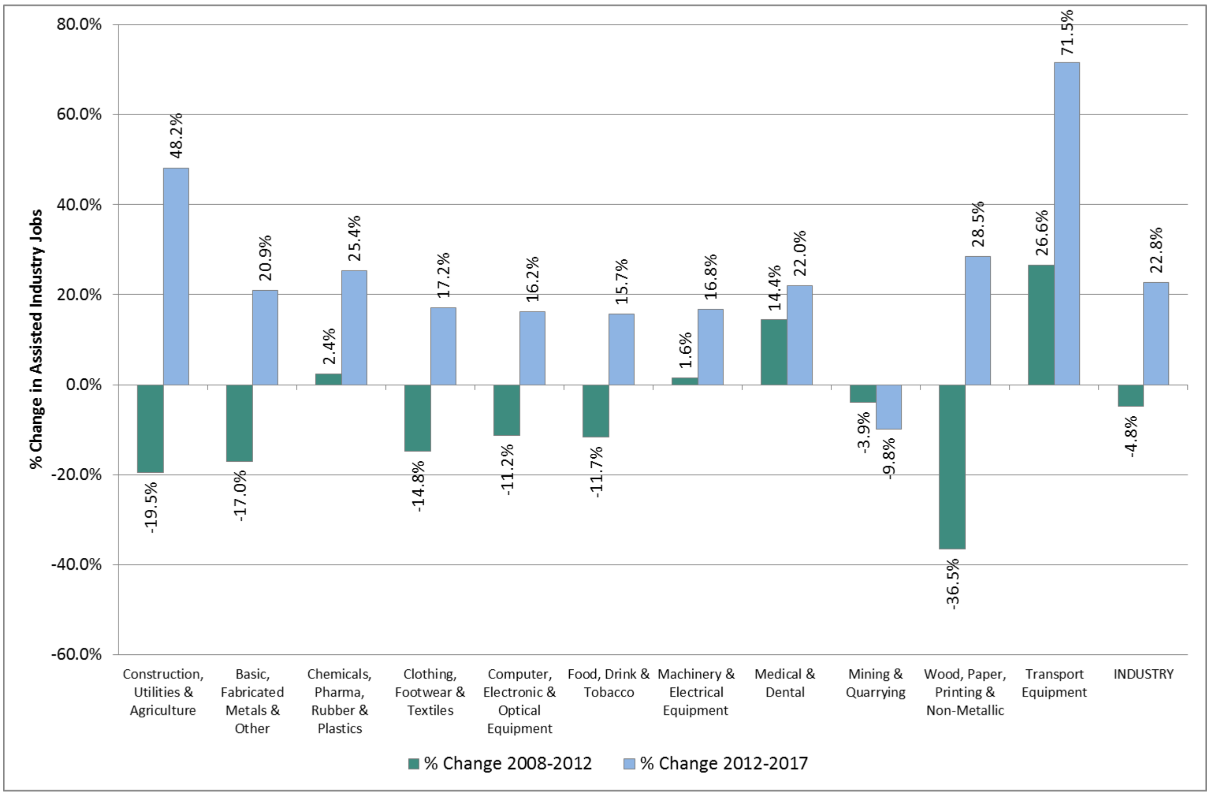
While total assisted Industry jobs in the Western Region declined by 4.8% during 2008-2012, this varied considerably across the sub-sectors (Fig. 34). Four sub-sectors actually experienced an increase, most notably Transport Equipment (26.6%, +217 jobs) and MedTech (14.4%, +1,514 jobs). Given the latter's size, its growth would have contributed to the Western Region's relatively stronger Industry performance in this period as well as Galway and Mayo's (see Table 2 above).

By far the largest declines during 2008-2012 were in Wood & Non-Metallic (36.5%, -1,394 jobs), Construction, Utilities & Agriculture (19.5%, -397 jobs) and Metals & Other (17%, -917 jobs), all involved in supplying the building industry.

[14] Data on assisted jobs in detailed industrial sub-sectors is not available at county level.

The more recent period (2012-2017) saw growth in assisted jobs across all Industry sub-sectors except Mining & Quarrying. The strongest growth has again been in Transport Equipment (71.5%, +739 jobs), followed by recovery in Construction, Utilities & Agriculture (48.2%, +787 jobs) and Wood & Non-Metallic (28.5%, +690 jobs). The high-tech MedTech and Chemicals & Pharma sub-sectors both saw growth of over 20%.

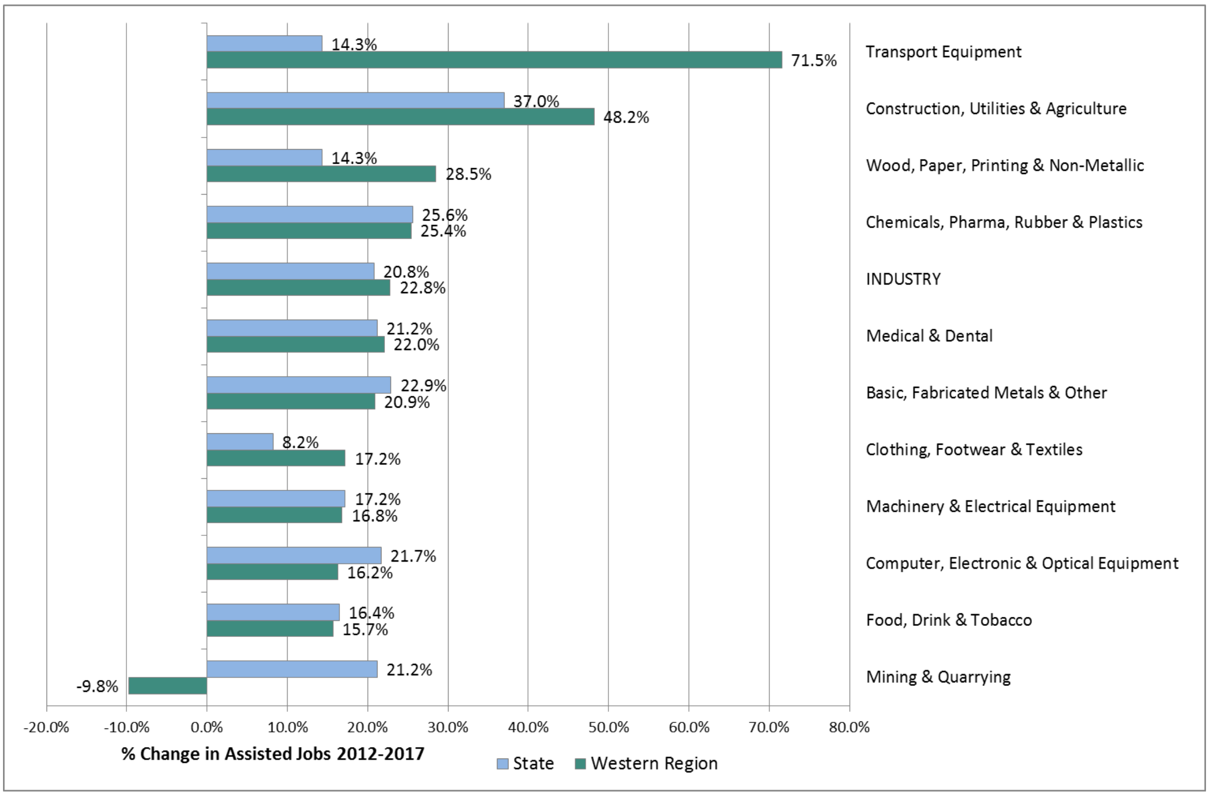
Fig. 34: Percentage change in assisted jobs in Industry sub-sectors in Western Region, 2008-2012 and 2012-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

Comparing change in the Western Region with the state (Fig. 35) during 2012-2017, the region performed considerably better than nationally in the region's three strongest growing sub-sectors. In many other sub-sectors, jobs growth in the region was relatively similar to the national experience. It did have a notably stronger performance in Clothing & Textiles and as noted elsewhere Donegal would be a driver of this. There was a decline in Mining & Quarrying jobs in the Western Region compared with growth nationally.

Fig. 35: Percentage change in assisted jobs in Industry sub-sectors in Western Region and state, 2012-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

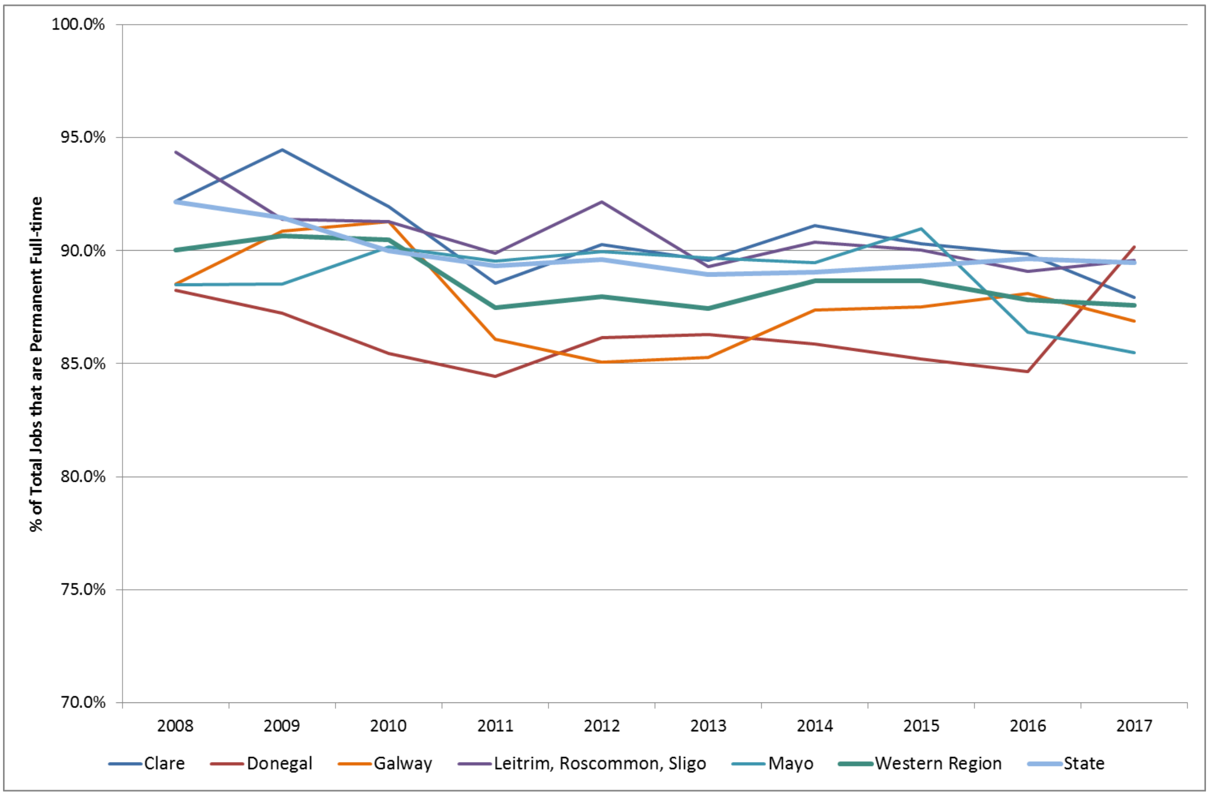
3.3 Assisted jobs in Industry by type

Data on total assisted jobs is divided into Permanent Full Time Jobs (PFT) and Other Jobs (temporary, part-time or contract). In 2017 87.6% of total assisted jobs in Industry in the Western Region were PFT (Fig. 36). This was a lower share than nationally (89.5%) indicating that other forms of employment are more common in the region's industrial sector. The region has had a lower share of PFT employment than the national average for most of the past decade. The share of jobs that are PFT declined in both the state and the region from 92.2% and 90% respectively in 2008.

While there was considerable fluctuation during the period, every western county, except Donegal, had a lower share of PFT in 2017 than a decade earlier. This indicates a rising prevalence of other types of employment.

Clare has seen a substantial change from 94.5% of all assisted Industry jobs being PFT in 2009 down to only 87.9% by 2017. In Leitrim, Roscommon & Sligo the share fell from 94.4% to 89.6%, though it remains, with Donegal, the only place above the national average. Among western counties, Mayo has the lowest share engaged in PFT jobs.

Fig. 36: Percentage of total assisted Industry jobs that are Permanent Full Time in Western Region and state, 2008-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run
Note: For ease of interpretation the vertical axis starts at 70%.

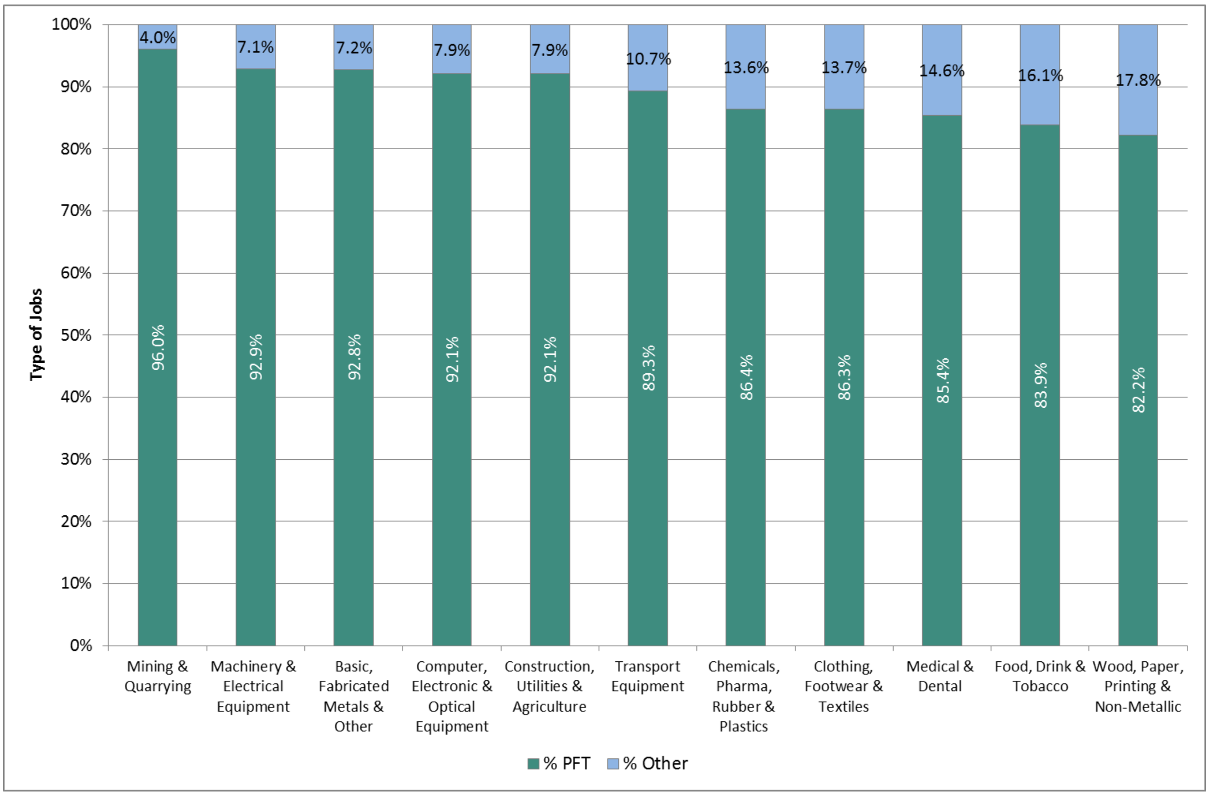
3.3.1 Type of assisted Industry jobs by sub-sector

It can be expected that the type of jobs would vary across different industrial sub-sectors. In the Western Region, Mining & Quarrying has the highest prevalence of PFT jobs at 96% of the total (Fig. 37). Engineering activities have the next highest rates of PFT jobs. These sectors are relatively traditional with many long-established firms and skilled manual occupations.

The sector with the lowest share of PFT jobs (82.2%), and therefore the highest share of temporary/part-time/contract jobs (17.8%), is Wood & Non-Metallic which includes a lot of traditional manufacturing activity supplying the construction sector. In 2008, 94.3% of jobs in this sector were PFT but it experienced very heavy job losses during the recession and its recent jobs recovery seems to have involved more non-permanent types of employment than previously.

The region's two largest assisted industrial sectors of MedTech and Agri-food have the next lowest shares of PFT jobs. In the case of Agri-food, while its seasonal nature lends itself to more temporary/part-time working, this has become more common as the share of Other Jobs increased from 12.6% in 2008 to the current 16.1%. Short term contract employment is relatively common in the MedTech sector and the share of Other Jobs increased somewhat over the decade (12.3% to 14.6%).

Fig. 37: Total assisted jobs in Industry sub-sector by type of job in Western Region, 2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

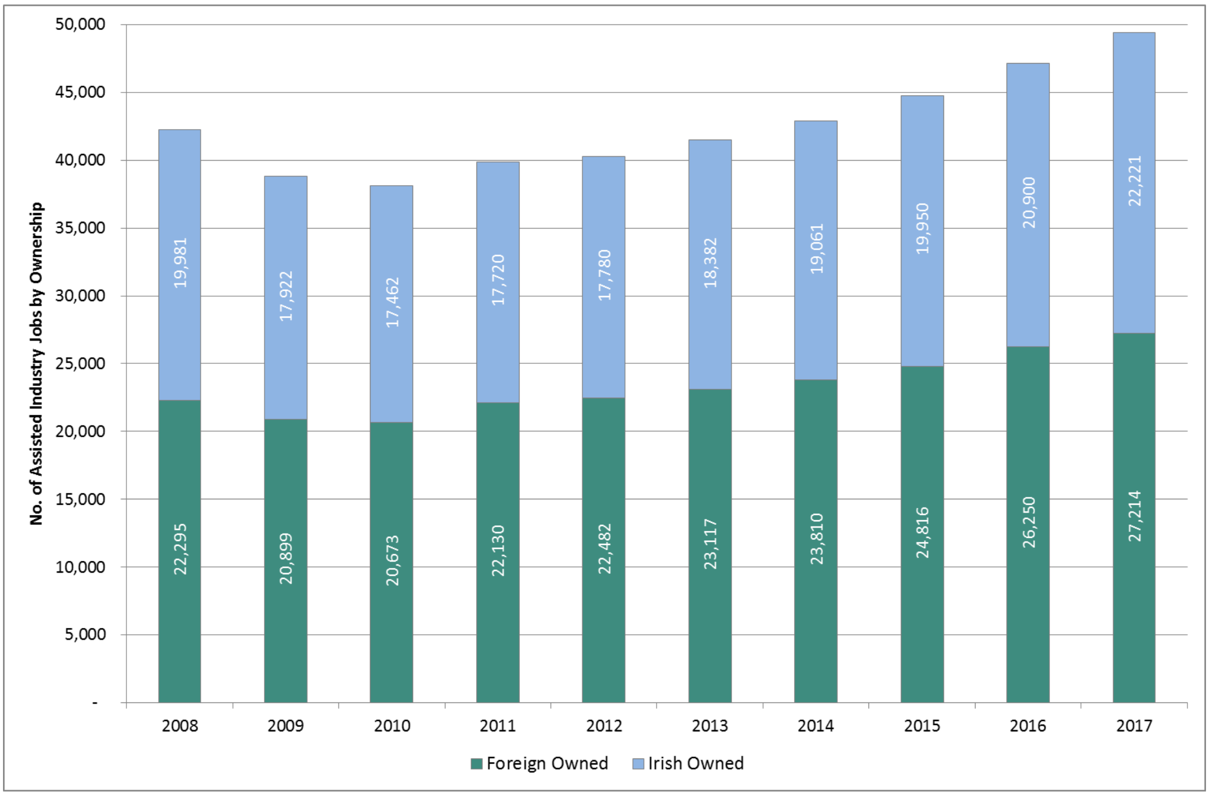
3.4 Assisted jobs in Industry by ownership

Of total assisted Industry jobs in the Western Region in 2017, 55.1% (27,214) were in foreign owned companies (Fig. 38). Both foreign and Irish owned employment reached a low watermark in 2010, but while foreign owned jobs grew steadily from then onwards, Irish owned jobs did not show recovery until 2013, but have grown since.

It should be noted that when an Irish owned company is sold to a foreign company (or vice versa), jobs in that company are reassigned from being Irish owned to foreign owned and historic data is backdated. Ownership data provided in the 2017 AES report for each year 2008-2017, reflects the ownership of those jobs at the time of the 2017 survey.[15]

[15] See Appendix C of Annual Employment Survey 2017

Fig. 38: Total assisted jobs in Industry by ownership in Western Region, 2008-2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

The share of total assisted Industry jobs in foreign owned companies is higher in the Western Region than nationally and has been throughout the past decade (Fig. 39). During the early years of the recession, the share of total jobs in foreign owned companies increased substantially in the Western Region from 52.7% to 55.8% by 2012. Large job losses in sectors supplying the construction sector, which are predominantly Irish owned (see Section 3.4.1), contributed to this, as well as the fact that jobs recovery began earlier in the foreign owned sector than the Irish owned (see Fig. 38 above). While jobs growth has extended more widely in the Irish owned sector in recent years, the share of all assisted jobs in foreign owned companies has remained above 55%.

The national pattern was similar in the early years of the recession with the foreign owned share growing from 44.7% to 46.9% by 2012. Since then the share of assisted Industry jobs in foreign owned firms has declined to a somewhat greater extent than in the region. The foreign owned sector not only plays a greater role in Industry in the Western Region, but the recession has strengthened that role.

Fig. 39: Percentage of total assisted jobs in Industry in foreign owned companies in Western Region and state, 2008-2017

Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

3.4.1 Assisted jobs in Industry sub-sectors by ownership

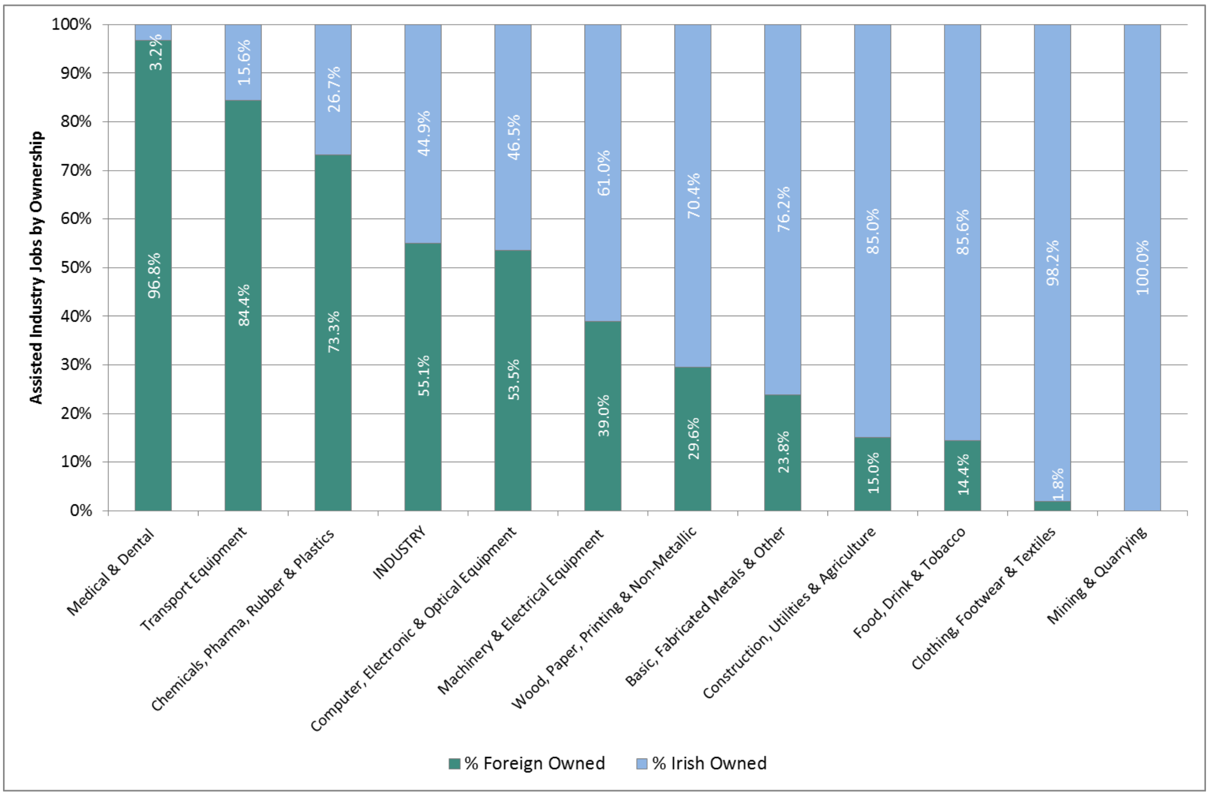
The ownership pattern differs across Industry sub-sectors (Fig. 40) in the Western Region. At 96.8% of assisted jobs in foreign ownership MedTech employment is very heavily reliant on FDI companies. A number of very large multinational plants in the region such as Medtronic, Boston Scientific, Abbot Diagnostics and Baxter Healthcare would play a significant role here.

Transport Equipment, which has shown strong jobs growth in recent years, has the next highest level of foreign ownership (84.4%) with two other high-tech manufacturing sectors (Chemicals & Pharma and Computer & Electronic) also having over half of their jobs in foreign owned companies. Large plants in these sectors including Allergan, Alkermes and Intel Shannon would contribute to the high foreign owned share.

In terms of Irish ownership, all assisted jobs in Mining & Quarrying and practically all in Clothing & Textiles, is in Irish owned firms. For Clothing & Textiles, the loss of previous foreign involvement in the sector e.g. Fruit of the Loom in Donegal, and the changing character of the sector to focus on high value, hand crafted products e.g. Magees of Donegal, Foxford Woollen Mills, Inis Meáin Knitting means it is now largely an indigenous industry.

Agri-food, as well as Construction, Utilities & Agriculture, is strongly dominated by Irish owned operations with large reginal employers such as Aurivo, O'Haras and Dawn Meats. Engineering activities and others supplying the domestic market and building sector are also largely Irish owned.

Fig. 40: Percentage of total assisted jobs in Industry sub-sectors by ownership in Western Region, 2017

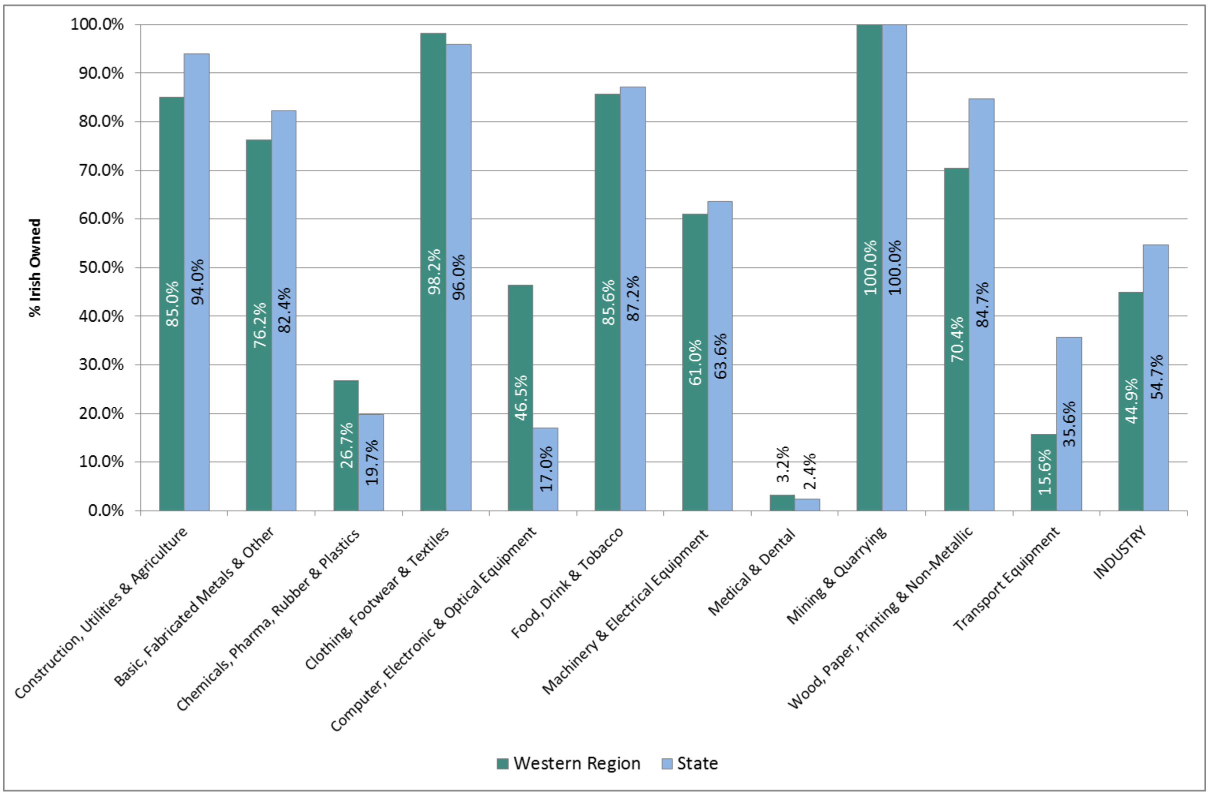


Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

Comparing the region with the national pattern (Fig. 41), the Western Region has a lower level of Irish owned employment than nationally in the overall Industry sector (44.9% v 54.7%) and in six of the eleven Industry sub-sectors. The Irish owned share is substantially lower for Transport Equipment and Wood & Non-Metallic. In the case of Transport Equipment, foreign owned operations such as Mirror Controls International in Leitrim and Valeo in Tuam would contribute to the region's high share of foreign involvement.

In contrast, the Computer & Electronic sector in the Western Region has considerably greater Irish involvement than nationally (46.5% v 17%) showing strong indigenous involvement in the sector including contract manufacturing. The region also has higher Irish involvement in Chemicals & Pharma and Clothing & Textiles.

Fig. 41: Percentage of total assisted jobs in Industry sub-sectors in Irish owned companies in Western Region and state, 2017



Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

3.4.1 Change in assisted jobs in Industry sub-sectors by ownership

During 2008-2012, total foreign owned employment in Industry in the Western Region increased marginally (0.8%) (Table 3). This was in contrast to the national situation where the numbers fell by 7.3%.

Five of the eleven sub-sectors had a decline in foreign owned employment over the period, mainly those involved in supplying construction as well as Computer & Electronic and Agri-food. Among the sub-sectors that saw foreign owned jobs growth were the region's largest sector MedTech and the strongly growing Transport Equipment.

Over the same period the Western Region experienced an 11% decline in job numbers in Irish owned assisted Industry firms. This was somewhat better than nationally where there was a 15.1% decline in this period.

Job losses in Irish owned traditional manufacturing firms linked to construction (-33.9% in Wood & Non-Metallic, -25.9% in Construction, Utilities & Agriculture and -12.8% in Metals & Other) was a key driver. Other traditional manufacturing sectors also saw declines in Irish owned employment. Only four sub-sectors had growth in Irish owned employment during 2008-2012 with MedTech experiencing the strongest (though from a very low base).

Table 3: Percentage change in assisted jobs in Industry sub-sectors by ownership, 2008-2012 and 2012-2017

Industry Sub-Sector	% Change 2008-2012		% Change 2012-2017	
	Foreign Owned	Irish Owned	Foreign Owned	Irish Owned
Construction, Utilities & Agriculture	90.1%	-25.9%	72.0%	44.6%
Basic, Fabricated Metals & Other	-25.6%	-12.8%	-1.2%	30.0%
Chemicals, Pharma, Rubber & Plastics	2.0%	3.7%	24.3%	28.3%
Clothing, Footwear & Textiles	11.4%	-16.1%	-63.3%	22.1%
Computer, Electronic & Optical Equipment	-23.6%	11.1%	12.4%	21.1%
Food, Drink & Tobacco	-23.4%	-9.1%	7.5%	17.2%
Machinery & Electrical Equipment	-5.9%	8.6%	1.1%	29.7%
Medical & Dental	13.6%	50.2%	21.4%	45.7%
Mining & Quarrying	N/A	-3.9%	N/A	-9.8%
Wood, Paper, Printing & Non-Metallic	-43.6%	-33.9%	55.4%	19.8%
Transport Equipment	51.7%	-28.0%	76.3%	49.7%
INDUSTRY – Western Region	**0.8%**	**-11.0%**	**21.0%**	**25.0%**
INDUSTRY – State	**-7.3%**	**-15.1%**	**16.9%**	**24.2%**

Source: Department of Business, Enterprise & Innovation (2018), Annual Employment Survey 2017, special run

With the recovery, 2012-2017 saw a 25% increase in total assisted jobs in Irish owned Industry companies and 21% growth in foreign owned employment. While the region again had a considerably stronger foreign-owned performance than nationally, for Irish owned growth was very similar, further reinforcing the role of foreign owned employment in the region.

There was quite strong Irish owned jobs growth across all sub-sectors (except Mining & Quarrying) during 2012-2017. In the majority of sub-sectors, there was a greater percentage growth in Irish owned employment than foreign owned, partly through recovery of the greater losses that occurred in Irish owned jobs in the previous period. In the case of Clothing & Textiles and Metals & Other, there was actually a decline in foreign owned jobs compared with growth in Irish owned. It must be recalled that this refers to percentage growth, so even though Irish owned jobs in MedTech grew twice as much as foreign owned, given the small share of jobs that are in Irish owned firms, the numbers involved are quite small.

In three sub-sectors, foreign owned jobs growth was stronger than Irish owned. In the case of Transport Equipment this would have contributed to the high share of foreign ownership in the sector, though it was also the sub-sector with the highest growth in Irish owned jobs.

4.0 Industry Enterprises

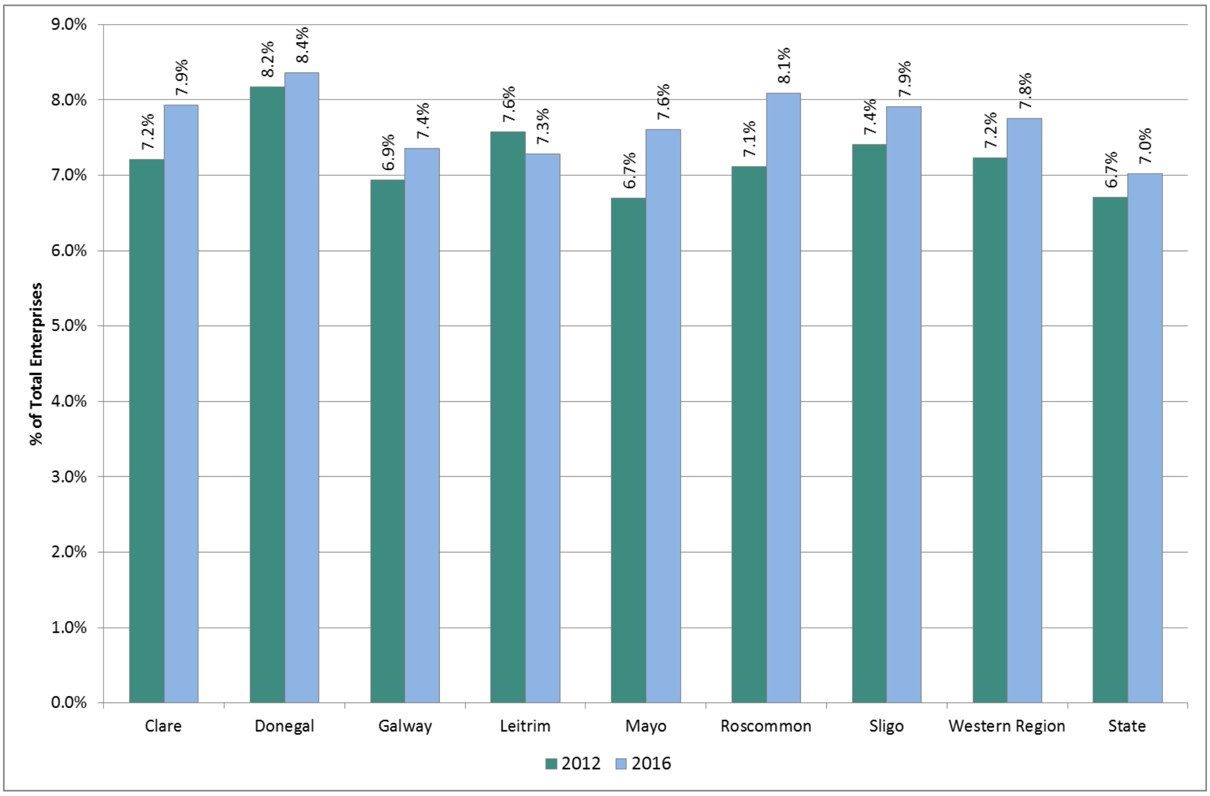
In this section we examine enterprise numbers in Industry in the Western Region and counties. This data is from the CSO Business Demography and includes all Industry entities such as manufacturing plants, quarries, electricity stations etc which have a registration address (with the Revenue Commissioners) located in the Western Region.

4.1 Industry enterprises in the Western Region

In 2016 there were 3,314 Industry enterprises registered in the Western Region. The Western Region was home to 18.9% of all Industry enterprises in the state, notably higher than its 17.4% share of total national enterprises, again showing the key role of Industry in the regional economy.

In 2016, Industry accounted for 7.8% of total business economy[16] enterprises registered in the region in that year (Fig. 42) higher than the sector's 7.0% share of enterprises nationally. Industry accounts for a considerably smaller share of enterprises in the region than its share of employment in the region. This is because Industry is characterised by relatively large employers e.g. manufacturing plants, whereas other sectors such as Construction have a larger number but smaller enterprises. This data is based on the location of the head office of the business so companies with manufacturing plants based in the region but whose headquarters are elsewhere e.g. Dublin, would be counted as an enterprise in Dublin and not in the region.

Fig. 42: Industry enterprises as a percentage of total business economy enterprises in Western Region and state, 2012 and 2016



Source: CSO, Business Demography 2016, Table BRA18.

[16] Business economy includes all economic sectors except Agriculture, Forestry & Fishing, Public Administration & Defence, Education, Health & Social Work and Other Services.

In 2016 Donegal (8.4%), Roscommon (8.1%), Clare (7.9%) and Sligo (7.9%) had the highest shares of their enterprises in Industry among western counties. This may reflect greater local ownership of industrial enterprises operating in these counties as well as smaller scale. Leitrim (7.3%) and Galway[17] (7.4%) have the lowest share, despite the high level of employment in both of these counties, reflecting the prevalence of large manufacturing operations accounting for high employment but few individual enterprises.

As a percentage of total enterprises, Industry's role increased everywhere between 2012 and 2016, except Leitrim. All western counties (except Leitrim) also had an increase in the actual number of Industry enterprises between 2012 and 2016. The increase in Industry's share of all enterprises was particularly notable in Roscommon (from 7.1% to 8.1%) and Mayo (from 6.7% to 7.6%).

4.1.1 Change in enterprises in the Western Region

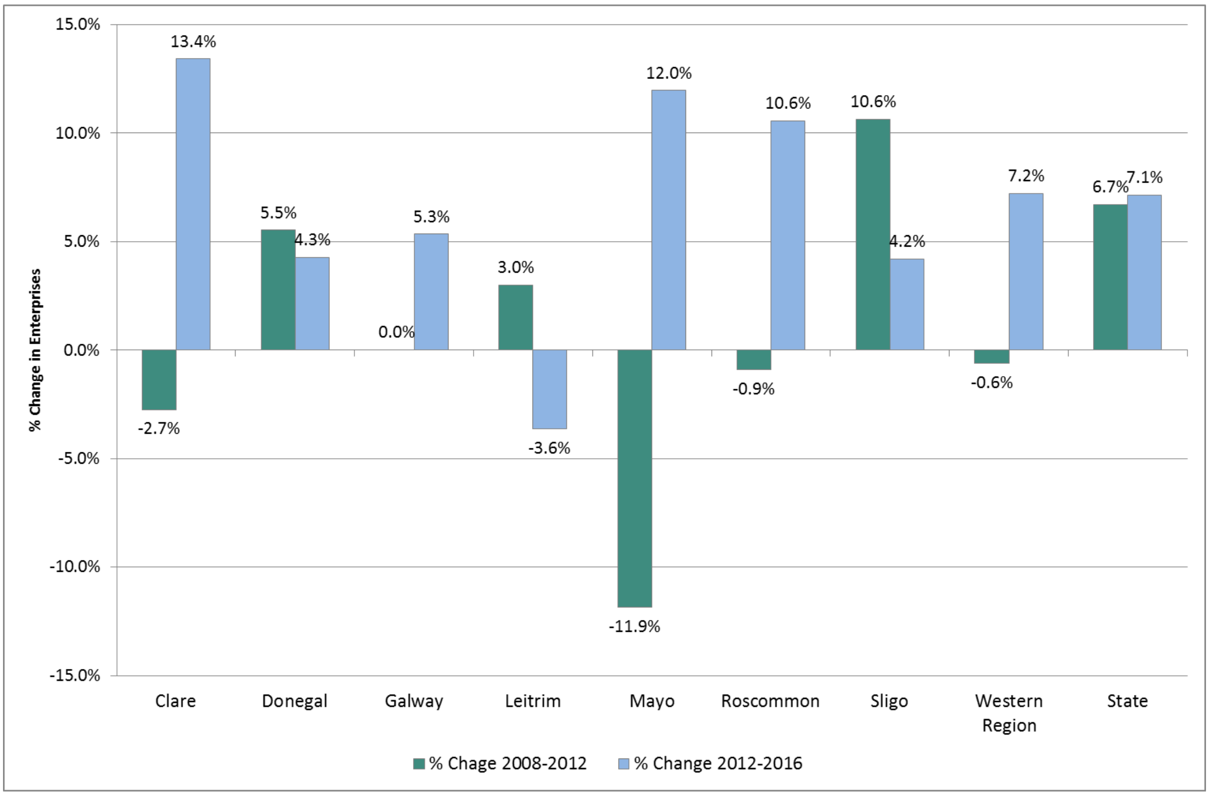
During the height of the recession (2008-2012) the Western Region experienced a 0.6% decline in the number Industry enterprises compared with 6.7% growth nationally (Fig. 43). The 11.9% fall in the number of Industry enterprises that occurred in Mayo would have been a key factor in the region's overall weaker performance, with Clare and Roscommon the only other western counties where enterprise numbers fell. Donegal and Leitrim saw Industry enterprise numbers grow in this period, with Sligo experiencing by far the highest increase (10.6%), the only one above the state average.

With the recovery, enterprise numbers in the region grew by 7.2% between 2012 and 2016, the same as nationally. The three counties where numbers fell in the previous period (Mayo, Clare and Roscommon), had increases of 10% or more in this period. Clare and Roscommon had a higher number of Industry enterprises in 2016 than they had in 2008, while Mayo was close to recovering its 2008 level.

Leitrim was the only western county where enterprise numbers fell since 2012, cancelling out its earlier growth and leaving Leitrim with the same number of Industry enterprises in 2016 as it had in 2008.

[17] Business Demography data does not distinguish between Galway City and Galway County.

Fig. 43: Percentage change in the number of Industry enterprises registered in Western Region and state, 2008-2012 and 2012-2016



Source: CSO, Business Demography 2016, Table BRA18.

5.0 Key Policy Issues for Industry in the Western Region

As the largest employer in the Western Region, Industry plays a vital role in the regional economy. Some of the key issues for Industry in the region are discussed below.

Industry's larger role in the Western Region's economy

Industry plays a considerably greater role in the region's economy and labour market than nationally. It employs 13.7% of the region's workers and accounts for 6.1% of regional enterprises, compared with 11.4% and 5.6% nationally. The gap between the region and the state, in terms of Industry's role as an employer, has widened over the past two decades. Industry also accounts for a far greater proportion of total assisted jobs (74.5% v 55.6%) and its share has been highly stable in the region for the past decade, while nationally it is declining.

The performance of the industrial sector and future trends in manufacturing will therefore have a far greater impact on regional employment. Given the growing role of services in the national economy, and increasing policy focus on attracting and growing international services, **it is vital that manufacturing's continued central role in the Western Region's labour market and economy is fully recognised and supported in policy decisions**.

Higher reliance on foreign owned firms

The share of all assisted Industry jobs that is in foreign owned companies is higher in the Western Region (55.1%) than nationally (45.3%). The role played by foreign owned companies increased during the early years of the recession and the recovery has further reinforced the significance of foreign owned firms in the region's industrial sector. While the jobs recovery, which began in the foreign owned sector, has extended more widely, the share of total assisted Industry jobs in foreign owned companies in the region remains at a considerably higher level now than a decade ago.

Global developments, most notably in the US and UK, which will impact on the extent and nature of foreign owned investment in Ireland would have very significant knock-on impacts on the regional economy, not only for direct jobs in foreign owned manufacturing companies, but also Irish owned sub-suppliers.

Digital transformation

The increasing adoption of digital technologies poses a threat to certain jobs but also creates new occupations and activities, as well as improving overall productivity. It is anticipated that much of the digital disruption will result in changes to job roles and the tasks performed by individuals, rather than job losses.[18] Technologies leading this transformation include the Internet of Things (IoT), cognitive computing and Artificial Intelligence, 3D printing and robotics.

Manufacturing in Ireland and the Western Region has evolved substantially over the past two decades with the emergence of high-tech areas such as medical devices, pharmaceuticals and electronics. Manufacturing has therefore already adopted digital technologies to a greater extent than other sectors e.g. retail, administration, agriculture, and this may lessen the impact of further digital transformation. It is estimated that 21% of occupations in manufacturing in Ireland are at high risk from automation, with a further 65% at medium risk. Occupations associated with

[18] SOLAS and National Skills Council (2018), Digital Transformation: Assessing the Impact of Digitalisation on Ireland's Workforce

processing and operations, especially manual work e.g. packing, machine operatives, are most at risk.

At a regional level it is estimated that the Midlands (65%) and Border (64%) have the highest proportion of their workforce[19] with a high or medium risk from automation, partly due to a greater incidence of low-technology manufacturing. The Mid-West and West are also above the national average risk level while Dublin has the lowest proportion at risk (53%). **The regions most at risk from automation are those that also suffered high job losses during the recession because of their reliance on domestically trading and more traditional sectors and are among the most exposed to Brexit**.

Changing skills profile

Given the wide breadth of the industrial sector, the demand for skills covers a broad range of occupations and skill levels. Areas in current demand include science and engineering (chemists, biochemists, electrical engineers, automation, process engineers, quality control technicians, maintenance technicians etc.), craft skills (welders, toolmakers, CNC programmers and fitters, butchers/deboners) and manufacturing operatives especially with digital skills.[20]

In future, operative positions are most likely to be impacted by automation, which will require upskilling to adapt to new digitalisation and automation requirements. As Ireland's manufacturing sector continues to move more into high-tech, R&D focused activities, the proportion of Industry employment that is high skill will continue to increase with growing demand for STEM qualifications. **It is predicted that the higher the required level of educational attainment, the lower the probability of a job being displaced by digital technology. Therefore upskilling of the current industrial workforce should be a key regional priority**.

Changing nature of employment

Somewhat linked to the digital transformation, is the changing nature of work with declining numbers of people employed on permanent contracts and an increasing range of 'flexible' working arrangements. The share of all assisted Industry jobs in the Western Region that are Permanent Full Time fell from 90% in 2008 to 87.6% by 2017 and the region has consistently had a higher than average share of people employed on non-permanent or part-time contracts.

For some sectors e.g. Wood & Non-Metallic Minerals, which had high job losses in the recession, their recent recovery has been characterised by more non-permanent jobs than previously and Permanent Full Time jobs have become less common across all sub-sectors.

As the nature of employment changes, it is important that public policy and legislation adapts to ensure that the rights and obligations of both individuals and employers are clearly outlined and protected. For example with more flexible working arrangements where does responsibility lie for training and upskilling?

[19] This refers to their total workforce, not just those working in manufacturing.
[20] SOLAS and National Skills Council (2018), National Skills Bulletin 2018

Life Sciences cluster

In total, 45.7% of Ireland's MedTech employment is in the Western Region. MedTech accounts for 27.7% of the region's total industrial employment, more than twice the national average. It is the region's, as well as Galway and Leitrim's, largest industrial employer. Chemicals & Pharma, with pharmaceuticals the largest element, is the region's second largest industrial employer (14.1%) and the largest in Sligo and Mayo. MedTech has performed very strongly in recent years with 30% jobs growth between 2011 and 2016 and was one of the few areas where jobs growth continued during the recession.

Life Sciences is characterised by large and medium-sized global manufacturing operations located in counties across the region, Irish high-potential start-ups and sub-supply manufacturers, supported by a strong skills base and research infrastructure particularly at NUI Galway. The Western Region has emerged as a global location for Life Sciences, with a strong talent pool and networks attracting inward investment and generating innovative spin-offs.

The dominant role played by Life Sciences in the Western Region's industrial sector is a key regional asset but also presents a risk in the event of any downturn or contraction of the sector. An objective of the recently launched 'Regional Enterprise Plan' for the West is to 'Build greater capability within the Life Sciences sector to meet its future needs'.[21] While recognising the regional strength of Life Sciences, a number of challenges such as digital disruption, changing skill needs and a requirement to promote greater entrepreneurship and start-up levels are recognised. **Opportunities for convergence with other sectors e.g. ICT, and dissemination of the skills and expertise gained in Life Sciences to other sectors should also be supported to increase diversification of the region's industrial profile.**

Brexit and Agri-food

Brexit will have an impact on all aspects of the Western Region's industrial sector, however Agri-food is particularly exposed to the UK market. Agri-food is the region's third largest industrial employer and the largest for Donegal and Roscommon. It is a particularly important source of employment in small towns and more rural areas and is central to the viability of the rural economy. While the region did experience jobs growth in Agri-food during 2011-2016, this was lower than the national average.

Since the announcement of Brexit, efforts to reduce exposure to the UK market have been ongoing by means of increased competitiveness, as well as both market and product diversification.[22] AgTech presents an opportunity to increase the competitiveness of the region's Agri-food sector through convergence between ICT and agriculture and one of the objectives of the 'Regional Enterprise Plan' for the West is to 'Enhance the growth potential of Ag Tech in the West'. **While much can be done to improve competitiveness and diversification within the region's Agri-food sector, the nature of the future trading relationship between the EU and UK will have a fundamental impact on employment in Agri-food and the rural and regional economy**.

[21] Department of Business, Enterprise and Innovation (2019), Regional Enterprise Plan to 2020: West
[22] Department of Business, Enterprise & Innovation (2018), Focus on Agri-food & Beverages

Sectors dependent on domestic demand

In 2016, Wood & Non-Metallic was the fourth largest industrial employer in the region with Metals & Other the sixth, both of which supply the construction sector. These sectors play a more important role in the industrial profile of rural counties, have high levels of Irish SME activity and are important for male employment.

During 2008-2012 these, and other sectors dependent on supplying the domestic economy, suffered the largest job losses. While there has been some recovery, all sub-sectors relying on domestic demand experienced below average jobs growth (2011-2016). Jobs recovery in Industry was largely driven by internationally trading sub-sectors.

Sectors which depend on domestic demand face considerable volatility and, as noted earlier, the recovery in these sectors has in some cases seen a growth in non-permanent forms of employment. **While enterprise policy has a strong focus on internationally trading sectors, individual activities which depend on domestic demand are key employers, particularly in more rural counties and for men. Understanding and addressing the needs of such sectors will be important in sustaining industrial jobs, particularly in areas beyond larger urban centres**.

Emerging strength in Transport Equipment

While a relatively small industrial sector with 1,300 people employed in the region, Transport Equipment has emerged as something of a regional strength. It is the industrial sub-sector where the region plays it second largest national role, accounting for 30.8% of national employment, and has the region's second highest level of foreign ownership of employment.

Transport Equipment also had the strongest jobs growth in the region in recent years with the numbers growing by 52.7% (2011-2016), far stronger than nationally (15.5%). For Galway County, Mayo and Roscommon it was the strongest growing sector, also increasing strongly in Galway City, Sligo and Leitrim. In fact at 8% of all Industry employment, Leitrim has the highest share working in the sector in the country.

A number of multinational and indigenous companies operate in this sector, with many located in medium-sized or small towns. The sector ranges across skill levels from relatively traditional, engineering activities to highly innovative, R&D based operations. The supporting ecosystem in the region is also developing including the Connaught Automotive Research (CAR) Group at NUI Galway and IT Sligo's recently launched online programme 'Master of Engineering in Connected and Autonomous Vehicles'. **Opportunities to further embed and strengthen this emerging cluster in the region should be investigated**.

Diversification of the region's industrial profile

Greater diversity in the industrial profile of a region increases its resilience and capacity to withstand external shocks. The region's greater reliance on foreign ownership and the dominant role of Life Sciences could increase the region's exposure to risk. **There needs to be a strong policy focus on developing new areas of growth e.g. Energy, Transport Equipment, advanced engineering, to further diversify the region's industrial profile and increase its resiliance.**

6.0 Conclusion

Industry is the Western Region's largest employer and accounts for a higher share of jobs than nationally. While the relative importance of Industry has declined, the Western Region has had a somewhat different pattern to nationally with Industry continuing to play a core role in the labour market.

Emerging trends such as the digital transformation and increasingly flexible working arrangements will have substantial impacts on industrial jobs over the next decade. The skills demanded by Industry are changing; lower skill positions are at the highest risk to automation while demand is growing for science and engineering skills as well as digital expertise. Upskilling for the current industrial workforce needs to be a priority.

The region's industrial sector has already been restructured over the past few decades with the high-tech and high value MedTech and Chemicals & Pharma sectors now the region's two largest industrial employers. The pattern of recent jobs growth has further reinforced the move to a more high-tech industrial profile. The changing structure of the region's manufacturing base has also increased the role of foreign owned companies, increasing exposure to international trends.

Life Sciences plays a dominant role and the region is a globally significant location for MedTech. This cluster of MNCs and high potential start-ups, supported by a strong skills, research and support ecosystem, is a key regional asset. Further embedding this sector in the region through convergence and dissemination of its skills and expertise across the economy is a priority for the region's industrial development and diversification.

Activities which rely on domestic demand or the UK market face specific challenges and tend to be more important in rural areas. The recession and recovery led to considerable employment volatility. While employment has recovered to some extent, the share of non-permanent jobs has grown and certain tasks are also vulnerable to automation, with Brexit another threat. Improving the competitiveness and viability of such firms will be important to sustaining the regional and rural economy.

Two short, two-page documents ***WDC Insights*: Industry Employment in the Western Region** and ***WDC Insights*: Industry Employment in Western Counties** summarise the main points from this report. All publications are available here.

For further information contact:

Pauline White
Policy Analyst
Western Development Commission
Ballaghaderreen
Co Roscommon
paulinewhite@wdc.ie
094 986 1441

Appendix 1: Population aged 15 years and over by detailed industrial group in the Industry sector NACE Rev 2 in western counties 2011 and 2016

Detailed industrial group	Clare			Donegal		
	2011	2016	% Change	2011	2016	% Change
Mining & Quarrying	**97**	**117**	**20.6%**	**194**	**187**	**-3.6%**
Extraction of crude petroleum & natural gas	1	2	100.0%	-	2	N/A
Mining of metal ores	12	9	-25.0%	4	5	25.0%
Other mining & quarrying	65	85	30.8%	178	167	-6.2%
Extraction of peat	3	1	-66.7%	3	4	33.3%
Mining support service activities	16	20	25.0%	9	9	0.0%
Electricity, Gas & A/C	**427**	**453**	**6.1%**	**266**	**369**	**38.7%**
Electric power generation, transmission & distribution	404	385	-4.7%	240	331	37.9%
Gas, steam & air conditioning supply	23	68	195.7%	26	38	46.2%
Water & Waste	**453**	**234**	**-48.3%**	**210**	**251**	**19.5%**
Water collection, treatment & supply	58	81	39.7%	51	80	56.9%
Sewerage, waste mgt. & remediation	395	153	-61.3%	159	171	7.5%
Food, Drink & Tobacco	**255**	**311**	**22.0%**	**1,424**	**1,380**	**-3.1%**
Meat & meat products	17	26	52.9%	197	178	-9.6%
Fish, crustaceans & molluscs	15	13	-13.3%	486	507	4.3%
Fruit & vegetables	6	4	-33.3%	52	83	59.6%
Vegetable, animal oils & fats	-	-	N/A	-	1	N/A
Dairy products	52	34	-34.6%	185	149	-19.5%
Grain mill products & starches	3	-	N/A	5	-	N/A
Bakery & farinaceous products	69	118	71.0%	251	292	16.3%
Other food products	42	58	38.1%	125	25	-80.0%
Prepared animal feeds	25	14	-44.0%	54	52	-3.7%
Beverages	25	41	64.0%	65	89	36.9%
Tobacco products	1	3	200.0%	4	4	0.0%
Clothing, Footwear & Textiles	**71**	**95**	**33.8%**	**483**	**516**	**6.8%**
Textiles	35	40	14.3%	268	312	16.4%
Wearing apparel	34	47	38.2%	212	203	-4.2%
Leather & related products	2	8	300.0%	3	1	-66.7%
Wood, Paper, Printing & Non-Metallic Minerals	**459**	**696**	**51.6%**	**658**	**614**	**-6.7%**
Wood & wood products (exc. Furniture)	68	35	-48.5%	115	82	-28.7%
Paper & paper products	24	40	66.7%	31	12	-61.3%
Printing & reproduction of recorded media	114	114	0.0%	100	95	-5.0%
Glass & glass products	18	16	-11.1%	20	29	45.0%
Articles of concrete, cement & plaster	64	60	-6.3%	98	103	5.1%
Other non-metallic mineral products	78	326	317.9%	87	82	-5.7%
Furniture	93	105	12.9%	207	211	1.9%
Chemicals, Pharma, Rubber & Plastics	**863**	**931**	**7.9%**	**375**	**469**	**25.1%**
Petroleum & chemical products	130	128	-1.5%	61	42	-31.1%
Basic pharmaceutical products & preparations	504	579	14.9%	172	184	7.0%

Detailed industrial group	Clare			Donegal		
	2011	2016	% Change	2011	2016	% Change
Rubber products	77	56	-27.3%	4	9	125.0%
Plastics products	152	168	10.5%	138	234	69.6%
Basic, Fabricated Metals & Other Manufacturing	**846**	**711**	**-16.0%**	**345**	**468**	**35.7%**
Basic metals	61	87	42.6%	51	48	-5.9%
Fabricated metal products (exc. machinery & equipment)	476	542	13.9%	220	316	43.6%
Other manufacturing n.e.c.	309	82	-73.5%	74	104	40.5%
Computer, Electronic & Optical	**1,313**	**1,703**	**29.7%**	**304**	**286**	**-5.9%**
Electronic components & boards	681	879	29.1%	52	68	30.8%
Computers & peripheral equipment	281	253	-10.0%	212	185	-12.7%
Other electronic & optical products	351	571	62.7%	40	33	-17.5%
Machinery & Electrical Equipment	**1,128**	**1,128**	**0.0%**	**283**	**310**	**9.5%**
Electrical equipment	234	105	-55.1%	87	123	41.4%
Machinery & equipment	258	280	8.5%	118	100	-15.3%
Repair & installation of machinery & equipment	636	743	16.8%	78	87	11.5%
Transport Equipment	**221**	**98**	**-55.7%**	**143**	**145**	**1.4%**
Motor vehicles, trailers & semi-trailers	24	36	50.0%	107	95	-11.2%
Other transport equipment	197	62	-68.5%	36	50	38.9%
Medical & Dental Instruments	**836**	**1,215**	**45.3%**	**282**	**364**	**29.1%**
Medical & dental instruments & supplies	836	1,215	45.3%	282	364	29.1%
Total Industry	6,969	7,692	10.4%	4,967	5,359	7.9%

Detailed industrial group	Galway City			Galway County		
	2011	2016	% Change	2011	2016	% Change
Mining & Quarrying	**31**	**26**	**-16.1%**	**274**	**315**	**15.0%**
Extraction of crude petroleum & natural gas	1	1	0.0%	1	4	300.0%
Mining of metal ores	4	2	-50.0%	18	18	0.0%
Other mining & quarrying	20	14	-30.0%	161	168	4.3%
Extraction of peat	1	2	100.0%	56	85	51.8%
Mining support service activities	5	7	40.0%	38	40	5.3%
Electricity, Gas & A/C	**86**	**147**	**70.9%**	**320**	**389**	**21.6%**
Electric power generation, transmission & distribution	73	131	79.5%	289	353	22.1%
Gas, steam & air conditioning supply	13	16	23.1%	31	36	16.1%
Water & Waste	**137**	**151**	**10.2%**	**428**	**464**	**8.4%**
Water collection, treatment & supply	17	40	135.3%	80	142	77.5%
Sewerage, waste mgt. & remediation	120	111	-7.5%	348	322	-7.5%
Food, Drink & Tobacco	**208**	**221**	**6.3%**	**581**	**701**	**20.7%**
Meat & meat products	11	53	381.8%	90	145	61.1%
Fish, crustaceans & molluscs	16	14	-12.5%	78	102	30.8%
Fruit & vegetables	16	16	0.0%	20	11	-45.0%
Vegetable, animal oils & fats	-	-	N/A	-	9	N/A
Dairy products	24	14	-41.7%	64	99	54.7%
Grain mill products & starches	-	-	N/A	4	4	0.0%
Bakery & farinaceous products	77	70	-9.1%	154	179	16.2%
Other food products	27	17	-37.0%	82	41	-50.0%
Prepared animal feeds	6	5	-16.7%	15	16	6.7%
Beverages	31	32	3.2%	70	91	30.0%
Tobacco products	-	-	N/A	4	4	0.0%
Clothing, Footwear & Textiles	**49**	**38**	**-22.4%**	**147**	**123**	**-16.3%**
Textiles	21	14	-33.3%	84	53	-36.9%
Wearing apparel	25	22	-12.0%	50	48	-4.0%
Leather & related products	3	2	-33.3%	13	22	69.2%
Wood, Paper, Printing & Non-Metallic Minerals	**262**	**208**	**-20.6%**	**1,090**	**978**	**-10.3%**
Wood & wood products (exc. Furniture)	27	17	-37.0%	253	268	5.9%
Paper & paper products	25	15	-40.0%	30	16	-46.7%
Printing & reproduction of recorded media	110	91	-17.3%	178	138	-22.5%
Glass & glass products	10	16	60.0%	48	55	14.6%
Articles of concrete, cement & plaster	37	22	-40.5%	218	185	-15.1%
Other non-metallic mineral products	17	8	-52.9%	78	57	-26.9%
Furniture	36	39	8.3%	285	259	-9.1%
Chemicals, Pharma, Rubber & Plastics	**427**	**354**	**-17.1%**	**1,100**	**1,214**	**10.4%**
Petroleum & chemical products	112	34	-69.6%	183	127	-30.6%
Basic pharmaceutical products & preparations	261	290	11.1%	689	871	26.4%
Rubber products	2	1	-50.0%	30	37	23.3%
Plastics products	52	29	-44.2%	198	179	-9.6%

Detailed industrial group	Galway City			Galway County		
	2011	2016	% Change	2011	2016	% Change
Basic, Fabricated Metals & Other Manufacturing	**230**	**255**	**10.9%**	**788**	**854**	**8.4%**
Basic metals	17	21	23.5%	109	92	-15.6%
Fabricated metal products (exc. machinery & equipment)	162	140	-13.6%	536	646	20.5%
Other manufacturing n.e.c.	51	94	84.3%	143	116	-18.9%
Computer, Electronic & Optical	**276**	**424**	**53.6%**	**669**	**838**	**25.3%**
Electronic components & boards	50	98	96.0%	235	242	3.0%
Computers & peripheral equipment	141	226	60.3%	177	290	63.8%
Other electronic & optical products	85	100	17.6%	257	306	19.1%
Machinery & Electrical Equipment	**329**	**321**	**-2.4%**	**745**	**809**	**8.6%**
Electrical equipment	73	49	-32.9%	196	184	-6.1%
Machinery & equipment	237	253	6.8%	436	498	14.2%
Repair & installation of machinery & equipment	19	19	0.0%	113	127	12.4%
Transport Equipment	**61**	**90**	**47.5%**	**219**	**603**	**175.3%**
Motor vehicles, trailers & semi-trailers	33	74	124.2%	169	570	237.3%
Other transport equipment	28	16	-42.9%	50	33	-34.0%
Medical & Dental Instruments	**2,330**	**2,873**	**23.3%**	**3,778**	**4,951**	**31.0%**
Medical & dental instruments & supplies	2,330	2,873	23.3%	3,778	4,951	31.0%
Total Industry	**4,426**	**5,108**	**15.4%**	**10,139**	**12,239**	**20.7%**

Detailed industrial group	Leitrim			Mayo		
	2011	2016	% Change	2011	2016	% Change
Mining & Quarrying	**77**	**58**	**-24.7%**	**246**	**255**	**3.7%**
Extraction of crude petroleum & natural gas	-	-	N/A	16	20	25.0%
Mining of metal ores	2	1	-50.0%	-	2	N/A
Other mining & quarrying	67	49	-26.9%	187	212	13.4%
Extraction of peat	6	6	0.0%	9	5	-44.4%
Mining support service activities	2	2	0.0%	34	16	-52.9%
Electricity, Gas & A/C	**60**	**72**	**20.0%**	**316**	**296**	**-6.3%**
Electric power generation, transmission & distribution	58	68	17.2%	239	190	-20.5%
Gas, steam & air conditioning supply	2	4	100.0%	77	106	37.7%
Water & Waste	**80**	**67**	**-16.3%**	**220**	**260**	**18.2%**
Water collection, treatment & supply	45	34	-24.4%	59	109	84.7%
Sewerage, waste mgt. & remediation	35	33	-5.7%	161	151	-6.2%
Food, Drink & Tobacco	**157**	**167**	**6.4%**	**1,256**	**1,364**	**8.6%**
Meat & meat products	56	51	-8.9%	438	572	30.6%
Fish, crustaceans & molluscs	2	-	N/A	96	84	-12.5%
Fruit & vegetables	1	-	N/A	3	2	-33.3%
Vegetable, animal oils & fats	-	-	N/A	-	-	N/A
Dairy products	31	35	12.9%	44	38	-13.6%
Grain mill products & starches	1	1	0.0%	2	3	50.0%
Bakery & farinaceous products	24	37	54.2%	240	232	-3.3%
Other food products	18	8	-55.6%	61	25	-59.0%
Prepared animal feeds	12	16	33.3%	10	21	110.0%
Beverages	12	18	50.0%	356	382	7.3%
Tobacco products	-	1	N/A	6	5	-16.7%
Clothing, Footwear & Textiles	**18**	**22**	**22.2%**	**146**	**169**	**15.8%**
Textiles	12	11	-8.3%	72	72	0.0%
Wearing apparel	6	9	50.0%	73	95	30.1%
Leather & related products	-	2	N/A	1	2	100.0%
Wood, Paper, Printing & Non-Metallic Minerals	**183**	**189**	**3.3%**	**709**	**713**	**0.6%**
Wood & wood products (exc. Furniture)	87	64	-26.4%	164	141	-14.0%
Paper & paper products	2	3	50.0%	9	26	188.9%
Printing & reproduction of recorded media	9	15	66.7%	214	230	7.5%
Glass & glass products	12	34	183.3%	19	10	-47.4%
Articles of concrete, cement & plaster	26	24	-7.7%	106	97	-8.5%
Other non-metallic mineral products	12	19	58.3%	46	50	8.7%
Furniture	35	30	-14.3%	151	159	5.3%
Chemicals, Pharma, Rubber & Plastics	**178**	**218**	**22.5%**	**1,438**	**1,567**	**9.0%**
Petroleum & chemical products	16	10	-37.5%	50	54	8.0%
Basic pharmaceutical products & preparations	72	126	75.0%	1,314	1,438	9.4%
Rubber products	32	26	-18.8%	19	16	-15.8%
Plastics products	58	56	-3.4%	55	59	7.3%

Detailed industrial group	Leitrim			Mayo		
	2011	2016	% Change	2011	2016	% Change
Basic, Fabricated Metals & Other Manufacturing	**107**	**152**	**42.1%**	**361**	**451**	**24.9%**
Basic metals	15	14	-6.7%	53	67	26.4%
Fabricated metal products (exc. machinery & equipment)	46	74	60.9%	222	285	28.4%
Other manufacturing n.e.c.	46	64	39.1%	86	99	15.1%
Computer, Electronic & Optical	**31**	**47**	**51.6%**	**157**	**128**	**-18.5%**
Electronic components & boards	7	15	114.3%	39	52	33.3%
Computers & peripheral equipment	7	11	57.1%	41	48	17.1%
Other electronic & optical products	17	21	23.5%	77	28	-63.6%
Machinery & Electrical Equipment	**74**	**75**	**1.4%**	**305**	**404**	**32.5%**
Electrical equipment	20	15	-25.0%	36	34	-5.6%
Machinery & equipment	37	36	-2.7%	203	306	50.7%
Repair & installation of machinery & equipment	17	24	41.2%	66	64	-3.0%
Transport Equipment	**87**	**113**	**29.9%**	**41**	**146**	**256.1%**
Motor vehicles, trailers & semi-trailers	86	112	30.2%	36	142	294.4%
Other transport equipment	1	1	0.0%	5	4	-20.0%
Medical & Dental Instruments	**158**	**285**	**80.4%**	**1,219**	**1,559**	**27.9%**
Medical & dental instruments & supplies	158	285	80.4%	1,219	1,559	27.9%
Total Industry	**1,210**	**1,465**	**21.1%**	**6,414**	**7,312**	**14.0%**

Detailed industrial group	Roscommon			Sligo		
	2011	2016	% Change	2011	2016	% Change
Mining & Quarrying	**201**	**222**	**10.4%**	**41**	**32**	**-22.0%**
Extraction of crude petroleum & natural gas	1	-	N/A	1	-	N/A
Mining of metal ores	1	3	200.0%	-	-	N/A
Other mining & quarrying	91	101	11.0%	36	30	-16.7%
Extraction of peat	104	116	11.5%	3	1	-66.7%
Mining support service activities	4	2	-50.0%	1	1	0.0%
Electricity, Gas & A/C	**158**	**162**	**2.5%**	**157**	**145**	**-7.6%**
Electric power generation, transmission & distribution	148	147	-0.7%	145	132	-9.0%
Gas, steam & air conditioning supply	10	15	50.0%	12	13	8.3%
Water & Waste	**99**	**130**	**31.3%**	**105**	**82**	**-21.9%**
Water collection, treatment & supply	31	59	90.3%	30	31	3.3%
Sewerage, waste mgt. & remediation	68	71	4.4%	75	51	-32.0%
Food, Drink & Tobacco	**477**	**661**	**38.6%**	**346**	**322**	**-6.9%**
Meat & meat products	283	403	42.4%	29	26	-10.3%
Fish, crustaceans & molluscs	7	6	-14.3%	15	34	126.7%
Fruit & vegetables	1	3	200.0%	1	3	200.0%
Vegetable, animal oils & fats	-	-	N/A	-	-	N/A
Dairy products	40	62	55.0%	87	57	-34.5%
Grain mill products & starches	2	2	0.0%	1	1	0.0%
Bakery & farinaceous products	51	83	62.7%	89	90	1.1%
Other food products	22	12	-45.5%	27	14	-48.1%
Prepared animal feeds	25	42	68.0%	12	10	-16.7%
Beverages	22	22	0.0%	80	79	-1.3%
Tobacco products	24	26	8.3%	5	8	60.0%
Clothing, Footwear & Textiles	**33**	**29**	**-12.1%**	**27**	**28**	**3.7%**
Textiles	11	9	-18.2%	9	8	-11.1%
Wearing apparel	19	15	-21.1%	17	20	17.6%
Leather & related products	3	5	66.7%	1	-	N/A
Wood, Paper, Printing & Non-Metallic Minerals	**302**	**324**	**7.3%**	**217**	**184**	**-15.2%**
Wood & wood products (exc. Furniture)	65	64	-1.5%	58	50	-13.8%
Paper & paper products	10	19	90.0%	5	5	0.0%
Printing & reproduction of recorded media	74	90	21.6%	34	35	2.9%
Glass & glass products	6	5	-16.7%	8	7	-12.5%
Articles of concrete, cement & plaster	35	40	14.3%	33	16	-51.5%
Other non-metallic mineral products	43	41	-4.7%	31	24	-22.6%
Furniture	69	65	-5.8%	48	47	-2.1%
Chemicals, Pharma, Rubber & Plastics	**681**	**653**	**-4.1%**	**1,070**	**1,054**	**-1.5%**
Petroleum & chemical products	66	78	18.2%	25	33	32.0%
Basic pharmaceutical products & preparations	460	436	-5.2%	690	691	0.1%
Rubber products	4	4	0.0%	204	166	-18.6%
Plastics products	151	135	-10.6%	151	164	8.6%

Detailed industrial group	Roscommon			Sligo		
	2011	2016	% Change	2011	2016	% Change
Basic, Fabricated Metals & Other Manufacturing	**204**	**206**	**1.0%**	**269**	**341**	**26.8%**
Basic metals	24	17	-29.2%	12	20	66.7%
Fabricated metal products (exc. machinery & equipment)	125	131	4.8%	197	247	25.4%
Other manufacturing n.e.c.	55	58	5.5%	60	74	23.3%
Computer, Electronic & Optical	**168**	**133**	**-20.8%**	**63**	**55**	**-12.7%**
Electronic components & boards	25	40	60.0%	12	17	41.7%
Computers & peripheral equipment	32	43	34.4%	21	19	-9.5%
Other electronic & optical products	111	50	-55.0%	30	19	-36.7%
Machinery & Electrical Equipment	**133**	**151**	**13.5%**	**161**	**142**	**-11.8%**
Electrical equipment	13	17	30.8%	15	9	-40.0%
Machinery & equipment	86	91	5.8%	115	107	-7.0%
Repair & installation of machinery & equipment	34	43	26.5%	31	26	-16.1%
Transport Equipment	**18**	**29**	**61.1%**	**66**	**83**	**25.8%**
Motor vehicles, trailers & semi-trailers	13	26	100.0%	64	78	21.9%
Other transport equipment	5	3	-40.0%	2	5	150.0%
Medical & Dental Instruments	**389**	**617**	**58.6%**	**731**	**794**	**8.6%**
Medical & dental instruments & supplies	389	617	58.6%	731	794	8.6%
Total Industry	**2,863**	**3,317**	**15.9%**	**3,253**	**3,262**	**0.3%**

Detailed industrial group	Western Region			State		
	2011	2016	% Change	2011	2016	% Change
Mining & Quarrying	**1,161**	**1,212**	**4.4%**	**5,339**	**5,055**	**-5.3%**
Extraction of crude petroleum & natural gas	21	29	38.1%	75	81	8.0%
Mining of metal ores	41	40	-2.4%	1,144	900	-21.3%
Other mining & quarrying	805	826	2.6%	2,604	2,542	-2.4%
Extraction of peat	185	220	18.9%	1,177	1,241	5.4%
Mining support service activities	109	97	-11.0%	339	291	-14.2%
Electricity, Gas & A/C	**1,790**	**2,033**	**13.6%**	**11,328**	**12,919**	**14.0%**
Electric power generation, transmission & distribution	1,596	1,737	8.8%	9,265	10,482	13.1%
Gas, steam & air conditioning supply	194	296	52.6%	2,063	2,437	18.1%
Water & Waste	**1,732**	**1,639**	**-5.4%**	**9,444**	**10,259**	**8.6%**
Water collection, treatment & supply	371	576	55.3%	1,891	3,156	66.9%
Sewerage, waste mgt. & remediation	1,361	1,063	-21.9%	7,553	7,103	-6.0%
Food, Drink & Tobacco	**4,704**	**5,127**	**9.0%**	**34,158**	**39,149**	**14.6%**
Meat & meat products	1,121	1,454	29.7%	9,031	11,508	27.4%
Fish, crustaceans & molluscs	715	760	6.3%	1,453	1,596	9.8%
Fruit & vegetables	100	122	22.0%	646	856	32.5%
Vegetable, animal oils & fats	-	10	N/A	4	27	575.0%
Dairy products	527	488	-7.4%	5,044	6,150	21.9%
Grain mill products & starches	18	11	-38.9%	387	200	-48.3%
Bakery & farinaceous products	955	1,101	15.3%	4,747	6,231	31.3%
Other food products	404	200	-50.5%	5,399	4,576	-15.2%
Prepared animal feeds	159	176	10.7%	1,701	1,828	7.5%
Beverages	661	754	14.1%	5,495	5,876	6.9%
Tobacco products	44	51	15.9%	251	301	19.9%
Clothing, Footwear & Textiles	**974**	**1,020**	**4.7%**	**4,853**	**4,463**	**-8.0%**
Textiles	512	519	1.4%	2,448	2,252	-8.0%
Wearing apparel	436	459	5.3%	2,149	2,002	-6.8%
Leather & related products	26	42	61.5%	256	209	-18.4%
Wood, Paper, Printing & Non-Metallic Minerals	**3,880**	**3,906**	**0.7%**	**26,636**	**25,402**	**-4.6%**
Wood & wood products (exc. Furniture)	837	721	-13.9%	4,414	3,611	-18.2%
Paper & paper products	136	136	0.0%	2,071	1,773	-14.4%
Printing & reproduction of recorded media	833	808	-3.0%	7,749	6,630	-14.4%
Glass & glass products	141	172	22.0%	1,476	1,495	1.3%
Articles of concrete, cement & plaster	617	547	-11.3%	3,364	3,832	13.9%
Other non-metallic mineral products	392	607	54.8%	1,968	2,163	9.9%
Furniture	924	915	-1.0%	5,594	5,898	5.4%
Chemicals, Pharma, Rubber & Plastics	**6,132**	**6,460**	**5.3%**	**36,489**	**42,246**	**15.8%**
Petroleum & chemical products	643	506	-21.3%	5,414	4,725	-12.7%
Basic pharmaceutical products & preparations	4,162	4,615	10.9%	25,894	31,696	22.4%
Rubber products	372	315	-15.3%	666	565	-15.2%

Detailed industrial group	Western Region			State		
	2011	2016	% Change	2011	2016	% Change
Plastics products	955	1,024	7.2%	4,515	5,260	16.5%
Basic, Fabricated Metals & Other Manufacturing	**3,150**	**3,438**	**9.1%**	**17,737**	**19,600**	**10.5%**
Basic metals	342	366	7.0%	2,285	2,623	14.8%
Fabricated metal products (exc. machinery & equipment)	1,984	2,381	20.0%	11,216	12,917	15.2%
Other manufacturing n.e.c.	824	691	-16.1%	4,236	4,060	-4.2%
Computer, Electronic & Optical	**2,981**	**3,614**	**21.2%**	**23,350**	**22,149**	**-5.1%**
Electronic components & boards	1,101	1,411	28.2%	7,759	9,781	26.1%
Computers & peripheral equipment	912	1,075	17.9%	9,762	8,653	-11.4%
Other electronic & optical products	968	1,128	16.5%	5,829	3,715	-36.3%
Machinery & Electrical Equipment	**3,158**	**3,340**	**5.8%**	**16,126**	**16,387**	**1.6%**
Electrical equipment	674	536	-20.5%	3,317	3,325	0.2%
Machinery & equipment	1,490	1,671	12.1%	8,530	8,949	4.9%
Repair & installation of machinery & equipment	994	1,133	14.0%	4,279	4,113	-3.9%
Transport Equipment	**856**	**1,307**	**52.7%**	**3,679**	**4,250**	**15.5%**
Motor vehicles, trailers & semi-trailers	532	1,133	113.0%	2,694	3,710	37.7%
Other transport equipment	324	174	-46.3%	985	540	-45.2%
Medical & Dental Instruments	**9,723**	**12,658**	**30.2%**	**20,664**	**27,669**	**33.9%**
Medical & dental instruments & supplies	9,723	12,658	30.2%	20,664	27,669	33.9%
Total Industry	40,241	45,754	13.7%	209,803	229,548	9.4%

Source: CSO, Census 2016: Summary Results Part 2, Table EZ011

Appendix 2: Population aged 15 years and over employed in Industry in western towns 2011 and 2016

Towns	2011		2016		% Change 2011-2016
	No. Employed	% of Total Employment	No. Employed	% of Total Employment	
Galway City and suburbs	4,501	14.0%	5,192	14.6%	15.4%
Ennis	1,535	15.5%	1,586	15.0%	3.3%
Letterkenny	505	7.0%	489	6.3%	-3.2%
Sligo	994	14.1%	903	12.7%	-9.2%
Castlebar	494	10.4%	541	11.2%	9.5%
Ballina	527	13.5%	524	14.5%	-0.6%
Shannon	1,159	29.4%	1,336	31.9%	15.3%
Tuam	697	23.1%	828	25.0%	18.8%
Buncrana	201	9.7%	264	11.0%	31.3%
Ballinasloe	273	12.3%	258	11.4%	-5.5%
Westport	412	16.4%	491	17.3%	19.2%
Roscommon	242	11.5%	313	13.8%	29.3%
Loughrea	332	17.0%	402	17.4%	21.1%
Oranmore	500	19.9%	530	20.5%	6.0%
Ballybofey-Stranorlar	111	7.3%	161	9.8%	45.0%
Athenry	294	17.4%	416	21.8%	41.5%
Carrick-on-Shannon	157	9.5%	221	12.6%	40.8%
Claremorris	121	8.6%	160	10.2%	32.2%
Gort	187	17.9%	204	16.3%	9.1%
Ballinrobe	204	18.8%	197	17.6%	-3.4%
Kilrush	97	11.9%	88	10.8%	-9.3%
Sixmilebridge	233	22.6%	288	24.7%	23.6%
Donegal	92	9.2%	103	9.5%	12.0%
Boyle	84	9.9%	89	10.8%	6.0%
Carndonagh	33	5.2%	39	4.9%	18.2%
Ballyhaunis	306	37.1%	356	41.9%	16.3%
Ballyshannon	62	7.9%	56	7.0%	-9.7%
Bearna	81	9.9%	105	11.8%	29.6%
Castlerea	78	12.1%	94	13.9%	20.5%
Tubbercurry	96	14.4%	107	15.6%	11.5%
Bundoran	29	4.1%	26	3.5%	-10.3%
Ballaghaderreen	78	14.8%	95	16.3%	21.8%
Newmarket-on-Fergus	145	19.7%	178	22.1%	22.8%
Strandhill	99	13.3%	87	10.9%	-12.1%
Moycullen	74	10.5%	96	12.9%	29.7%
Lifford	35	8.0%	32	6.9%	-8.6%
Collooney	N/A	N/A	93	14.1%	N/A
Clifden	74	8.3%	52	7.6%	-29.7%
Ballymote	87	15.7%	92	17.0%	5.7%
Convoy	N/A	N/A	44	9.2%	N/A

Source: CSO, Census 2016: Profile 11 – Employment, Occupations and Industry, Table EB030