

PACEC

Public and Corporate
Economic Consultants

Sunderland Economic Leadership Board Implications for Sunderland of the UK's EU in/out referendum



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EXECUTIVE SUMMARY

PACEC Ltd, in partnership with Dr Swati Dhingra of LSE's Centre for Economic Performance, were commissioned by Sunderland's Economic Leadership Board in March 2016 to study the likely economic impacts of the UK voting to leave the EU on the local economy of Sunderland. The research programme employed a variety of research methods:

- Review of local, regional and national economic policy documents
- Interviews with key local stakeholders
- Statistical profile of key sectors and trends in Sunderland's economy
- An online survey of almost 200 local businesses
- Employment/GVA forecasting and economic modelling of two exit scenarios:
 - Negotiated trading agreement (similar to EFTA countries such as Norway)
 - Full exit and no further relationship with the EU (WTO terms of trade)

The report shows that given the importance of foreign investment and trade to the Sunderland economy, the consequence of Brexit would be significant and largely negative for the city. Sunderland's economy is dominated by large, foreign-owned companies in trading/exporting sectors, most notably the automotive manufacturing cluster centred on Nissan's Sunderland factory. The study concludes that under either the Norway or the WTO option, the Sunderland economy would contract: by 2.5% in GVA terms and 2.2% in employment in the case of WTO terms of trade. This equates to the loss of around 2,500 jobs.

The research also highlighted the potential negative consequences that Brexit would bring in terms of regeneration funding. Since the year 2007, Sunderland has received over £23m of direct investment from Europe, which has been complemented by over £130m of region-wide business support services accessible to a wide range of Sunderland businesses. Some of the projects benefitting from this direct support have included the Port of Sunderland, Sunderland Software City (including Software Centre), the A19 Enterprise Zone, Enterprise Coaching, Washington Business Centre, Sunderland Social Housing Low Carbon Demonstrator, Keel Square (including Vaux advance infrastructure works) and various projects led by the University of Sunderland. If the vote is to leave, it is not clear whether substitute funds will be made available on anything like the same scale to continue the regeneration of the city.

In relation to investment and trade, the report highlights a potential "worst-case" scenario of Britain leaving the EU and not securing favourable market access, which would result in a serious loss in competitiveness that could undermine current foreign investment aimed at serving the EU market and reduce overall investment over the longer term. Under such a scenario, if large companies decided that their employment sites in Sunderland were no longer viable, the resulting loss of employment would be substantially higher than the modelled figures above.

In addition to these key findings, the report highlights the potential impacts in relation to inward investment, the automotive sector, the impact on local businesses, the global status of the city, and the overall plans for the city's economic regeneration.

1 INTRODUCTION

PACEC were appointed in March 2016 by Sunderland's Economic Leadership Board to undertake research into the implications for the city of Sunderland following the outcome of the June 2016 European Union In/Out referendum in the UK. The Board commissioned the study in light of the unique issues facing businesses, exporters and investment in Sunderland and across the North East. In particular, the Board highlighted particular features of the economy including a narrow sectoral mix and high exposure to foreign trade as well as uncertainty surrounding future investment decisions by key decision-makers in the public and private sectors. This research contributes to the debate by providing evidence and insight for local decision-makers in both business and policymaking communities.

The aim of the study is to understand the impact of potential outcomes arising from the vote within Sunderland. PACEC employed a mixed methods approach, focused on a tailored economic model which forecasts the impacts of employment and GVA in Sunderland across three in/out scenarios: remaining under the terms of February 2016 renegotiation, adoption of a 'Norway option' within the European Economic Area (EEA), and adoption of World Trade Organisation (WTO) default tariffs outside of the EEA.

The analysis employs a gravity model designed and customised by Swati Dhingra, an expert in trade economics at the London School of Economics' Centre for Economic Performance. It is prefaced by a baseline profile of Sunderland's performance across a range of socioeconomic measures including sectoral composition, business performance, employment, skills and trade undertaken using PACEC's Local Economic Profiling System (LEPS). PACEC also carried out a survey of some 200 businesses in the city using Experian's B2B Prospector database, gauging business opinion on regulation, tariffs, trade and access to funding as well as overall views on whether to leave or remain in the EU. This was further complemented by telephone interviews of high-level stakeholders from the Economic Leadership Board in the education, manufacturing, public sector and IT sectors. Our approach provides a rounded view of the risks and potential benefits for a range of organisations in Sunderland following the referendum.

The terms of reference for this study are as follows:

The Sunderland ELB wish to explore three scenarios or potential outcomes in relation to the UK's In/Out referendum result:

- Remaining as a member under current terms
- Remaining as a member, but with renegotiated terms of membership for the UK (range of special, 'protective' measures and 'opt-outs' designed to benefit the UK but could apply to all members
- Exiting the EU - which further sub divides into two scenarios:
 1. *Full exit and no further relationship with the EU, or*
 2. *Negotiated trading agreement (allowing UK exporters to compete on broadly the same terms as EU members – similar to EFTA countries).*

For each potential scenario, the Economic Leadership Board want to understand the local impacts in relation to:

- Trade (Goods & Services)
- Business & Jobs
- Key sectors, including Financial Services, Manufacturing & Automotive
- Integration
- Freedom of movement
- Status in Europe

The structure of the report proceeds as follows:

2. Background to the Research
3. Economic Profile of Sunderland
4. Policy Context
5. Impacts for Sunderland: Business Survey
6. Impacts for Sunderland: Stakeholder Consultations
7. Scenario Analysis
8. Conclusions and Recommendations

2 BACKGROUND TO THE RESEARCH

The decision to commission the study was driven by a number of particular local concerns, chief among them the security of exports, differential impacts on key sectors such as manufacturing, and the future of the city's economic development in the absence of access to EU funding or the single market.

2.1 Key sectors and issues

The Sunderland economy, in particular the automotive industry, is strongly dependent on exports to European markets and as such was considered particularly vulnerable to external shocks by the Economic Leadership Board.

2.1.1 Automotive economy

The automotive economy in Sunderland is strong and growing, focused largely around the Nissan plant and its suppliers. Employment in the sector and supply chain has been steadily increasing (see section 3.1.1.). Automotive and manufacturing firms are partially supported by a new Ultra Low Carbon Vehicles enterprise zone and the prospect of a new International Advanced Manufacturing Park (IAMP). The sector has begun to reach critical mass, and a number of international firms which originally set up to supply Nissan now export abroad such as TRW, an American automotive and components firm which announced a £15m investment in its Sunderland facility in January 2013. The key Brexit risk for the sector is the presence of an EU customs tariff on finished vehicles of around 8% which could be applied in the event that the UK leaves the EU.

2.1.2 Nissan

Nissan is a major source of income and employment in Sunderland. The company makes over half a million vehicles per annum, presently accounting for one in three UK-built vehicles, and is forecast to surpass 700,000 vehicles in the near future.¹ The plant provides around 7,000 manufacturing and production jobs directly in Sunderland, with around 1000 apprentices and 600 graduates undertaking training through the Global Training Centre and Skills Academy. Company research suggests that for every manufacturing job in the Sunderland plant there are four jobs provided in the supply chain.²

The company have invested over £3.5bn in Sunderland since 1984, including recent investments for the Infiniti model in December 2012 (£250m), the Qashqai and the Nissan LEAF (£420m investment with £189m funding from the European Investment Bank and £20.7m from GBI). Nissan underlined its commitment to the plant in January 2016 with a £26.5m investment in lithium-ion battery production for the LEAF model as well as plans to produce a new Juke model from 2017.

The Sunderland plant supplies more than 130 markets. Over 70% of Nissan's Sunderland-built vehicles are exported to Europe, mostly to EU members, although the EU market is expected to

¹ 'The Motor Industry in the UK: A Cool Shower of Reality' MAKE it Sunderland (Nov 2014)

² *Nissan Sunderland Plant Fact Sheet*, 28 March 2013

remain stationary in the foreseeable future with sales growth expected from non-EU emerging economies as well as developed markets such as the United States.³ Expansion of the plant is currently under way to support production of the premium Infiniti Q30 model, with the United States earmarked as a key export market.

Table 2:1: Nissan Sunderland: Annual output, finished vehicles

2009	2010	2011	2012	2013	2014	2015
338,150	423,262	480,485	510,572	501,756	500,238	476,589

Source: SMMT (2009-2015)

The automobile industry is dependent on continuous reinvestment in capital goods and R&D to support development of new models. Allocation of new models within Nissan occurs through a competitive bidding process in which business cases are submitted to a Steering Committee. It is possible that introduction of an EEA tariff would affect the Total Delivered Cost measure in internal appraisals, reducing the competitiveness of bids from the Sunderland plant.⁴

An assessment by Open Europe of key UK-to-EU export sectors found that the automobile industry could face initial disruption as a result of uncertainty surrounding access to the EU customs union and exclusion from the US-EU TTIP agreement.⁵ However, the report considered the likelihood that the UK secures market access for motor vehicles to be high: the existence of a large net trade surplus in automobiles with the UK along with strong EU-UK supply chain integration would provide a strong incentive for European manufacturers to seek uninhibited market access between the UK and the Continent.

2.1.3 Economic strategy and regeneration

Sunderland's economy has recovered strongly in recent years. The city suffered a slump in jobs and investment in the late 20th century as traditional industries including shipbuilding, coal, and glassworks fell into decline. Since the mid-1990s the city has enjoyed an economic revival led by high value manufacturing, automotive production, financial services, contact services and the IT sector.

The city's economic development model, elucidated in the Economic Master Plan and the City Deal, is focused strongly on export-led growth supported by strategic transport and infrastructure upgrades including the Strategic Transport Corridor, Wear Crossing, city centre regeneration and the Port of Sunderland. The approach depends both on EU capital funding and access to EU markets. A key concern for the Economic Leadership Board is the extent of impact on this overall strategy arising from changes in the UK's relationship with the EU. Despite the progress made in recent years the

³ Ibid. See also IHS Automotive, *The Outlook for Global Light Vehicle Sales*, Media briefing (March 19 2015)

⁴ KPMG, *The UK Automotive Industry and the EU* (April, 2014)

⁵ Open Europe, *The Impact of Brexit on the UK's key export sectors* (2015)

city economy still suffers from structural weaknesses including a dependence on a relatively narrow sectoral mix.

2.2 Previous surveys of Brexit opinion in Sunderland

A number of surveys have been taken to gauge the views of businesses in Sunderland and the North East. The surveys show that, generally speaking, both Sunderland and the North East are more favourably inclined to remaining in the EU compared to England as a whole:

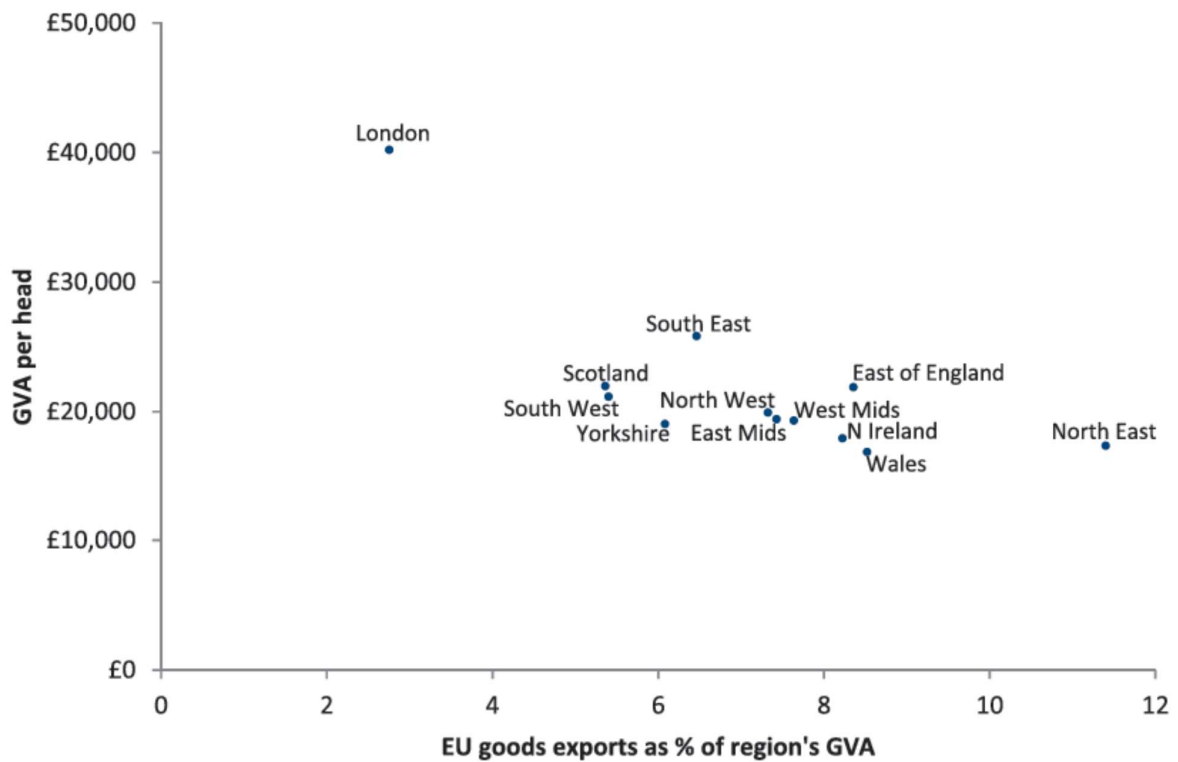
- A British Chambers of Commerce poll taken between 25th January and 4th February (before the Prime Minister's renegotiation) found that, among members of the North East Chamber, 63% said they would vote in favour of EU membership with 29% against. Among internationally trading businesses, 33% expected disruptions or negative impacts to their imports and supply chains, while 34% said they did not expect that their export and international sales strategies would be harmed.
- A 7th March 2016 ComRes survey on behalf of the CBI of 773 UK members found that, among firms primarily based in the North East, 71% would elect to remain a member of the EU, 10% would vote to leave and 18% did not know. The sample size for the North East was small however, with just 49 of survey respondents based primarily in the area.
- A 3rd March 2016 survey undertaken by the Society of Motor Manufacturers and Traders (SSMT) through ComRes between January and February 2016 found that more than three quarters of UK auto sector firms (77%) would vote to remain in the event of a referendum. The most important reason given for remaining a member of the EU was given as positive business impacts of access to European automotive markets (66%), followed by workforce access (55%) and influence over the regulatory regimen (52%).

Polling also indicates that Sunderland's population is more polarised over the question of the EU referendum than most other areas of the United Kingdom. A February 2016 YouGov assessment ranked Sunderland 129th out of 188 areas in its UK-wide index of NUTS3 areas (ranked by degree of euroscepticism) but with strong responses for 'Remain' and 'Leave' and fewer undecided voters. PACEC's survey of opinion in Sunderland found that smaller businesses and sole traders were far more inclined towards leaving the European Union than larger firms and public sector organisations (i.e. a plurality). Section 5 outlines PACEC's business survey findings in greater detail.

2.3 Research to date on the impacts of Brexit for Sunderland and the North East

Research on regional impacts in the UK suggests that Sunderland and the North East have greater export exposure to the EU than other regions, leaving it potentially vulnerable if the EU implements tariffs following a Brexit vote. This is due to the fact that the North East produces a higher proportion of goods compared to services than other UK regions in its exports to the EU, and it produces goods which typically face higher EEA tariff costs such as automobiles. Figure 2.1, from research undertaken by the Centre for European Reform, shows the considerable exposure in goods exports of the North East compared to the rest of the UK. The study estimates that the cost of tariffs applied to EU-destined goods as a proportion of GDP is equivalent to 0.43% of regional GVA in the North East, the highest in the UK.

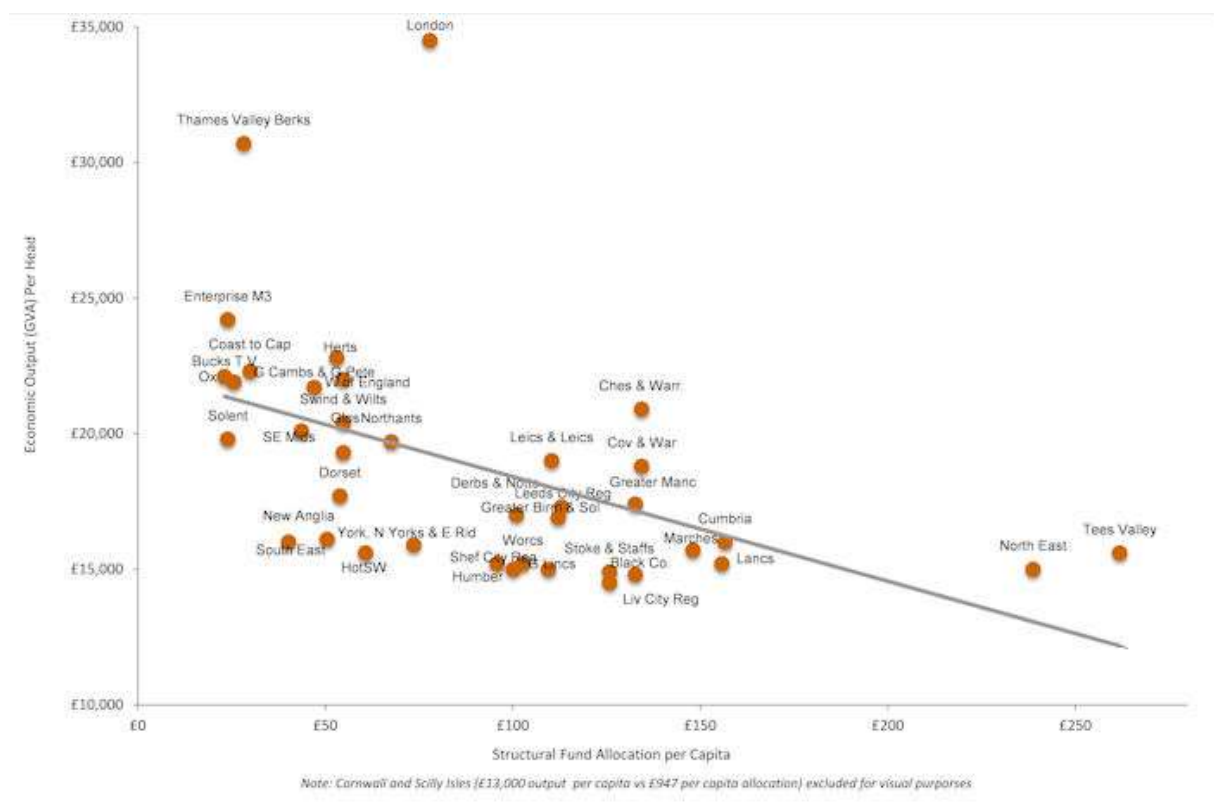
Figure 2:1: UK exports to the EU by region vs per capita economic output



Source: Centre for European Reform (April 2015). Data from ONS and UK Trade Info.

The North East is also exposed to potential investment reductions as a result of withdrawn European structural funding. The region secured over £0.5bn in ESF and ERDF funds during the 2007-13 funding window and is expected to secure £0.6bn over the 2014-2020 window. Specifically, the North East LEP area was given €537.4m for the 2014-2020 funding window for ESF and ERDF. The North East receives the highest amount of structural funding per capita of any region in England after Cornwall.

Figure 2:2: EU structural fund allocation per capita, and prosperity (GVA per capita) for English LEP areas



Source: Regeneris. Excludes Cornwall (an outlier in terms of SFA per capita) for visual purposes

Since the year 2007, Sunderland has received over £23m of direct investment from Europe, which has been complemented by over £130m of region-wide business support services accessible to a wide range of Sunderland businesses. Some of the projects benefitting from this direct support have included the Port of Sunderland, Sunderland Software City (including Software Centre), the A19 Enterprise Zone, Enterprise Coaching, Washington Business Centre, Sunderland Social Housing Low Carbon Demonstrator, Keel Square (including Vaux advance infrastructure works) and various projects led by the University of Sunderland. For the longer period, 2000-2015, Sunderland City Council alone received over £47m of EU investment towards regeneration.

Table 2:2: European funding accessed by Sunderland City Council (2000-2015)

Programme	Period covered	Grant Approval / Spend (£)
North East England ERDF Competitiveness	2007-2015	18,412,020
England European Social Fund Programme	2007-2015	4,571,591
Transnational	2009-2015	209,641
North East England Objective 2 ESF	2000-2008	1,160,567
North East England Objective 2 ERDF	2000-2008	9,651,138
England Objective 3 ESF	2000-2008	9,949,045
Urban II Connecting the Coalfields	2000-2008	2,419,471
Equal	2000-2006	896,388
Total	2000-2015	47,269,861

Research on the potential economic impacts of Brexit is to some extent speculative and open to interpretation, particularly where impacts are calculated locally. Neither the UK government nor the European Commission have outlined a clear plan regarding the structure of the UK-EU relationship in the event that the UK leaves the Union, and there is no precedent of a member state leaving in the post-Maastricht era. It is therefore much easier to estimate the costs of leaving than the possible benefits since these have not been clear outlined in comparison with renegotiated membership. Cost-benefit modelling on Brexit to date typically does not assume improvements to the UK's comparative advantage arising from changes to the country's regimen of tariffs, regulations and structural funds, all of which play an important role in the economic development of Sunderland and the North East. These issues are discussed in greater detail in Section 7.

3 LOCAL ECONOMIC PROFILE

3.1 Baseline profile

PACEC completed a static baseline profile of the city's industrial composition and commercial environment. The baseline was undertaken using PACEC's Local Economic Profiling System (LEPS) data tool. Section 3.4 features a baseline economic forecast of employment in Sunderland by sector given no policy change.

3.1.1 Industrial sectors, clusters, number of companies, recent growth trends

As expected, analysis of the employment landscape in Sunderland shows particular concentrations in manufacturing, utilities, and public administration. This is demonstrated by the "location quotient" (LQ), which shows how much employment there is in an area compared to the national average. Sunderland has twice the GB average employment share in manufacturing (LQ 2.0), and this is predominantly due to a particular strength in the manufacture of motor vehicles, although there are also local clusters in textile manufacture and the printing and reproduction of recorded media.

Table 3:1: Employment in Sunderland, 2014

Industry	Employees	Proportion	GB	LQ
Utilities	3,700	3%	355,400	2.5
Manufacturing	19,800	17%	2,387,400	2.0
Construction	4,500	4%	1,334,900	0.8
Wholesale and retail trade; repair of motor vehicles and motorcycles	17,500	15%	4,584,100	0.9
Transportation and storage	5,800	5%	1,286,100	1.1
Accommodation and food service activities	6,500	5%	2,046,600	0.8
Information and communication	2,600	2%	1,160,700	0.5
Financial and insurance activities	4,200	4%	1,041,800	1.0
Real estate activities	1,600	1%	519,200	0.7
Professional, scientific and technical activities	4,200	4%	2,377,300	0.4
Administrative and support service activities	8,500	7%	2,464,300	0.8
Public administration and defence; compulsory social security	9,100	8%	1,284,600	1.7
Education	8,500	7%	2,583,400	0.8
Human health and social work activities	18,800	16%	3,801,600	1.2
Arts, entertainment and recreation	2,400	2%	707,700	0.8
Other service activities	1,500	1%	575,900	0.6
Column Total	119,300	100%	28,989,300	1.0

Source: Business Register and Employment Survey, 2014; ONS. Agriculture has been omitted. Numbers have been rounded in line with ONS guidance.

The number of enterprises also gives a guide to the local economy, although it must be treated with care because enterprise sizes can vary significantly between sectors and between regions. Sunderland has a higher proportion of enterprises in manufacturing, construction, wholesale and retail, and accommodation and food service than the national average. It has fewer enterprises in agriculture, forestry, and fishing; professional, scientific, and technical activities; and arts, entertainment, and recreation.

Table 3:2: Enterprises, 2015

Sector	Sunderland	North East	Great Britain
Agriculture, forestry and fishing	1.1%	6.0%	5.4%
Utilities	0.4%	0.5%	0.5%
Manufacturing	7.7%	6.3%	5.3%
Construction	13.2%	11.9%	11.6%
Wholesale and retail trade; repair of motor vehicles and motorcycles	19.5%	16.0%	15.0%
Transportation and storage	3.2%	3.5%	3.4%
Accommodation and food service activities	10.0%	8.5%	6.0%
Information and communication	4.4%	4.3%	8.0%
Financial and insurance activities	1.5%	1.3%	2.0%
Real estate activities	2.4%	2.9%	3.6%
Professional, scientific and technical activities	14.2%	17.5%	18.1%
Administrative and support service activities	7.6%	7.1%	8.1%
Public administration and defence; compulsory social security	0.0%	0.3%	0.3%
Education	1.9%	1.8%	1.7%
Human health and social work activities	4.7%	4.7%	4.3%
Arts, entertainment and recreation	1.9%	2.2%	2.5%
Other service activities	6.3%	5.2%	4.3%

Source: UK Business Count 2015; ONS. Numbers are rounded by the ONS.

Sunderland's businesses tend to be larger than average, with a smaller proportion of micro businesses and more in the medium and large size bands.

Table 3:3: Enterprise size, 2015

Business Size (band)	Sunderland	Great Britain
Micro (0 to 9)	77.1%	83.6%
Small (10 to 49)	17.9%	13.3%
Medium-sized (50 to 249)	4.1%	2.7%
250 to 499	0.6%	0.3%
500 to 999	0.1%	0.1%
1000+	0.1%	0.0%

Source: UK Business Count (Enterprises), 2014; ONS.

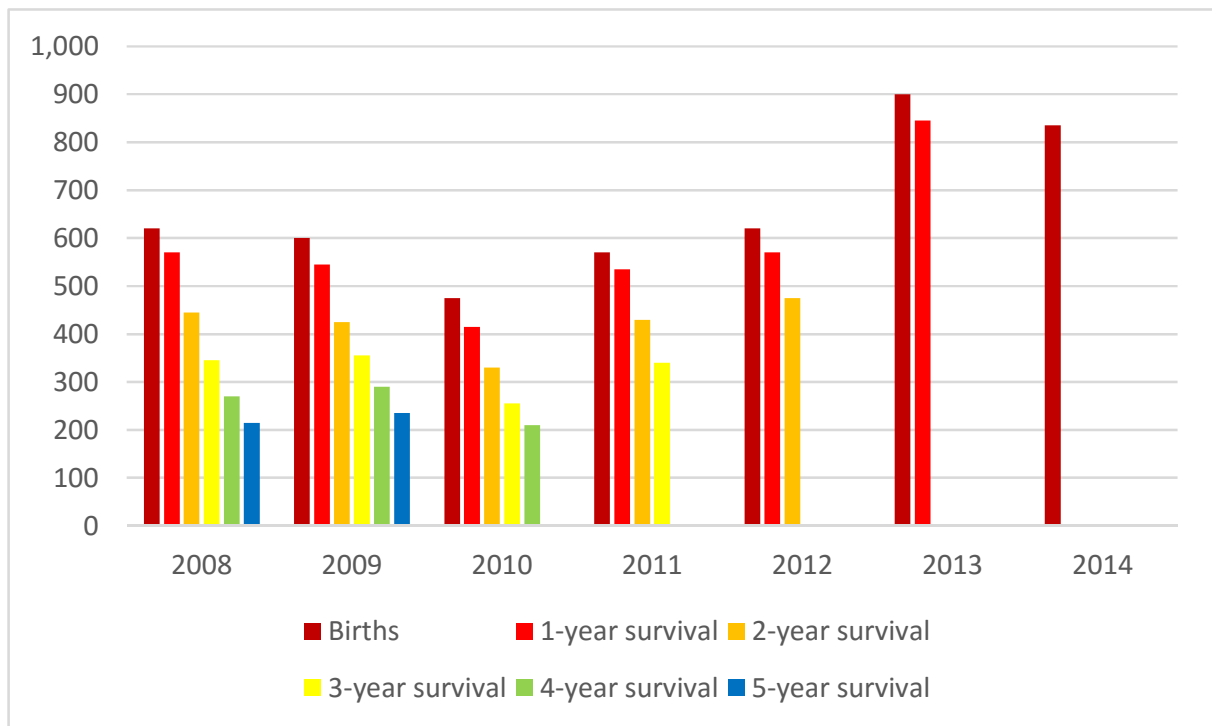
The largest companies have a significant effect on employment, and also on exports. Their decisions have significant ramifications on the wider local economy and on their supply chains.

Looking at the business environment, Figure 3.1 below shows the formation and survival rates of new businesses. In each cluster, the deep red bar on the left shows new business start-ups in that year. The business formation rate fell sharply in 2010, after the financial crisis. The chart shows that by 2012 business formation in Sunderland had returned to its 2008 level, and that the number of new businesses surged in 2013 and fell back only slightly in 2014.

The lighter bars to the right in each cluster show how many businesses survived to continue trading in subsequent years. Attrition of new businesses is normal: of the businesses founded in Sunderland in 2008, more than half were still trading after three years and 34.7% were still trading

in 2013. This is a less strong survival rate after the financial crisis than the North East (41.0%) or the UK (41.3%) achieved. However, for businesses created in Sunderland in 2013, the one year survival rate was slightly higher than average (93.9%, compared with an average for the UK of 93.5%).

Figure 3:1: Business Survival



Source: *Business Demography*; ONS.

Sectors which have grown strongly since 2009 include manufacturing (up 21%), utilities (up 28%, from a lower base), health and social work (up 27%), and transportation and storage (up 23%). Contracting sectors include construction (down 38%) and real estate (down 33%). Overall, employment in Sunderland has grown by 2,500, or 2%, since 2009.

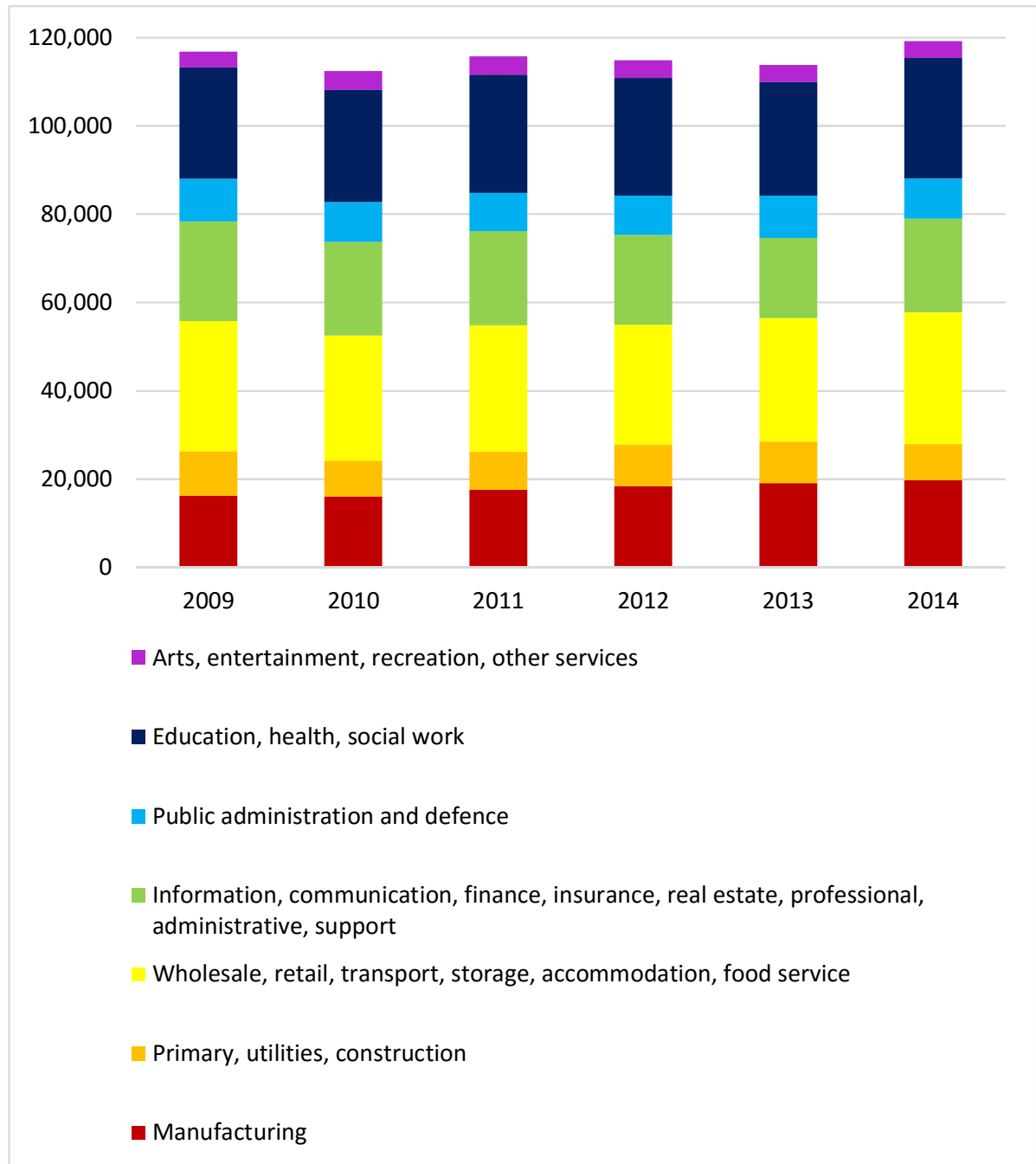
Table 3.4: Employment in Sunderland, 2009–2014

Industry	2009	2014	Change	%
Utilities	2,900	3,700	800	28%
Manufacturing	16,300	19,800	3,500	21%
Construction	7,200	4,500	-2,700	-38%
Wholesale and retail trade; repair of motor vehicles and motorcycles	17,100	17,500	400	2%
Transportation and storage	4,700	5,800	1,100	23%
Accommodation and food service activities	7,700	6,500	-1,200	-16%
Information and communication	2,900	2,600	-300	-10%
Financial and insurance activities	5,100	4,200	-900	-18%
Real estate activities	2,400	1,600	-800	-33%
Professional, scientific and technical activities	4,000	4,200	200	5%
Administrative and support service activities	8,100	8,500	400	5%
Public administration and defence; compulsory social security	9,600	9,100	-500	-5%
Education	10,300	8,500	-1,800	-17%
Human health and social work activities	14,800	18,800	4,000	27%
Arts, entertainment and recreation	2,100	2,400	300	14%
Other service activities	1,500	1,500	0	0%
Column Total	116,700	119,200	2,500	2%

Source: Business Register and Employment Survey, 2014; ONS. Agriculture has been omitted. Numbers have been rounded in line with ONS guidance.

Employment overall has risen since 2009, but the increase has not been steady; the overall total fell in 2010 and again in 2012–2013. Manufacturing employment growth (deep red on Figure 3.2 below) has been more even, with increases every year since 2010. Health and social work has also seen a sustained increase in employment over this period.

Figure 3:2: Growth in Employment, 2009–2014



Source: Business Register and Employment Survey, 2014; ONS. Agriculture has been omitted. Numbers have been rounded in line with ONS guidance.

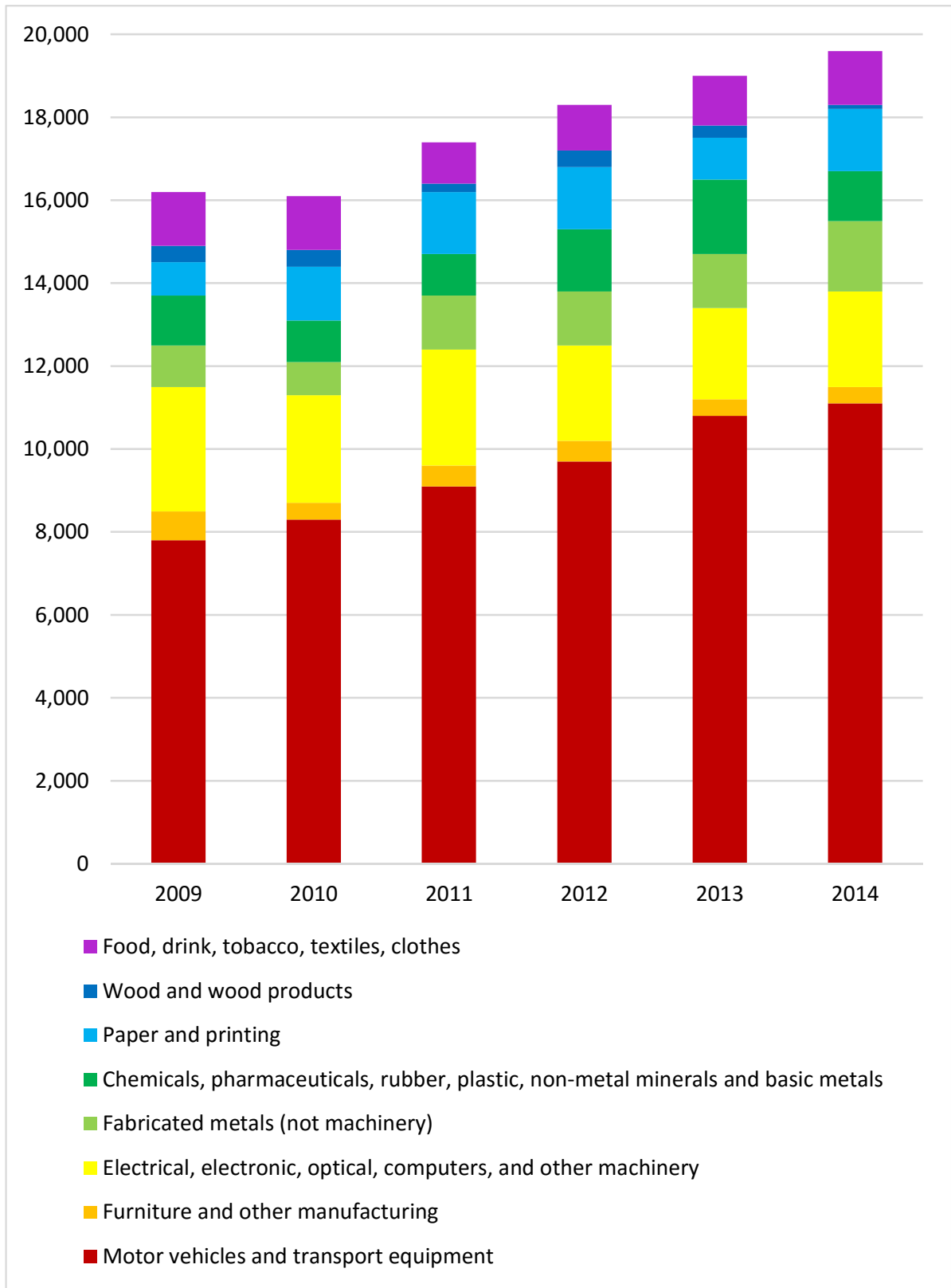
Within the manufacturing sector, more than half the employment (57%) is in motor vehicle and other transport equipment manufacturing (deep red in Figure 3.3 below). This sub-sector has increased by 42% since 2009, and is the dominant movement within the sector. Smaller sub-sectors which have also grown strongly include paper and printing (up 88%) and fabricated metals not including machinery (up 70%). Wood and wood products have fallen sharply (down 75%).

Table 3:5: Manufacturing Employment in Sunderland, 2009–2014

Manufacturing Industry	2009	2014	Change	%
Food, drink, tobacco	700	500	-200	-29%
Textiles and clothes	600	800	200	33%
Wood and wood products	400	100	-300	-75%
Paper and printing	800	1,500	700	88%
Chemicals, pharmaceuticals, rubber, plastic, non-metal minerals	1,000	900	-100	-10%
Basic metals	200	300	100	50%
Fabricated metals (not machinery)	1,000	1,700	700	70%
Electrical, electronic, optical and computers	1,700	900	-800	-47%
Other machinery	1,300	1,400	100	8%
Motor vehicles and transport equipment	7,800	11,100	3,300	42%
Furniture	200	300	100	50%
Other manufacturing	500	100	-400	-80%
Column Total	16,000	19,600	3,600	23%

Source: Business Register and Employment Survey, 2014; ONS. Numbers have been rounded in line with ONS guidance.

Figure 3:3: Growth in Manufacturing Employment, 2009–2014

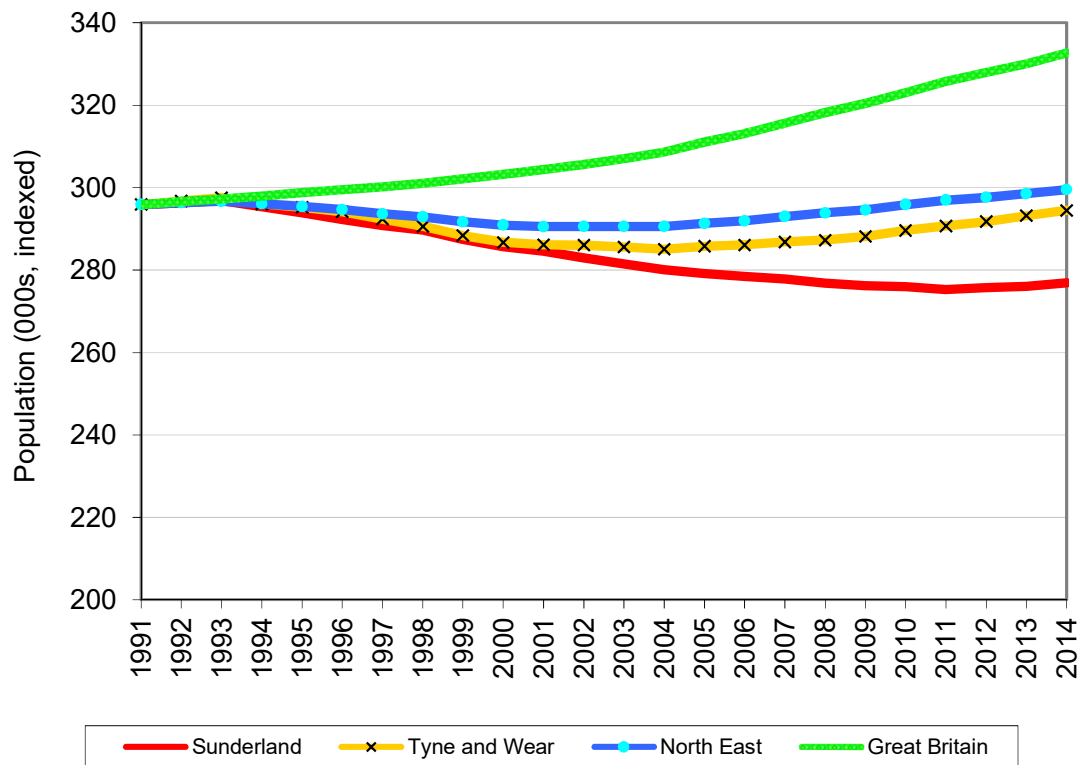


Clusters of businesses operating within the same sector are a particularly important aspect of a local economy, because the proximity of organisations which share technologies, skills, and markets encourages competition and the availability of specialist support services, which can increase productivity and give a sustainable competitive advantage. Local strategic policies often prioritise creating and expanding business clusters. Sunderland Software City is a technology hub, with links to the City Council and University of Sunderland and support from ERDF funding, to support local software businesses, help them find funding, and encourage others to relocate to Sunderland. Digital Union provides networking services to software, social media, and video game developers. The International Advanced Manufacturing Park (IAMP) and Ultra Low Carbon enterprise zone will provide a focus for the vehicle manufacturing cluster. The Doxford International Business Park provides a centre for corporate HQs, logistics, and sophisticated call centre operations serving financial and customer service industries including EE, EDF, and Barclays. Rainton Bridge Business Park includes npower and EDF.

3.1.2 Composition and skills profile of local labour force

Sunderland’s population, currently at 277,000 (of whom 178,000 are of working age), has begun to increase in recent years, following a trend which has been under way in the North East, and Tyne and Wear for about a decade. The city’s population trend is compared with the regional and national level in Figure 3.4 below.

Figure 3.4: Population graph



Source: Mid Year Population estimates, ONS, NISRA; PACEC

There is a relatively high rate of economic inactivity amongst working age people in Sunderland, compared with regional and national norms. The number of those classified as economically inactive is over 30% (see Table 3.6), considerably higher than in Tyne and Wear (25.1%).

Table 3.6: Economic activity: Population of working age 2015 (%)

Economic activity	Sunderland	Tyne and Wear	North East	Great Britain
Economically active	69.5%	74.9%	74.7%	77.5%
Employed	63.9%	68.8%	69.0%	73.1%
Employees	58.7%	61.8%	60.9%	62.5%
Self-employed	4.7%	6.6%	7.4%	10.1%
Unemployed	5.6%	6.1%	5.8%	4.6%
Inactive	30.5%	25.1%	25.3%	22.5%

Source: Annual Population Survey; PACEC (December)

The unemployment and inactivity rates are important because we have found in previous work that the worklessness rate before a recession is a key indicator of job losses during the recession⁶. This suggests that if an economic shock were to hit the country, Sunderland might be particularly damaged. Sunderland was among the hardest-hit areas in the 1980 recession, and (along with the rest of the north of England) it had not recovered to pre-recession levels of worklessness before the 1990 recession hit. However, the north recovered better than the south from the 1990 recession, and Sunderland was amongst the strongest recoveries. Employment is now rising after the 2008 recession, but the high worklessness signals a continuing vulnerability to future recessions.

Sunderland has a higher-than-average proportion of the working age population without qualifications (10.9% with no NVQ qualification, compared with 8.8% across Britain as a whole). It also has a shortfall in the proportion with degrees (14%, compared with 27.5% across Britain as a whole). The proportion of the population with trade apprenticeships is higher than average.

⁶ From Recession to Recovery II: a focus on unemployment. PACEC; LGA. 2009.

Table 3:7: Qualifications: Population of working age 2014 (%)

Qualification Level	Sunderland	Tyne and Wear	North East	Great Britain
NVQ: None	10.9%	10.3%	9.9%	8.8%
NVQ1	16.1%	12.7%	12.9%	11.7%
NVQ2	21.3%	19.4%	19.1%	16.5%
Trade apprenticeships	4.2%	4.2%	4.7%	3.5%
NVQ3	18.7%	19.6%	19.7%	17.3%
NVQ4+	23.2%	28.8%	28.2%	36.0%
NVQ Other	5.6%	5.1%	5.3%	6.3%

Source: Annual Population Survey, ONS; PACEC

Table 3:8: GCSEs: Population of working age 2014

Qualification Level	Sunderland	Tyne and Wear	North East	Great Britain
GCSE None	11.1%	10.4%	10.1%	8.9%
GCSE A*-C	29.6%	26.5%	26.4%	22.0%
GCSE A-level	25.3%	25.8%	26.3%	23.3%
GCSE In HE	9.7%	8.1%	8.9%	8.9%
GCSE Deg +	14.0%	21.1%	19.9%	27.5%
GCSE Other	10.4%	8.1%	8.2%	9.4%

Source: Annual Population Survey, ONS; PACEC

3.1.3 Local productivity

Average weekly earnings in 2014 were £546 for workers and £504 for employed residents⁷. This disparity would suggest that there is in-commuting from outside Sunderland for higher-paid jobs.

Unemployment, as measured by the number of Jobseekers Allowance claimants, is higher than the national average, at 3%. Historically, the rates have closely followed the national trends, although at a higher level. 5,340 people were claiming Jobseekers Allowance in June 2015; this is 2,350 more claimants than if Sunderland had the same claimant rate as Great Britain as a whole (1.7%).

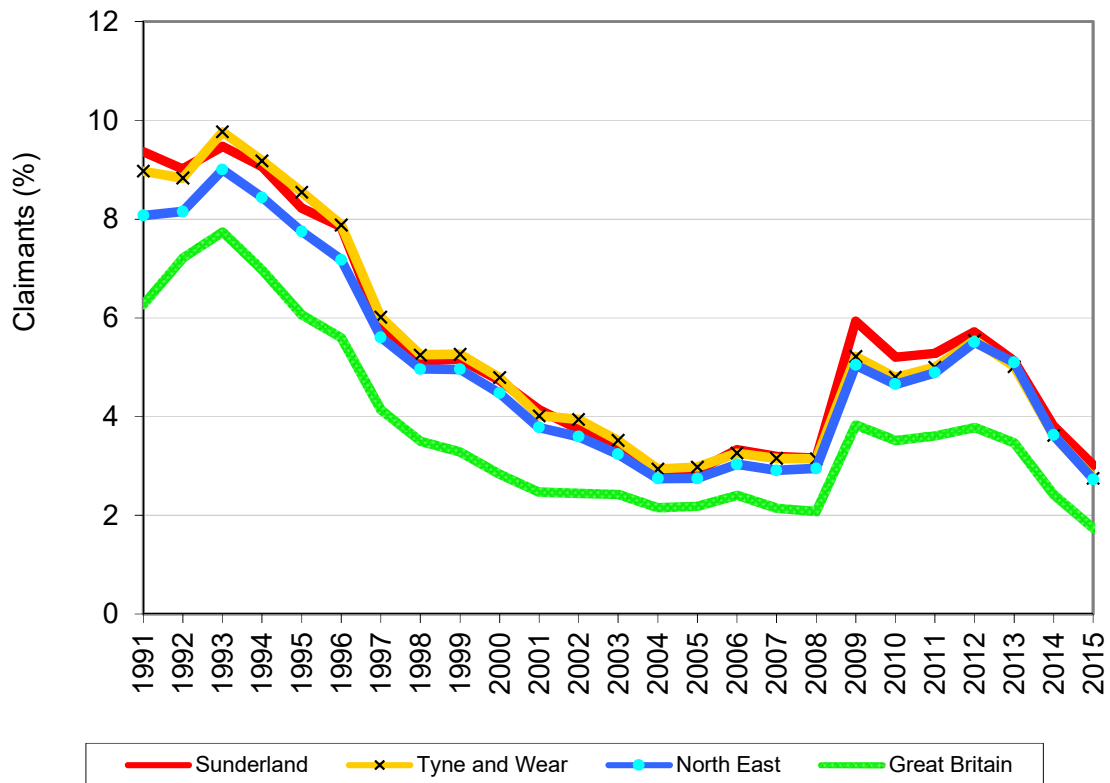
⁷ Annual Population Survey; ONS.

Table 3:9: Unemployment (claimant count)

Unemployment Claims	Sunderland	Tyne & Wear	North East	Great Britain
2015				
JSA Claimant count (June)	5,340	20,000	45,300	691k
Population of working age (16-64 yrs)	177k	726k	1.66m	39.9m
JSA Claimant count (June) rate 2015				
Rate	3.0%	2.8%	2.7%	1.7%
Benchmark: GB	1.7%	1.7%	1.7%	1.7%
Differential wrt GB	1.3%	1.1%	1.0%	0.0%
2015 JSA Claimant count (June)				
Differential wrt GB	+2,350	+7,720	+17,300	0

Source: ONS: Claimant Unemployment; PACEC. (The last line shows how the current total differs from the value it would have had if the area had the same claimant rate as Great Britain)

Figure 3:5: Changes in the claimant unemployment rate graph



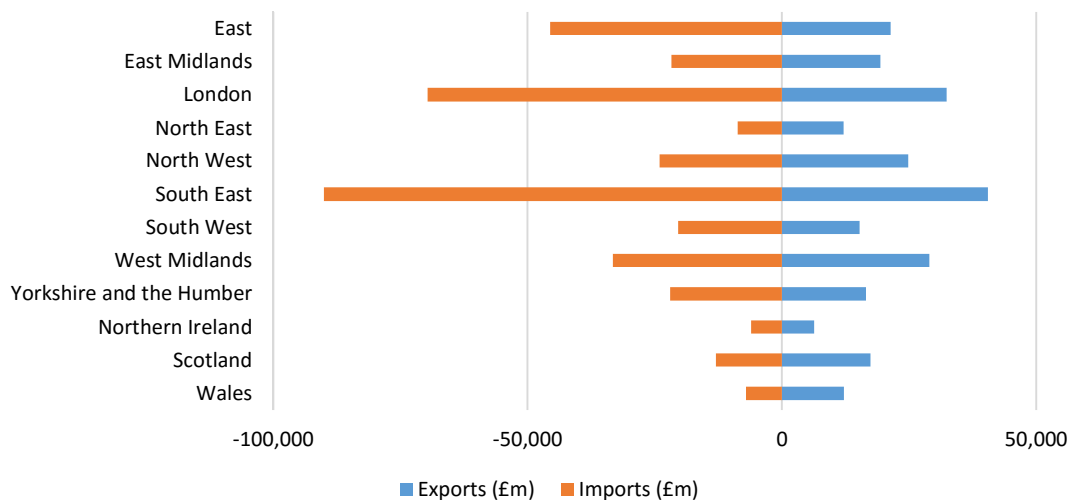
Source: ONS: Claimant Unemployment; PACEC

3.2 National economic modelling information

3.2.1 Key sectors and groups: exports, inward investment, temporary and migrant labour

Overall, the UK runs a balance of trade deficit, and in 2015 national imports exceeded national exports by around £120 billion. However, the North East region is a net exporter, with exports exceeding imports by £3.4 billion. This is the largest trade surplus of any of the English regions.

Figure 3:6: Imports and Exports, 2015



Source: HMRC: Regional Trade Statistics; PACEC

UK Overseas Trade Statistics allow examination of trade figures by port, for non-EU trade only. Key flows through Sunderland port include the export of minerals (SITC categories: Gypsum, plasters, limestone flux & calcereous stone of a kind used for the manufacture of lime or cement; Clays and other refractory minerals, nes) and specialized machinery and parts (Civil engineering and contractors' plant and equipment; parts). Key imports include the import of iron and steel (SITC categories: Ingots; semi-finished products; flat-rolled products; bars, rods, and tubes), and roughly trimmed monumental or building stone. Nissan's motor vehicle exports pass through the much larger Port of Tyne.

At the national level, inward investment has been volatile, with total net foreign direct investment (FDI) flows falling from £44.6b in 2011 to £27.8b in 2014. In 2014, 50% of the net FDI flows into the UK were accounted for by financial services, 38% by mining and quarrying, and 22% by food products, beverages, and tobacco. Retail and wholesale created the largest outflow, at -26%.

Table 3:10: FDI flows into the UK (£m)

Industry	2011	2012	2013	2014
Agriculture, forest & fishing	-9	72	37	-65
Mining & quarrying	5,718	-3,705	4,811	10,586
Food products, beverages & tobacco products	1,314	1,424	996	6,154
Textiles & wood activities	-445	-1,215	458	292
Petroleum, chemicals, pharmaceuticals, rubber, plastic products	-666	-259	-702	-315
Metal and machinery products	1,151	2,679	70	452
Computer, electronic and optical products	56	971	1,668	-112
Transport equipment	929	-338	749	1,983
Other manufacturing	-5,308	-3,100	248	2,484
Electricity, gas, water and waste	7,208	9,425	1,101	-3,161
Construction	12	1,008	-135	67
Retails & wholesale trade, repair of motor vehicles & motor cycles,	5,352	6,712	-3,023	-7,114
Transportation & storage	1,389	2,113	68	900
Information and communication	-2,489	-3,559	-1,692	-1,600
Financial services	7,113	13,937	22,494	13,960
Professional, scientific & technical services	3,893	14,787	5,427	581
Administrative and support service activities	1,483	758	-761	743
Other services	1,344	1,407	-647	81
Total	28,883	44,596	33,016	27,801

Source: *Inward Foreign Direct Investment (FDI) Involving UK Companies, 2014 (Directional Principle)*, Table 2.3, ONS. A negative sign before values indicates a net disinvestment in the UK.

Eurostat data shows that European migrants to the UK have a significantly higher economic activity rate than non-European migrants (84.8%, compared with 73.2%, of those aged 20–64⁸). Migrants are more likely than native-born workers to be in temporary employment (8.8%, compared with 5.1%), and those born outside the EU are slightly more likely to be in temporary employment than those born inside. EU migrant workers are more likely than native-born workers to be in full time jobs, and non-EU migrant workers are the most likely to be working part time. Detailed breakdowns of migration are available from the 2011 Census (and so miss more recent movements); they indicate that the North East has fewer migrants, from all origins, than the English average. 95% of the population in the North East was born in the UK, compared with 86% of the population of England as a whole. The largest groups of immigrants in the North East originated in the Middle East and Asia (particularly India, Pakistan, and China). While all overseas nationalities are under-represented in the North East, the Chinese and German populations are closest to the national average levels.

Across the UK as a whole, 7.3% of jobs are temporary⁹. The main causes for this are fixed contracts (39%, of which a third would prefer to be on permanent contracts but are unable to find permanent jobs), agency work (21%), and casual work (20%, of which half would prefer permanent jobs). Temporary jobs tend to be concentrated in particular sectors; nationally, sectors with the highest rates of temporary work included employment agency activities; libraries, archives, and museums; sports, amusement, and recreation; education; and food and beverage services.

⁸ Eurostat: Migrant integration statistics – employment. Data relates to 2014, by country of birth.

⁹ Labour Force Survey, Oct–Dec 2015.

3.3 Strengths, Weaknesses, Opportunities, and Threats (SWOT)

Figure 3.7 overleaf presents a SWOT analysis of the employment sectors in Sunderland. The size of each bubble shows the number of employees in the sector. The vertical axis shows the concentration of employment in Sunderland as measured by the location quotient. The horizontal axis shows how strongly the sectors are growing nationally in percentage terms. Public administration and construction (at the left-hand edge of the figure) are contracting nationally, whilst professional, scientific, and technical services and administration and support services (right-hand edge) are growing.

Sunderland has particular strengths in those industries where it has relatively high employment in sectors which are growing nationally (the top right quadrant): these are utilities and human health and social work.

There are particular threats in those areas where Sunderland has high employment in contracting sectors (top left quadrant): manufacturing, and public administration and defence.

There are opportunities in sectors which are growing nationally but are under-represented locally: these include professional, scientific and technical services, administrative and support services, real estate, and information and communications – broadly, business services – together with accommodation and food service, and education.

This analysis is based on recent national growth trends, and can be seen as an illustration of 'business as usual': the situation in the absence of significant political changes. In Section 3.4 we have undertaken a similar analysis based on the projections for the different sectors in the event of Brexit, which will highlight particular threats to the local economy.

Figure 3:7: SWOT bubble chart

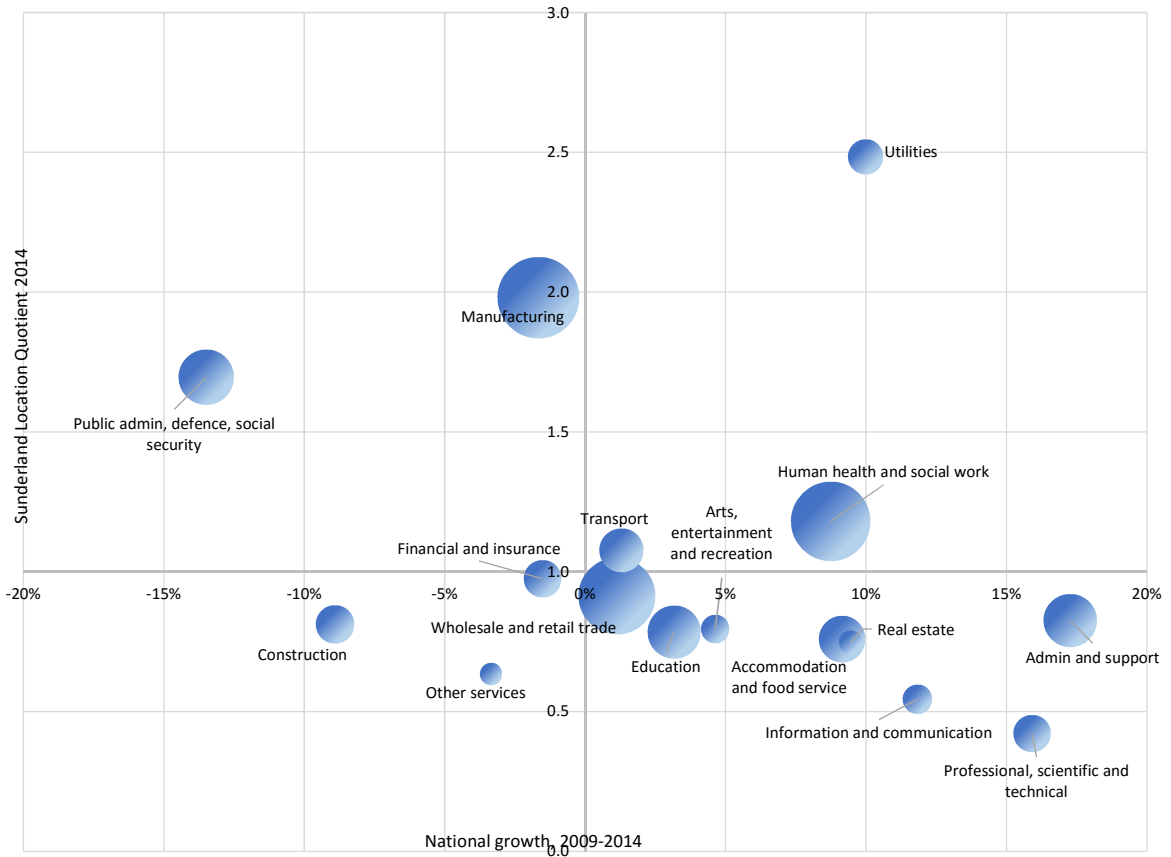


Table 3.11 below provides specific examples of strengths, weaknesses, opportunities and threats within Sunderland, adjusted for EU-specific risks such as inward investment, tariff effects and the labour market.

Table 3:11: SWOT Analysis for Sunderland

Strengths	Weaknesses
<ul style="list-style-type: none"> • Manufacturing sector with large international client base • Responsive and skilled labour market • High retention rate of local graduates in wider region • Business environment that enables high level of Foreign Direct Investment and track record of delivery • Strong presence of global companies • Highly connectivity in communications infrastructure (e.g. ICT, digital) • Successful business parks, e.g. Doxford International • History of collaborative institutions 	<ul style="list-style-type: none"> • Narrow base of economic activity • High level exposure to international trade can make the local economy more volatile to global fluctuations in economic activity • Connectivity to domestic customers and markets • Proportion of workforce in highly-skilled qualifications (NVQ4 or higher) is lower than national average • Worklessness is higher than national average • Relatively low investment in R&D and innovation activity
Opportunities	Threats
<ul style="list-style-type: none"> • Potential to expand base of economic activity: e.g. automotive, advanced manufacturing, software, health and social care • Robust proposals for future sector growth, e.g. IAMP for advanced manufacturing • Potential to expand high-value economic activity, e.g. technology, advanced manufacturing • Growth in student population • Development of the city centre infrastructure and business premises 	<ul style="list-style-type: none"> • Adverse terms of trade (e.g. via currency and price) can affect business competitiveness in a short time period • Little influence over investment decisions often made at a higher policy level (i.e. national) • Competition from other UK regions (e.g. Scotland) for high-value sectors such as renewable energy • Transport network could hinder development of sites

3.4 Baseline employment forecast

PACEC has produced a baseline employment forecast for Sunderland through to 2033, to form the 'Remain' scenario. The forecast is produced by projecting employment trends in each sector and local authority district, and constraining to regional and national totals which are informed by the Treasury short-term growth forecasts. As a projection, it does not take into account employment land constraints, infrastructure changes, or planned development. It also does not account for changes in national and local policies, unless these are established enough to have affected employment trends already. This makes it a business-as-usual forecast, which represents the position if Britain's trading relations with other countries are unchanged i.e. the Remain scenario. The Brexit scenarios will be presented in terms of their divergence from the baseline scenario, due to factors such as changed tariffs and costs of trade.

The forecasts show a net increase in employment in Sunderland, over the period 2015–2033, of 11.6%, or 15,100 jobs. Particularly strong growth in job numbers is projected in the manufacture of motor vehicles, trailers, and semi-trailers (an additional 1,760 jobs); the retail trade (except motor vehicles) (up by 1,470 jobs); and human health activities (up by 1,060 jobs). There are no sectors which show significant contraction, apart from printing and the reproduction of recorded media (down by 180 jobs) and security and investigation activities (down by 50 jobs).

These projections are slightly lower than but broadly in line with Experian's 2015 projections over the same time period, as commissioned by Sunderland City Council and used in the 2016 Employment Land Review. This is likely to be predominantly a consequence of the weakening of the economic outlook over the intervening year, as reflected in the lower Treasury growth forecasts, but may also result from methodological differences including the estimation of self-employment figures.

4 POLICY CONTEXT

The EU in-out referendum of June 23rd 2016 presents UK voters with the choice to leave or remain within the European Union. This chapter sets out the wider context of the EU in-out referendum at European and UK level, and addresses the implications for local policy making.

4.1 EU Policy Context

On November 10th 2015, David Cameron outlined draft terms for a renegotiation agreement of Britain's membership of the European Union, in line with his party's 2015 election manifesto promise. The proposed terms were outlined in a letter to European Council President Donald Tusk. Negotiations were focused on four key areas: economic governance, sovereignty, competitiveness and free movement, as well as four specific demands:

- No further imposition of financial union or currency union on non-Eurozone members.
- Exempting Britain from 'ever-closer union' and enhancing national parliaments' ability to block EU legislation
- Targets for reduced regulation to boost competitiveness
- Restricting access to in-work benefits (e.g. tax credits) for new migrants

4.1.1 EU-UK Renegotiation Agreement

On 18-19 February 2016, an agreement was reached between all 28 EU members. The final settlement included:¹⁰

- Ongoing exemption from euro membership, Schengen agreement and a range of security and criminal justice measure as well as opt-out from the European Court of Justice' Charter of Fundamental Rights.
- Recognition that the UK is not committed to further political integration, with British exemption from 'ever-closer' union to be implemented in future EU treaty amendments.
- A commitment to improve the Union's competitiveness and reduce administrative burdens within the internal market, though specific measures such as the Working Time directive are not included.
- The UK receives a right to delay, but not veto, new EU rules in respect of banking regulation.
- The fundamental principle of EU free movement remains unchanged, though the UK can limit in-work benefits for new EU migrants for four years, the so-called 'emergency brake'.
- European Union legislation can be blocked automatically in the event that a majority of national parliaments object (the 'red card'), though no single national parliament can veto new laws on its own.

There is considerable uncertainty as to the exact final status of the UK following either a vote to leave or a vote to remain in the EU. The agreed items from the renegotiation have been signed off in principle, but will require changes in EU law via the European Council government representatives

¹⁰ European Council, *Draft Decision of the Heads of State or Government, meeting within the European Council, concerning a New Settlement for the United Kingdom within the European Union*, 19 Feb 2016

and the European Parliament. Similarly, in the event that the renegotiation measures are rejected and Britain elects to leave the Union, Article 50 of the Treaty of European Union provides a two-year negotiation period after which treaties cease to apply to former member state, whether or not an agreement has been reached. The exact process of Britain's exit is unclear, as are the outcomes. In our scenario analysis (see Section 7) we have outlined a number of commonly-cited options.

4.2 Sunderland Policy Context

Economic policymaking in Sunderland is the responsibility of Sunderland City Council and the North East Local Enterprise Partnership. Sunderland also forms part of the North East Combined Authority with six neighbouring authorities (though Gateshead Council has indicated that it wishes to leave). Pending final agreement, it is expected the NECA will exercise control over European structural investment funds alongside transport, skills and business support responsibilities at regional level.

4.2.1 Sunderland City Council

Sunderland Economic Masterplan (2010 – 2015)

The *Economic Masterplan* was overseen by the Economic Leadership Board, and it outlines Sunderland's ambition to become a leading smart city through sustainable technology, low-carbon innovation and knowledge driven growth.

The plan includes five aims:

1. A new kind of university city
2. A national hub of the low-carbon economy
3. A prosperous and well-connected waterfront centre
4. An inclusive city economy for all ages
5. Improving economic leadership

A core element of Sunderland's economic development policy is innovation and knowledge-led growth under Aim 1, 'A new kind of university city'. The city has supported a number of flagship initiatives:

- the Sunderland University Enterprise and Innovation Hub
- Faculty of Applied Sciences' Low Carbon Vehicles technology centre within the Institute of Automotive Manufacturing Advanced Practice.
- The Sunderland Software City
- NE BIC innovation network
- Intelligence Hub, delivered with Palantir to improve the efficiency and quality of public service delivery in the city as part of the city's Smart City ambitions.

The *Economic Update 2012* emphasises future policy priorities to be developed:

- Ultra Low Carbon Vehicle Zone Enterprise Zone
- Investment Corridors to support public realm and visual improvements and Station improvements
- Submission of a proposal through the City Deal

- Development of a central business district on the former Vaux brewery site by public/private joint venture company Siglion

3,6,9 Vision

The 3,6,9 Vision sets out a vision for the city up to the year 2024. The Plan focuses on the city's historical achievements, supporting the city's UK City of Culture 2021 bid, and seeks to attract £1bn of investment in the city over the coming decade.

The Plan seeks to transform the city centre through a mix of new developments and restoration of existing civic buildings. Sunderland College will soon open its new £29m city centre vocational campus, and will accommodate up to 2,000 students and more than 120 staff. Additionally, the £9m Sunderland Enterprise and Innovation Hub, being developed by the University of Sunderland, is expected to attract and create over 120 innovative growth businesses, generating around 250 jobs. Elsewhere, a multi-million pound plan to create a cultural hub around the Old Fire Station in the heart of the City Centre, creating a mix of restaurant, dance and theatre space, is now under way. The resulting employment growth these investments will bring will support the growth of the cultural economy and bring a sense of vibrancy to the city centre.

Sunderland City Deal

The *Sunderland City Deal* was published in June 2014 as part of the second wave of City Deals to receive government approval. The Deal notes the recommendation of the North East Independent Economic Review to achieve greater private sector investment in the city by providing support and advice regarding inward investment (FDI), smart specialisation and exports.

The centrepieces of the Deal are the upcoming development of the new International Advanced Manufacturing Park (IAMP) being constructed at the city's auto hub alongside Nissan and the development of a new Central Business District (situated at the former Vaux Brewery site). The two developments are expected to support 5,200 new advanced manufacturing jobs and 3,700 new city centre jobs. The Deal looks to link the IAMP/Nissan auto hub in the west of the city with the City Centre and Port in the east through the Strategic Transport Corridor (includes new Wear Crossing) to promote exports of auto goods and other manufactured items and promote commercial links along the corridor.

4.2.2 North East Local Enterprise Partnership

Independent Economic Review

The North East Local Enterprise Partnership commissioned Lord Adonis to complete an Independent Economic Review in April 2013. The Adonis Review emphasises a shift in economic development policy making from national to local level and outlines key policy actions.

The Adonis Review recommended establishing a North East Innovation Board and *Regional Innovation Strategy and Business Plan* as part of a drive to encourage open innovation, smart specialisation, and centres of excellence. The *Strategic Economic Plan* sets out to deliver the Review's recommendations through innovation hubs, smart specialisation, and university enterprise zones.

Strategic Economic Plan

NE LEP's *Strategic Economic Plan* was completed in April 2014. The central objective is to create 'a globally competitive economy, with more and better jobs created through making, trading and innovating' by 2030.

The Plan outlines an investment programme supported by key actions and priorities, and forms the core of the LEP's bid to secure Local Growth Fund and European Structural and Investment Funds.

The Plan outlines a number of economic growth and investment priorities relevant to Sunderland, including resurgence in the manufacturing base and returning production to the UK, increased exports for high value-added products in subsectors such as advanced engineering, marine, subsea and oil & gas; development of new materials, manufacturing processes and innovation led by agile SMEs; rapid expansion of the digital/creative economy and increases in global inward investment.

Inward Investment & Exports

Invest North East England is the investment gateway to the seven local authorities in the North East Combined Authority area and provides an easy route for developers, investors and occupiers who are keen to explore the commercial opportunities available in the area. The establishment of Invest North East England enables a proactive and coordinated approach to targeting and attracting investment opportunities, building on the area's significant track record in attracting foreign direct investment over the years.

The North East LEP is working with UKTI North East to boost the region's export performance and improve turnover and profits of local businesses. The North East remains the only English region with a consistent positive balance of trade. Export figures released by HMRC show the value of exports from the North East in the 12 months to the end of the fourth quarter of 2015 was £12.14bn. The fastest growing markets are in Germany, which saw 38% growth to £897m, China, which grew by 55% to £454m, and Denmark with a total value of £124m, an increase of 92%. The Netherlands retains its top spot as the largest single market for NE exports with a 12-month value of £1.655bn.

Key to Sunderland's export offer is its vehicle manufacturing sector. The UK's automotive strategy aims to 'secure the long term future of the sector by growing the UK share of the value chain and by getting ahead of the game in research and development (R&D) on ultra-low emission vehicles.'¹¹

The city has promoted its low carbon policies in the auto sector through development of the Ultra Low Carbon enterprise zone. Nissan has also secured over £200m in UK government and European Investment Bank funding to develop the Nissan LEAF low carbon model.

¹¹ Dept for Business, Innovation and Skills (BIS), *Driving Success: a strategy for growth and sustainability in the UK automotive sector*, (2012)

4.3 Conclusions

Local policy-making is affected by EU/Brexit factors in a number of key ways.

- EU structural funding supports innovation, SME support, and higher education and regeneration projects in the region. Policies are strongly aligned with the EU's inclusion and sustainability agenda and the city is a net beneficiary of structural funds.
- Strategic upgrades and regeneration projects outlined in the City Deal such as the Wear Crossing, Strategic Transport Corridor, Vaux Brewery site and Port upgrades, are strongly dependent on the assumption that manufacturing and automobile exports to EU markets will continue unimpeded by structural shocks.
- The vision for ultra low carbon vehicles, outlined in the Masterplan, is strongly aligned with the European policy agenda in respect of sustainability and the environment. Ultra Low Carbon Vehicles are supported by new enterprise zones and through European Investment Bank support for Nissan Leaf.
- The City Council have outlined a desire to rebrand Sunderland as a vibrant city with a strong creative, IT, and cultural sectors similar to Valencia or Bilbao, as well as a strong productive base. The 3,6,9 plan outlines long-term ambitions in becoming a UK and eventually European City of Culture. Regeneration projects supported by EU structural funds are considered to be an important part of this vision.

5 IMPACTS ON SUNDERLAND: BUSINESS SURVEY FINDINGS

In addition to stakeholder consultations with larger businesses and key institutions, PACEC ran a survey of the wider business community in Sunderland to gather input from a wider range of businesses and particularly the local population of smaller companies. The survey sought the views of businesses on a range of issues including:

- **Business Profile:** Company size, sector (goods/services and industry) and turnover, ownership (UK, EU, non-EU)
- **Trade with the EU:** imports and exports, impacts of tariff changes on EU and non-EU goods
- **Supply chain:** access to and location of customers and suppliers
- **Competitiveness and regulation:** overall impact of regulation and anticipated changes
- **Brexit impacts:** on free movement and employees, investment; access to finance, markets, customers and supply chain; turnover, imports and exports
- **Voting preference:** best outcome for the organisation, Sunderland and the UK economy overall.

We did not question survey respondents on the various economic scenarios as these were generally considered too complicated to explain briefly and business owners would not easily be able to make informed decisions about the differential impacts for their organisations.

Around 200 companies participated, of which 90% had fewer than fifty employees, and a quarter were sole traders. Three quarters were in the service sector (retail, hotels and restaurants, transport, business services, personal services), and a quarter in the production of goods (agriculture, extraction, manufacture etc.) or construction. The service sector companies tended to be smaller, and included many sole traders and micro companies. 60% of the service companies had fewer than five employees, compared with 48% of the goods and construction companies. Turnover ranged from under £10K to over £500M. Almost all the companies were UK-owned (95%); where companies were foreign-owned, EU membership was as common as non-EU ownership.

5.1 Impacts

Businesses were asked to estimate how their employment, turnover, and international trade would change by 2020, if Britain remained in the EU, and how this would change if Britain left. There was no attempt to distinguish between the different Brexit scenarios, because this could have added complexity and deterred responders from completing the survey.

5.1.1 Jobs

A fifth of businesses answering these questions thought their employment would increase by 2020 if Britain stayed in the EU, and ten per cent thought it would decrease. In the case of Brexit, the proportion of businesses expecting to increase employment falls to 18%, with 12% expecting employment to decline in this situation.

5.1.2 Employment costs

More businesses expected their employment costs to rise than to fall in both scenarios. There was a greater tendency to expect employment costs to rise if Britain remained in the EU.

5.1.3 Freedom of movement

Most businesses, particularly smaller businesses, were not worried about their ability to attract skilled workers in the event of a departure from the European Union. This likely reflects the relatively low levels of EU migrants in Sunderland as well as the size of most businesses, and contrasts markedly with the views of larger firms contacted during PACEC's stakeholder consultation.

5.1.4 Turnover

Businesses expected their turnover and revenue to increase in both scenarios, and were more optimistic about turnover increases if Britain stayed in the EU.

5.1.5 Imports and Exports (EU and other)

There was a slight tendency to think that imports from the EU would increase if Britain remained, and a rather stronger tendency to think they would fall if Britain left. There was also a small tendency to think imports from outside the EU would rise if Britain remained, and a smaller tendency to think they would still rise in the case of a Brexit.

Opinions were rather stronger about exports. An eighth of businesses expected exports to the EU to rise by 2020 if Britain remained a member, whereas on balance businesses expected exports to the EU to fall if Britain left.

The majority of companies did not trade internationally. Of those that did, and gave figures, annual export estimates were significantly higher than annual import estimates (£17m, compared with £1m).

Companies tended to say that their customers were predominantly in Sunderland (71%) or the wider North East (73%). 45% had UK customers from outside the North East. 18% said they had customers in the EU and 10% had non-EU customers. Non-EU customers were particularly located in the USA and Canada, China, Russia, Scandinavia, and Africa. EU customers were particularly in the Netherlands, France, Spain, Italy, and Greece.

5.1.6 Location of main suppliers (Sunderland / North East / UK / overseas)

The majority of businesses used UK suppliers. 54% said they used suppliers within Sunderland; 60% said they used suppliers elsewhere in the North East, and 53% used suppliers from the wider UK. A minority had overseas suppliers, with 19% saying they bought from the EU and 9% saying they bought from countries outside the EU. Non-EU suppliers were located in countries including the USA and Canada, China, Pakistan, several African countries, and Japan, Thailand, and South Korea. EU suppliers were predominantly in Germany and France.

5.1.7 Regulatory burden

Companies were asked about the significance of the burden of EU regulations. A fifth of those who expressed an opinion said the burden was very significant, and a fifth said it was significant. Just over a third said it was not very significant, and the remainder (approximately a further quarter) said there was no burden.

Around 40% of companies thought the regulatory burden was increasing, and there was a slight tendency to think the rate of increase was accelerating. However, half the interviewed companies said the level of regulation had stayed constant over the previous twenty years, and around ten per cent thought it was falling.

The CE mark was highlighted as a particular expense, and more generally businesses thought there was too much regulation and too much paperwork, although there was some recognition that controls on areas such as emissions, pollution, and safety were necessary, and some companies welcomed harmonisation of requirements. There was a feeling that Britain implemented regulations in full and was consequently at a disadvantage compared to some other European countries with laxer implementation; Spain, France, the Netherlands, and Germany were mentioned in this context.

Almost half the businesses thought there would be less regulation if Britain left the EU, and almost half thought there would be no change, with a small minority expecting increased regulation. In particular, companies expected more paperwork related to exports to the EU, and there was some scepticism that other regulations would be relaxed.

Two thirds of the companies thought their own competitiveness would be unchanged by leaving the EU. Of those who thought they would be affected, around two fifths thought they would be less competitive after a Brexit, and three fifths thought they would be more competitive. Some expected that decreased regulation would be a bonus, whereas others were afraid of price rises, increased restrictions, and duties on imports and exports.

5.1.8 Intentions to make investments in the UK/EU/other

Two thirds of the businesses said a Brexit would not impact on their investment decisions. A quarter, mainly SMEs, said they would be more likely to invest in their business, and ten per cent said this would be less likely. In particular, uncertainty was given as a reason to reduce investment if Britain left the EU.

5.1.9 Current level and ability to attract inward investment from EU/other

Businesses tended to think that Brexit would make it harder to attract investment from the EU (29%, compared with 8% who thought it would be easier), but would slightly increase their ability to access grants, government assistance, and programmes and funding. There was no strong opinion on the effect on attracting investment from outside the EU.

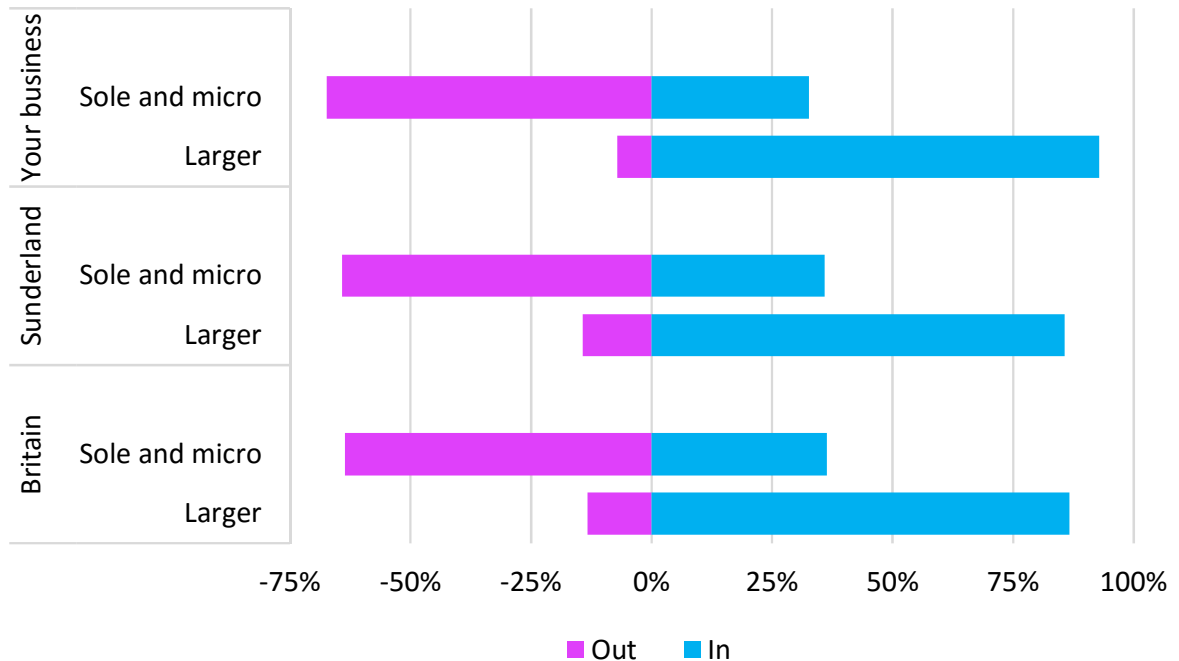
5.1.10 Overall impact

The businesses tended to think that Brexit would have a positive impact on the UK's global competitiveness, the ability of the businesses to participate in non-EU supply chains, and their access to non-EU markets. It would have a mildly negative effect on foreign direct investment levels in the UK, and a strongly negative effect on access to EU markets and the ability to participate in EU supply chains. .

The businesses overall were very finely balanced between Remain and Brexit. However, there was a clear majority of large companies in favour of remaining in the EU, and a clear majority of sole traders and micro businesses in favour of Brexit. Where businesses were asked about the effects

on their own organisation, on Sunderland, and on the UK as a whole, the difference of opinion between large and small businesses was clear in each case.

Figure 5:1: Preferred Referendum Result



Note: Sole traders and micro businesses includes businesses with up to ten employees. Larger businesses include all businesses with more than ten employees. Respondents were asked which they thought would be the best result for their organisation, for Sunderland, and for Britain as a whole.

Source: 2016 Business Survey; PACEC

Several small businesses commented that the EU regimen was designed to benefit large firms and exporters, as well as competitors on the Continent, and that EU single market standards imposed unnecessary costs on firms with no international business.

6 IMPACTS ON SUNDERLAND: STAKEHOLDER PERSPECTIVES

PACEC undertook telephone interviews with major business and local economic stakeholders in Sunderland, including the majority of those on the Economic Leadership Board. Stakeholders were asked about a range of topics in two areas:

- Effects on the City of Sunderland. This included regeneration and redevelopment, devolution, culture and the attractiveness of the city.
- Effects on their own business or area of interest as well as the wider macroeconomic environment. This included discussion of sector risks, currency and exports, labour markets, wages and regulation.

All interviewed stakeholders noted that their organisations were either corporately neutral on the referendum or in favour of remaining within the EU, and a number of parties declined to take part, citing neutrality fears.

A key theme arising from the consultations was dissatisfaction with the level of uncertainty the referendum was creating, and the likely uncertainty that would follow regardless of the outcome. There was a consensus view that Sunderland's economic development and regeneration was fragile and highly vulnerable to changes in investor and business sentiment following any major disruption to the status quo.

6.1 Business impacts

6.1.1 Regulation

Stakeholders had mixed views on the costs and benefits of EU regulations. Some stakeholders complained that EU business regulations were 'gold-plated' or interpreted differently at UK level, with competitors on the Continent either not adhering to them or interpreting them differently.

A number of businesses discussed inhibiting regulation surrounding working time and social issues, and the possible conflict with the UK's traditionally flexible labour market. Some larger employers said the biggest single regulatory issue was wage controls, presently set at UK level.

6.1.2 Access to labour / free movement

Sunderland has witnessed a lower rate of inward migration from Europe compared to other parts of the UK, making it less likely to be affected by changes arising in UK-EU free movement. A number of businesses figures reported that recruitment of low-skill workers from the EU was rare and that there was usually sufficient supply in the local market. However, several companies reported suffering from skilled labour shortages in areas such as high-value manufacturing and IT, with visa restrictions making recruitment of non-EU nationals prohibitively difficult. These shortages could threaten businesses if restrictions on free movement were not compensated by loosening of visa rules for non-EU migrants following a Brexit vote. Some companies also had a presence in multiple European countries, with staff moving freely between the UK and EU market for work and training.

Stakeholders were generally ambivalent about whether restrictions in free movement would impact wages and unemployment, noting that the pressure exerted on labour markets and wages by migration needed to be weighed against the likely benefits.

6.1.3 Supply Chain

Supply chains for some large firms were still heavily dependent on sources outside the North East and the UK. Industrial sectors in Sunderland which perform highly specialised roles in global and European supply chains noted that cost of goods (imported) was greater than labour costs, which accounted for most value added in Sunderland. High ratios of gross to value-added trade between the UK and the EU suggests that British manufacturers are strongly integrated in the European supply chain.¹² Stakeholders were unsure as to whether or not their supply chain would become more competitive in the event of a removal of tariff barriers on non-EU imports.

6.1.4 Investment plans and ability to attract investment

Auto industry

The overriding concern for stakeholders in respect of employment and the Sunderland economy was the prospects the automotive industry in the event of changes in the EU-UK trading relationship.

The automotive manufacturing sector is capital-intensive and strongly dependent on continuous reinvestment for new vehicle models. The BIS automotive strategy *Driving Success* found that the automotive industry had the highest rate of revenue reinvestment in R&D of any sector aside from aerospace, at about six times the UK economy's sector average. Stakeholders noted findings by SSMT which suggests that growth potential in the sector is strongest in the surrounding supply chain rather than in manufacture of finished vehicles. The components sector is expected to demonstrate particularly strong growth in coming years, and could play a key role in increasing local content ratios in line with levels found in other automobile-producing countries such as Germany or Japan.¹³

A recent working paper by Keith Head and Thierry Mayer suggests that UK vehicle production would be impacted in the event that the UK leaves the EU. The worst-case scenario, in which the UK fails to secure tariff-free access, suggests a 12% decline in automotive production across the UK compared to remaining in the EU.¹⁴

Prof. Garel Rhys' report for MAKE it Sunderland, *The Motor Industry in the UK: A Cool Shower of Reality*, suggests that the scale of the Sunderland plant, with over £3.5bn invested, makes it highly unlikely that production will be subject to a wholesale move out of the region in the foreseeable future. Nissan's position is 'not just stable but sustainable for the long term', 'anchored to the UK and highly dependent on its UK facilities for an essential bedrock to its activities in Europe and elsewhere.' The plant's production trajectory will see it become 'one of the world's largest car plant

¹² Global Counsel, 'Brexit: The Impact on the UK of the EU', (June 2015)

¹³ See SMMT, 'The future of UK automotive manufacturing in 2025 and beyond', (October 2015).

¹⁴ K. Head and T. Mayer (2015), 'Brands in Motion: How frictions shape multinational production', part of a project supported by the European Research Council.

complexes' which 'questions the reality of any threat to move Nissan production from the UK.'¹⁵ Though the company have reaffirmed their commitment to the Sunderland plant whatever the outcome of the referendum, stakeholders remained concerned that the scale and extent of future activity could still be affected by major macroeconomic changes or by a protracted period of uncertainty following a vote to leave the EU.

Manufacturing

Stakeholders reported that a high proportion of job-creating investment in the manufacturing sector was from non-EU markets such as Japan and the US.

There are eight major Japanese firms in Sunderland: Nissan UK, Calsonic Kansei, Unipres UK, R-Tek, Sumitomo, Sanoh, MIKing and Vantec Europe. The Japanese ambassador has described the North East as the "second home" of Japanese manufacturing. The two major auto sector investments in the city in 2014/15 were from U.S firms, TRW and Lear Corporation.¹⁶

SME Business base

Sunderland's SME sector serves a regional base of consumers and businesses in the main. Therefore the loss of trade that would be felt by many of the larger export-led companies will be felt throughout the SME community either through reduced consumer spending or supply chain effects. It is doubtful that for many SMEs this indirect loss of income would be fully compensated for by gains in their competitiveness brought about by reduced EU regulation.

6.1.5 Currency

Currency risk was generally seen as less of a threat for large manufacturers and exporters, with a consensus belief that, in the event of a Brexit outcome, the pound sterling would likely depreciate against global currencies for a period of time before stabilising. Sunderland's position as a net exporter would mean possible greater revenues from exported products though likely not large enough to offset increased trade costs on high-tariff manufactured goods such as automobiles.

Some stakeholders anticipated increases in the cost of currency hedging instruments, particularly for smaller businesses, which could result from a prolonged period of volatility or uncertainty in exchange rates following a Brexit shock.

6.2 Sunderland City Impacts

Stakeholders were asked about the implications of the referendum's outcome for the city generally, including its economic development strategy, manufacturing and exports, regeneration and culture, external sources of funding, and the political agenda surrounding devolution.

¹⁵ The Motor Industry in the UK: A Cool Shower of Reality' MAKE it Sunderland (Nov 2014), p.25

¹⁶ UKTI, Inward Investment 2014/15

6.2.1 Economic Development

There was a strong belief among stakeholders that the economic development model outlined in the Strategic Plan and City Deal, with its focus on exported manufactures facilitated by transport upgrades, was strongly dependent on a number of EU-related factors, chief among them access to structural investment funds and the ability to export tariff-free through membership of the EU Customs Union.

Sunderland's economic development model was described by some stakeholders as 'narrow', based strongly on growth in output at Nissan and the neighbouring manufacturing park. Other sectors were considered to be less vulnerable to changes in the UK's trade position, including the city's contact centres and IT firms, utilities providers and finance companies.

6.2.2 Regeneration

EU funding has played a considerable role in financing capital projects and regeneration initiatives in the city, which stakeholders believed was a core part of the city's development model. Funding from the EU was seen by council members as a way to 'unlock' local investment which investors would have not been willing to deploy independently.

Major ERDF capital projects referred to by stakeholders included the North East Business and Innovation Centre, Sunderland Software City, the evolve Business Centre at Rainton Bridge, and the A19 Ultra Low Carbon enterprise zone.

6.2.3 Devolution

The NECA Devolution Agreement would lead to major changes in how development and investment funds are allocated in Sunderland, including control over European Union money. Six local authorities will come together into a combined authority under a mayoralty in 2017, with the new mayor given an annual payment of around £30m from central government as chair of the new authority. These payments will be supplemented by around £500m in structural funds from the EU over the 2014-2020 funding window.

Most stakeholders and representatives within the business community were positive about the opportunity to relocate economic decision-making in line with local priorities. The 2015 EY Attractiveness Survey found that over half of surveyed investors view devolution of economic decision-making positively in the UK. Nevertheless, a key issue for stakeholders was whether the devolution agreement and economic development plan would be credible in the absence of EU structural funds.

6.2.4 Culture

A number of strategic stakeholders pointed to a desire to promote the culture of the city through regeneration, outlined in the *3,6,9 Strategy*. The approach involved match funding of European funding sources with UK sources to recover old civic buildings, such as the police and fire station, and transform them into cultural spaces. The wider goal was to achieve a successful bid for UK City of Culture, and to promote the city, in the words of one stakeholder, as a "vibrant, 21st century European cultural city" capable of transforming itself following a post-industrial depression in the

same manner as Bilbao or Valencia. Regardless of the referendum outcome, there is a desire to ensure the city maintains global visibility and an international outlook.

6.3 University

The main Brexit risks in relation to education relate to the significant relationships and connections the University enjoys through staff and students exchange, research collaboration, recruitment of EU students, and funding from Europe for significant investments that benefit the regional economy. In the absence of known plans for BREXIT there is a possibility that a visa enforced system of recruitment from Europe could lose a significant source of income to the University and local economy. The ability to secure research funding to continue significant projects including, amongst others, advanced manufacturing and engineering innovations, and to continue to access talented academic colleagues from Europe may also be affected. Significant European funding is expected to support the Enterprise and Innovation Hub, the graduate internship programme placing graduates in SME businesses and the plans to develop new facilities (both research and educational) in support of the IAMP.

7 SCENARIO ANALYSIS: ECONOMIC MODELLING

Predicting the precise economic effects on the UK economy or the local economy of Sunderland is difficult because there is no clear policy for what will happen in the event of either leaving or staying in the EU. We can, however, use reasonable economic assumptions and predict the economic impact under different policy scenarios for Brexit at UK and local levels. PACEC partnered with Swati Dhingra of the London School of Economics to develop and model a range of plausible scenarios for Sunderland, building on research undertaken previously for the UK government by the LSE's Centre for Economic Performance.¹⁷ The approach utilises a gravity trade model adapted to the target area (Sunderland), with an employment elasticity of income function utilised to measure employment impacts.

7.1 Trade between the UK and the EU

Membership of the EU has reduced trade costs between the UK and the EU through the removal of tariff barriers and through reductions in non-tariff barriers as part of the European Single Market. Reductions in trade barriers have increased trade between the UK and the EU. Prior to the UK joining the European Economic Community (EEC) in 1973, around one third of UK trade was with the EEC. In 2014, the 27 other EU members accounted for 45% of the UK's exports and 53% of UK imports. EU exports comprise 13% of UK national income.

Higher trade benefits consumers through lower prices and access to better goods and services. At the same time, the UK's workers and businesses benefit from new export opportunities that lead to higher sales and profits and allow the UK to specialise in industries in which it has a comparative advantage. Through these channels, increased trade raises output, incomes and living standards in the UK.

7.2 Structural Brexit Model

To estimate the effect of Brexit on the UK's trade and living standards, Dhingra et al. (2016) directly model the effects of leaving the EU on the United Kingdom's (UK) economy. They use a structural gravity trade model to estimate how leaving the EU would impact the revenues of each sector of the UK economy under different scenarios for Brexit. Their quantitative trade model of the global economy is based on the state-of-art analysis in Costinot and Rodriguez-Clare (2013). The model divides the world into 35 sectors and 31 regions. It allows for trade in both intermediate inputs (i.e. business-to-business supply chain purchases) and final output in both goods and services. The model takes into account the effects of Brexit on the UK's trade with the EU and the UK's trade with the rest of the world.

To forecast the consequences of the UK leaving the EU, the Dhingra et al. model make assumptions about how trade costs change following Brexit. It is not known exactly how the UK's relations with

¹⁷ Analysis undertaken by researchers at the Centre for Economic Performance, London School of Economics. See S. Dhingra et al (2016) 'The Costs and Benefits of Leaving the EU: Trade Effects', See also S. Dhingra et al (2016) 'The Consequences of Brexit for UK Trade and Living Standards' and S. Dhingra et al (2016) 'The Impact of Brexit on Foreign Investment in the UK'

the EU would change following Brexit, so two main scenarios are examined here: a Norway-style scenario in which the increase in trade costs between the UK and the EU is small, and a World Trade Organization (WTO) type scenario with a larger rise in trade costs. These are compelling scenarios because in the event of a Brexit, it is likely that the expected outcomes for UK's international trade would be somewhere between these two scenarios, depending on how integrated the UK continues to be with the EU.

Brexit scenarios

1. **Norway option:** small increase in trade costs. The UK has access to the Single Market but small increases in non-tariff barriers.
2. **WTO option:** the UK reverts to World Trade Organisation default tariffs and increases in non-tariff barriers with the EU.

It is expected that in the event of Brexit that the UK would retain access to European markets for the majority of goods and services, though it may face some new barriers. Non-EU members such as Iceland and Norway enjoy market access through the EEA, and Turkey is a member of the EU customs union. The EU runs a large external trade surplus with the United Kingdom at prices protected by the external tariff, providing a strong incentive for European exporters to secure access to the UK market post-Brexit.

The Norway scenario assumes that in a post-Brexit world, the UK's trade relations with the EU are similar to those currently enjoyed by Norway. As a member of the European Economic Area (EEA), Norway has access to the Single Market. But because Norway is not a member of the EU's customs union it faces some non-tariff barriers that do not apply to EU members, such as rules of origin requirements and anti-dumping duties. In the WTO scenario, the UK is not successful in negotiating a new trade agreement with the EU and, therefore, trade between the UK and the EU following Brexit is governed by WTO rules. This implies larger increases in trade costs than the Norway scenario.

Under both scenarios, the model takes a forward looking view. It assumes that European integration will continue over the next decade and therefore the UK will benefit less from this if it leaves the EU. The WTO scenario assumes this integration remains at the same rate achieved over the last 40 years, the Norway scenario is that the speed of integration falls to half its historical rate.

Increases in trade costs between the UK and the EU following Brexit can be divided into three parts:

- higher tariffs on imports;
- higher non-tariff barriers to trade (arising from different regulations, border controls, etc.); and
- the UK may not participate in future steps that the EU takes towards deeper integration and the reduction of non-tariff barriers within the EU.

In the Norway scenario, the UK and the EU continue to enjoy a free trade agreement and Brexit does not lead to any change in tariff barriers. In the WTO scenario where trade is governed by WTO rules, MFN tariffs are imposed on UK-EU goods trade.

Regarding non-tariff barriers, in the Norway scenario, UK-EU trade is subject to one quarter of the reducible non-tariff barriers that are observed in trade between the United States and the EU. In the WTO scenario, we assume a larger increase of three quarters of reducible non-tariff barriers.¹⁸

Finally, trade costs between countries within the EU have been declining approximately 40% faster than trade costs between other OECD countries (Méjean and Schwellnus, 2009). In the event of Brexit, the UK would not benefit from any future reductions in intra-EU trade costs.

In the Norway scenario, in the ten years following Brexit, intra-EU trade costs fall 20% faster than in the rest of the world, while in the WTO scenario, we assume intra-EU trade costs continue to fall 40% faster than in the rest of the world. This implies that in the Norway case, non-tariff barriers within the EU fall 5.7% over the next decade, while in the WTO case they fall by 12.8%.¹⁹

7.3 Structural Brexit Estimates

We start with summarising the nationwide estimates for the impact on GDP and then explain how the sector-specific estimates are used to provide projections for the impact of Brexit on the Sunderland economy.

Table 7.1 summarises the results for the percentage change in income per capita for the entire UK economy. In the Norway scenario, there is an overall fall in income of 1.28% that is largely driven by current and future changes in non-tariff barriers. Non-tariff barriers play a particularly important role in restricting trade in services, an area where the UK is a major exporter. In the WTO scenario, the overall loss increases to 2.61%. In cash terms Brexit reduces average income per household in the UK by £850 per year in the Norway scenario and £1,700 per year in the WTO scenario.

Table 7.1: The effects of Brexit on UK living standards

	Norway	WTO
Trade effects	-1.37%	-2.92%
Total change in income per capita	-1.28%	-2.61%

Source: Dhingra et al. 2016a.

Notes: Norway scenario: Increase in EU/UK Non-Tariff Barriers (+2%) + exclusion from future fall in NTB within EU (-5.7%). WTO scenario: MFN Tariff + increase in EU/UK Non-Tariff Barriers (+6%) + exclusion from future fall in NTB within EU (-12.8%).

¹⁸ These assumptions imply a non-tariff barrier increase of 2.0% in the Norway scenario and 6.0% in the WTO scenario.

¹⁹ See Dhingra et al (2016) for a complete explanation of how these changes are calculated.

Dhingra et al (2016) use a multi-sector model to estimate the impacts of Brexit, taking into account the interconnections between different sectors through the use of data on intermediate inputs (supply chain effects) from each sector. This provides estimates of how the size (measured by revenue) of each sector in the UK economy changes under the Norway and WTO scenarios for Brexit. The set of estimates that we provide in this section assume that the change in the revenue generated in each sector due to Brexit is the same for the UK economy and the Sunderland economy (Change in GVA of a sector for the UK economy = Change in GVA of the sector for the Sunderland economy).

The total change in the Sunderland economy can be computed as a weighted sum of the changes in revenues generated in each sector after Brexit, where the weight assigned to each sector is the average share of the sector in Sunderland's Gross Value Added (GVA) between 2011 to 2013. We take an average share of GVA for each sector to obtain estimates that are more robust to yearly fluctuations.

To project how employment in Sunderland changes after Brexit, we assume that the number of jobs created in each sector is proportional to the GVA of that sector:²⁰. We make this assumption because of the lack of sector-specific employment elasticities of incomes. Then we can compute the total change in employment due to Brexit as the weighted sum of the change in GVA across all sectors, where the weight assigned to each sector is its share in Sunderland's total employment. We take the weight as the average share of the sector in Sunderland's employment between 2011 and 2013.

Table 7.2 summarizes our results for how Sunderland's GVA would change following Brexit. Sunderland's GVA would fall between 1.68% and 2.51%, which amounts to a GVA loss of £87 million to £130 million, because of the increase in tariff and non-tariff barriers with the EU. For instance, in the WTO scenario, car exports to the EU would not be duty-free, and would instead incur an 8% "most favoured nation" (MFN) tariff. In the Norway scenario, tariffs for shipping cars to the EU would continue to be zero. But under both scenarios, the Nissan plant in Sunderland would need to incur some non-tariff barriers such as rules of origin where the firms must prove that the car components were largely made at the plant, and not imported from non-EU countries to circumvent tariffs imposed on these non-EU countries. The loss in jobs is calculated as 1.50% to 2.18%, which amounts to around 1,841 (Norway scenario) to 2,665 jobs (WTO scenario) lost in the local Sunderland economy.

²⁰ $Jobs_{sector} = \alpha_{sector} \cdot GVA_{sector}$ for a set of GVA/job ratios α_{sector}

Table 7.2: The effects of Brexit on Sunderland GVA and Employment following Brexit

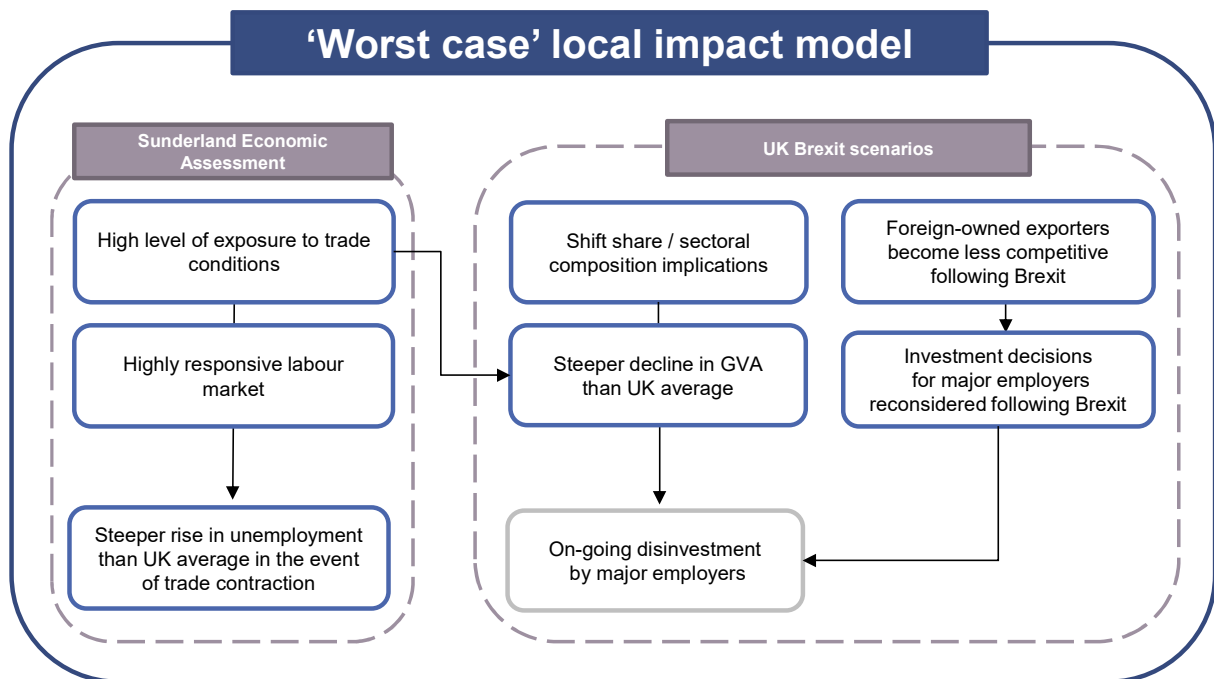
Effect in Sunderland:	Norway	WTO
GVA effects (%)	-1.68%	-2.51%
Employment effects (%)	-1.50%	-2.18%
GVA effects (£ million)	-87	-130
Employment effects (number of jobs in '000s)	-1841 (-1.5%)	-2665 (-2.18%)

Source: GVA change estimates from Dhingra et al. 2016a.

Notes: Norway scenario: Increase in EU/UK Non-Tariff Barriers (+2%) + exclusion from future fall in NTB within EU (-5.7%). WTO scenario: MFN Tariff + increase in EU/UK Non-Tariff Barriers (+6%) + exclusion from future fall in NTB within EU (-12.8%).

The employment impacts of a Brexit may take time to feed through to the local economy as companies "hoard" labour and/or reduce working hours in response to an economic shock; for example, in the recent recession caused by the international financial crisis of 2007/8, UK employment dropped less rapidly than output (and then recovered less strongly until a year of unprecedented employment growth in 2014). As a result, the economy may be 1.68% to 2.51% less productive in the short term, and support 1.50% to 2.18% less employment in the short-to-medium term. However, the labour hoarding effect has historically been weaker in Sunderland, and could contribute to a sharper and faster contraction in a worst case scenario (see Figure 7.3).

Figure 7.3: Long-term impact of Brexit on employment in Sunderland – worst case model



The structural model focuses on trade in goods and services, but does not account for other factors such as foreign investments which are also expected to fall after Brexit (Dhingra et al. 2016c). A simple way of accounting for these other channels is through the reduced-form estimates found in Dhingra et al. (2016b). They estimate that leaving the EU to join the European Free Trade Agreement would reduce incomes in the UK by 6.3 to 9.5%. As these losses are 2.4 to 3.6 times greater than the static losses from trade in the structural model, a face value calculation would suggest that the fall in GVA from Table 7.2 could be at least 2.4 times bigger, between -4.03% and -6.02%.

7.4 Conclusions

The economic consequences of leaving the EU will ultimately depend on a combination of changes in the terms of trade and the policy regimen that the UK adopts following Brexit. The model suggests lower trade due to reduced integration with EU countries is likely to cost the Sunderland economy somewhere between -1.7% to -2.5% of GVA every year after Brexit. This translates into an employment effect of around 1,840 to 2,665 jobs lost, under the assumption of a constant sectoral employment elasticity with respect to sectoral revenue.

8 CONCLUSIONS

8.1 Scenarios for Sunderland

Our Brexit scenario analysis suggests the Sunderland economy would suffer a -1.68% contraction in GVA and a -1.50% fall in employment under the Norway option (single market access with non-tariff barriers). Under the WTO scenario, there would be a contraction of -2.51% in GVA and a -2.18% fall in employment. This would translate into job losses of between 1,840 and 2,665 jobs under the assumption of a constant sectoral employment elasticity with respect to sectoral revenue. In reality, the potential for employment losses is far greater due to the unique role of large foreign employers and their dependent supply chains as well as the city's exposure to international trade.

8.2 Conclusions

Our research with businesses and stakeholders found two overriding themes in respect of Sunderland and the consequences of the EU in/out referendum:

- Sunderland has benefited from considerable EU structural investment funding through both ERDF, ESF and various trans-national projects which have supported enterprise and SME growth, enhancing and exploiting innovation, promoting sustainable development and improving employment and skills levels. These investments from European funding have played a key role in the city's economic development and supported the wider agenda of Sunderland's regeneration. It is not clear that substitute funds would be made available for the city in the event that the UK leaves the EU.
- Large employers in Sunderland, particularly in the automobile and manufacturing sector, are highly dependent on trade with the Continent. The worst-case scenario of Britain leaving the EU and not securing favourable market access could result in a serious loss in competitiveness which would create substantial ongoing investment risks over the long term

PACEC's research yielded a wide range of findings across key thematic areas:

- **Inward investment:** The city economy is highly dependent on decision-making by foreign employers for both investment and reinvestment, making Sunderland open to new investment, but also vulnerable to disinvestment risks resulting from a change in the business environment or terms of trade. Losses in investment in Sunderland would be felt more strongly than in the UK as a whole due to the high concentration of foreign investment already in the city aimed at serving an EU market. In a worst case scenario, this could lead to disinvestment by major employers over a number of years. The city's historic labour market flexibility (tendency to shed labour quickly during recessions) could exacerbate this effect. Large employers also warned of the likely impacts of currency volatility on long term investment.
- **Automobile sector:** Nissan has outlined a commitment to Sunderland and the likelihood that the company ceases operations in the city altogether is considered to be low. However, a vote to leave the EU may impact the competitiveness of the Sunderland plant relative to those in other jurisdictions, constraining its ability to compete within the group for production of new models in the future. Any decline in jobs resulting from a fall in output or a failure to develop the plant would be felt indirectly in the local economy through lower spending and through a cascade effect on employment in the wider automotive supply chain.

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- **Impact on Businesses:** Our survey found major differences of opinion between large and small businesses on the impacts and the desirability of remaining in the EU. High-turnover businesses, large employers and exporters as well as those with regular foreign currency dealings were more inclined to remain within the EU, whereas sole traders and small employers were much more likely to favour a vote to leave, both from the perspective of their businesses and for the city. For larger organisation, access to the supply chains and markets within the Single Market were overriding concerns; small businesses meanwhile were more concerned about by the impacts of European regulation.
 - **Status of the City:** The city has benefited from its global standing both within and outside the EU, and is developing a reputation for excellence in high-value manufacturing and high productivity automobile production. The city has a number of globally visible international assets, including the University of Sunderland and Sunderland A.F.C which continue to build links with partners around the world. Stakeholders consulted by PACEC felt that the city benefited strongly from European structural funding to support its improvement programme and economic agenda outlined in the 3,6,9 Vision.
 - **Economic Strategy and Regeneration:** The city's economic development model is focused strongly on export-led growth supported by strategic transport and infrastructure improvements. The approach depends both on EU funding and access to EU markets. A key concern for the Economic Leadership Board is the extent of impact on this overall strategy arising from changes in the UK's relationship with the EU.

APPENDIX 1

ANNEX: Treasury Forecasts

While PACEC's research was under way, the Treasury undertook a forecasting study to model the possible long-term impacts of Brexit on GDP. The paper employed the following scenarios, which include a third 'out' scenario (bilateral agreement):

Treasury scenarios

1. **Norway option:** membership of the EEA (like Norway).
2. **WTO option:** membership without any form of agreement with the EU (e.g. Brazil, Russia).
3. **Negotiated bilateral agreement:** such as that between the EU and Switzerland, Turkey or Canada.

The Treasury's forecasts find that, in all three scenarios, the UK would record declines in GDP performance over the long term (forecast to 2031). The model differs from the static trade model presented here, in that timescales are fixed to 15 years after Brexit (2031).

It is clear that the national impact of a bi-lateral agreement lies somewhere between the two scenarios described in this report (Norway and WTO).

Table A1: Annual economic impact of Brexit, Treasury forecasts

Annual impact of leaving EU after 15 years (2031) compared to remaining			
	EEA / Norway option	Negotiated bilateral agreement	WTO option
GDP level (central)	-3.8%	-6.2%	-7.5%
GDP per capita (central)	-£1,100	-£1,800	-£2,100
GDP per household (central)	-£2,600	-£4,300	-£5,200
Net receipts impact	-£20bn	-£36bn	-£45bn

Source: HM Treasury, 'The long-term economic impact of EU membership and the alternatives', (April 2016)

ANNEX: Economists for Brexit forecasts

A team of economists led by Gerard Lyons, Roger Bootle and Prof. Patrick Minford have produced alternative 'Brexit' scenarios which assume benefits to the UK economy from the removal of EEA regulations and external tariffs, as well as net gains to the public accounts and current account from a repatriated EU budget contribution.

Prof. Minford utilises the Liverpool Model, which takes current economic forecasts for the UK with adjustments for Brexit. High-cost EU regulations are removed and received as direct improvements in national insurance. The common external tariff is removed, altering the prices of imported goods. The model does not assume that the UK achieves a favourable trade deal with the EU.

Minford's model suggests that the UK economy will 'normalise' in macroeconomic terms – higher economic growth and improvements in the current account deficit – whilst the sectoral mix sees a return to areas in which the UK is perceived to have a comparative advantage, away from EU-favoured industries.

The implications for Sunderland under this model would be mixed. Minford has suggested that automotive manufacturing, as a sector favoured by the current EU regimen, would be worse off. The weaker pound predicted in the model could offset some of the costs imposed by increases in EU tariffs on finished vehicles, if any arise. Post-Brexit macroeconomic conditions would generally benefit consumers in Sunderland through higher incomes and reductions in consumer prices arising from a removal of the common external tariff.

Table A2: UK economic forecasts adjusted for Brexit

UK Brexit forecasts (Liverpool Model)							
	2014	2015	2016	2017	2018	2019	2020
GDP Growth (pre-Brexit)	2.9%	2.2%	2.3%	2.4%	2.5%	2.5%	2.5%
GDP Growth (post-Brexit)	2.9%	2.2%	2.3%	2.7%	2.7%	2.8%	3.4%
Difference (Brexit impact)	0	0	0	+0.3	+0.2	+0.3	+0.9
Wage Growth (pre-Brexit)	1.2%	2.7%	3.2%	2.9%	3.0%	2.5%	2.9%
Wage Growth (post-Brexit)	1.2%	2.7%	3.2%	3.5%	4.5%	3.1%	3.4%
Difference (Brexit impact)	0	0	0	+1.6	+1.5	+0.6	+0.5
Unemployment (pre-Brexit) (millions)	1.1m	0.9m	0.8m	0.8m	0.7m	0.7m	0.7m
Unemployment (post-Brexit)	1.1m	0.9m	0.8m	0.8m	0.7m	0.7m	0.7m
Difference (Brexit impact)	0	0	0	0	0	0	0
Exchange rate (pre-Brexit)	87.1	91.6	90.4	90.5	90.1	91.8	91.3
Exchange rate (post-Brexit)	87.1	91.6	89.8	88.2	86.8	87.4	86.1
Difference (Brexit impact)	0	0	-0.6	-2.3	-3.3	-4.4	-5.2

Source: Minford et al (2015). Unemployment calculated as UK wholly unemployment excluding school leavers. Exchange rate calculated as Sterling effective exchange rate, Bank of England Index (2005 = 100)

ANNEX: Section 7 references

Our scenario analysis in section 7 builds on research undertaken by Dhingra et al on trade economics and the possible impacts of Brexit:

Costinot, A., and A. Rodriguez-Clare (2013) '*Trade Theory with Numbers: Quantifying the Consequences of Globalization*', CEPR Discussion Paper 9398.

Dhingra, S., H. Huang, G. Ottaviano, J.P. Pessoa, T. Sampson and J. Van Reenen (2016a) '*The Costs and Benefits of Leaving the EU: Trade Effects*', Centre for Economic Performance Technical Report.

Dhingra, S., G. Ottaviano, T. Sampson and J. Van Reenen (2016b) '*The Consequences of Brexit for UK Trade and Living Standards*', Centre for Economic Performance Brexit Analysis 02.

Dhingra, S., G. Ottaviano, T. Sampson and J. Van Reenen (2016c) '*The Impact of Brexit on Foreign Investment in the UK*', Centre for Economic Performance Brexit Analysis 03.

Mejean, I. and Schwellnus, J. (2009) '*Price Convergence in the European Union: Within Firms or Composition of Firms?*' Working Paper HAL.