Inward investment and productivity across sectors within the WMCA

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Executive Summary

This paper was prepared by Warwick Business School in response to requests from both The West Midlands Growth Company and the Productivity and Skills Commission for some analysis of a sector-based approach to attracting inward investment, and the contribution that inward investment can make to productivity and economic development more generally in the region.

The West Midlands Growth Company (WMGC) is the organisation charged with developing an inward investment strategy and for delivering on inward investment. Clearly however LEPS have a role to play. One theme of our analysis is to help understand how an inward investment strategy fits alongside other issues, such as skills, job creation more generally to improve both productivity and living standards.

We have therefore examined the sectors, not in terms of "where can we attract the most inward investment " but by seeking to answer the question "which sectors gain most from inward investment" in terms of their ability to assimilate knowledge transfer, and where the returns in terms of new jobs are likely to be greatest.

We essentially find that the sectors that form the basis of the WM Growth Company strategy are the right ones, and have sought to highlight a key distinction which is common in any smart specialisation approach. This is that the *sectors in which inward investment is most likely to generate new employment are often not the same sectors that can attract frontier technology, or generate the greatest gains in terms of productivity growth*. However the combination of sectors in the WM Growth Company strategy provide a good mix.

We therefore make the following suggestions:

1. Develop an inward investment strategy through greater understanding of why firms seek to invest in the region.
2. Focus inward investment efforts on sectors where free trade with the EU is less important.
3. Maximise the returns on inward investment.
4. When selecting key sectors for inward investment, focus on job creation as well as value added
5. Focus on job quality rather than just the number of jobs created

The analysis that underpins these suggestions is included in the main body of the report.

"This work was funded by Warwick University and the ESRC under an ESRC Impact Accelerator Award"

Introduction

The purpose of this is to explore the nature of FDI that comes into the WMCA region, and in turn to examine the priority sectors that Marketing Birmingham focussed on in their role for Birmingham, as the Growth Company moves to a wider remit for the WMCA area. In doing this, we have sought to build on existing analysis that exists within the region, in the context of the sectors more likely to bear fruit in terms of seeking to attract inward investment. It should be stressed that this work was funded solely by Warwick University, in its desire to support the development of the growth company, in indeed help contribute to thinking around economic development more generally.

Our Approach

The purpose of this is to combine the approach that was previously used for Marketing Birmingham on inward investment into the Birmingham region by sector, with some further insights on productivity and skills, while expanding the analysis to the WM region. We draw on similar analysis carried out for other locations, both in the UK and elsewhere, as well as on our more academic work that seeks to link inward investment and productivity. We also to an extent build on the work carried out as part of the Greater Birmingham Project, though of course much of this covered only the GBSLEP geography.

We therefore proceed in a number of stages.

(i) The first to simply present the FDI data for the region, and to then analysis this in terms of sector. For comparability here we use the approach from an earlier report for (then) marketing Birmingham, exploring differences between sectors in terms of growth, and importance to the local economy.

(ii) We then overlay that with analysis of reported skills shortages across the WMCA region, and offer some comparison between regions. The purpose of this analysis is not to compare the WMCA region with other parts of the UK, as that analysis already exists, rather we seek to help the development of thinking around the sectors on which the WMCA may wish to focus on in terms of attracting inward investment, in terms of maximising the benefits to the region.

(iii) We also seek to employ the insights from our academic work, and the work done for the Manchester city region, which highlights a key finding. This is that, while inward investment is associated with technology transfer from the home country, leading to innovation and productivity growth, and also with employment creation, with few exceptions an individual sector will generate one or the other[1].

[1] Driffield, N.L. and Taylor, K. (2000) 'FDI and the labour market: A review of the evidence and policy implications.' Oxford Review of Economic Policy, Vol. 16(3) pp. 90-103.
Driffield, N.L Love, JH and Taylor, K. (2009)Productivity and Labour Demand Effects of Inward and Outward FDI on UK Industry. Manchester School, vol 77(2) pp. 171-203.
Becker, B. Driffield, N. Lancheros, S & Love, J. FDI in hot labour markets: a cross country analysis.
Driffield, N., Love, J. H., & Yang, Y. (2016). Reverse international knowledge transfer in the MNE:(Where) does affiliate performance boost parent performance?. Research Policy, 45(2), 491-506.

The challenge to policy makers is to identify this distinction, and to match this to local needs. We find significant success in this regard locally.

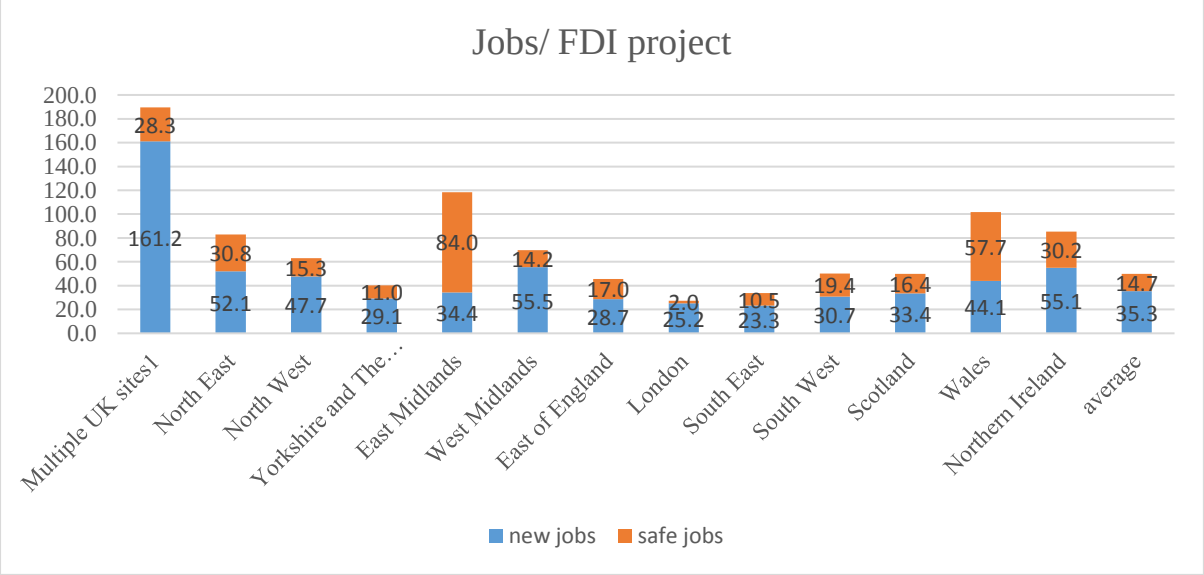
Inward investment in the WMCA region compared with other regions of the UK

Table 1. Inward investment by employment across the UK

Region	FDI Projects		New Jobs		Safe Jobs		Total Jobs	
	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17
Multiple UK sites1	43	56	7,054	8,907	1,100	1,702	8,154	10,609
North East	77	69	2,991	4,609	1,742	2,761	4,733	7,370
North West	151	147	7,715	6,501	1,392	3,178	9,107	9,679
Yorkshire and The Humber	104	132	2,992	3,872	1,522	1,079	4,514	4,951
East Midlands	85	74	3,678	1,796	9,879	3,477	13,557	5,273
West Midlands	168	151	11,119	6,570	2,813	1,723	13,932	8,293
East of England	116	125	3,280	3,634	2,803	1,288	6,083	4,922
London	889	891	24,191	20,753	3,111	488	27,302	21,241
South East	253	217	5,507	5,432	3,003	1,940	8,510	7,372
South West	89	101	2,434	3,402	1,622	2,071	4,056	5,473
Scotland	108	183	4,178	5,547	1,727	3,050	5,905	8,597
Wales	97	85	5,443	2,581	1,534	8,965	6,977	11,546
Northern Ireland	33	34	2,068	1,622	1,076	950	3,144	2,572

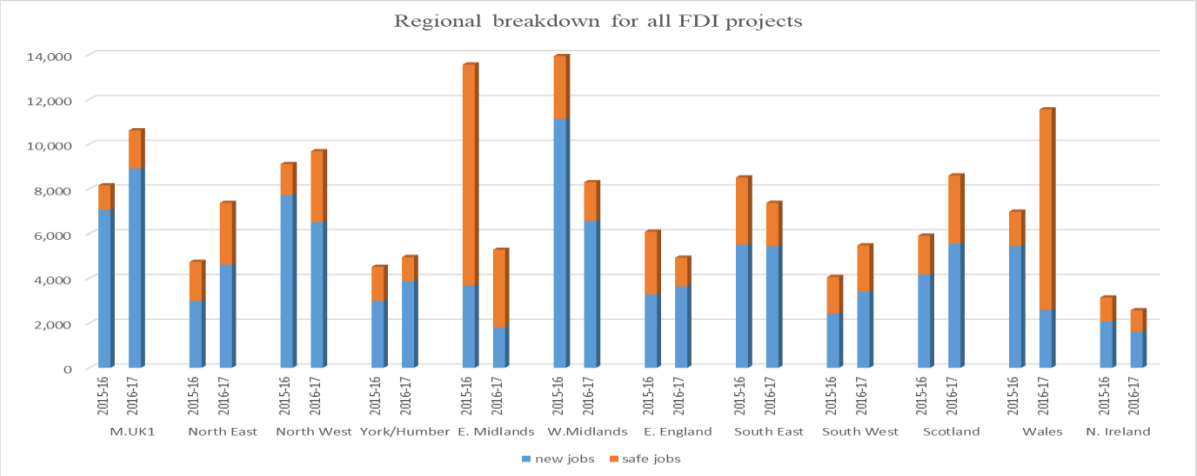
Source: IBM-PLI GLT database, 2017

Figure 1. Inward employment per a project across the UK



Source: IBM-PLI GLT database, 2017

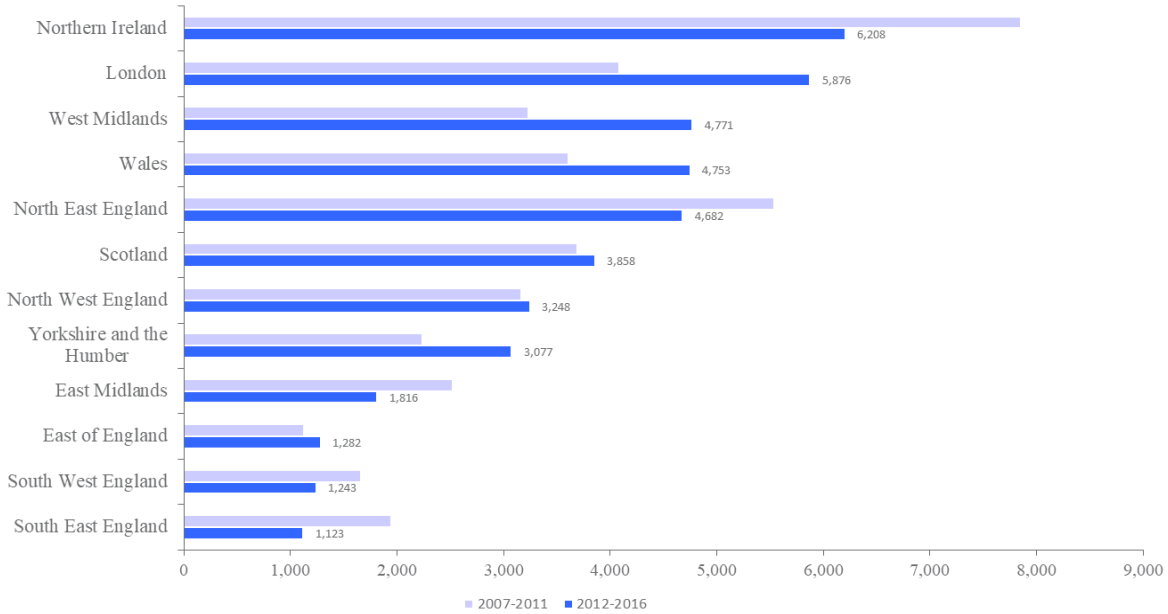
Figure 2. Inward investment by employment across the UK excluding London



Source: IBM-PLI GLT database, 2017

Table 1 and figures 1 and 2 offer comparisons with other regions of the UK. These show that the region has done the best for new jobs outside London. Safe guarding of jobs in the region through inward investment is lower than elsewhere, due to perhaps starting from a lower base, and successful inward investors in the region expanding rather than standing still.

Figure 3.Jobs created per million inhabitants by foreign investment in the UK, by destination region (2007 – 2016)



Source: IBM-PLI GLT database, 2017
Note: excludes states with less than 1 million population

The West Midlands also compares well in terms of inward investment per head of population, bring significantly larger than the other regions apart from London with similar values.

The data for our analysis

The data on inward investment was provided by (then) Marketing Birmingham and The Black Country Consortium. They are an extension of the well known *FDI markets* data, while the sectoral data on productivity and growth comes from ONS, and the skills data from the national skills survey.

Our analysis covers the period 2011-2015, during which there were 549 inward investment projects in the region. Our analysis covers 41 sectors, and there are 45 source countries[2].

In raw terms, table 2 presents the data for the WMCA LEPs, and also some of the nearest neighbours.

Table 2. Inward investment by employment across the west midlands

	Black Country	Coventry & Warwick	Greater Bham & Solihull
No. of Jobs	2,565	11,405	33,830
%	5.37%	23.86%	70.77%

Not surprisingly this is dominated by the GBSLEP region, but what is noticeable is the low percentage that occurs in the Black Country, accounting for only 5.4% of the inward investment (in terms of employment), that comes into the "3 LEP" region.

The distribution across sectors paints an equally familiar story. Not surprisingly this is dominated by advanced engineering, across motor vehicles and transport, and electronic equipment. Basic metals still attract a degree of inward investment, as do food and drink, and more recently, financial services, a trend that looks set to continue.

This offers an interesting commentary on the contribution that inward investment makes to productivity locally. If one takes as a benchmark that foreign firms have on average 15-20% higher productivity than local firms[3], and that a high proportion of inward investment for the WMCA region is in sectors with above average productivity, then this indicates the

[2] Asian pacific (17 countries): Australia, Bahrain, Brunei Darussalam, China, Hong Kong ROC, India, Japan, Kuwait, Malaysia, New Zealand, Pakistan, Qatar, Singapore, South Africa, South Korea, Taiwan ROC, Thailand, United Arab Emirates. Europe (22 countries): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Luxembourg, Monaco, Netherlands, Norway, Portugal, Romania, Russia, Spain, Sweden, Switzerland, Turkey. North America (6 countries): Bermuda, British Virgin Islands, Canada, Cayman Islands, Mexico, USA (30 states)

[3] Clearly these estimates vary depending on whether one uses labour productivity or total factor productivity, the extent to which one controls for factors such as age and size, and for sectoral differences, but the essential result has been found to be robust over a long period of time and a wide range of studies.

importance that attracting and retaining inward investment has for the local economy. Such sectors are also above average in terms of innovation, capital intensity and spending on R&D.

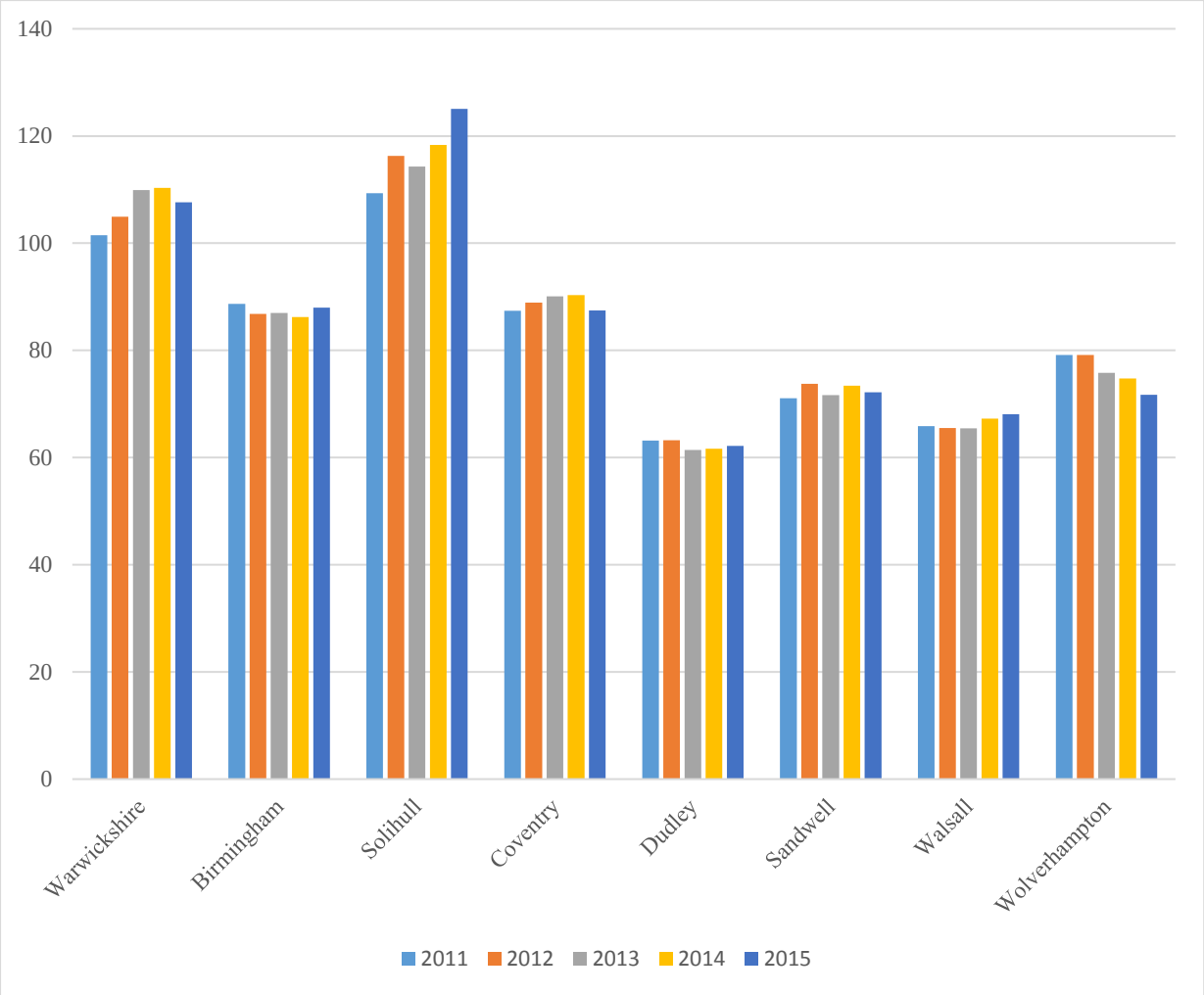
Table 3. Inward investment across Industrial sectors

Industry sector	**SIC 03 code**	**2011**	**2012**	**2013**	**2014**	**2015**	**total**	%
Mining	10	0	0	0	0	2	2	0.00%
Food, drink & tobacco	**15,16**	**1,347**	**469**	**1,080**	**668**	**168**	**3,732**	**6.63%**
Textile & wearing apparel	17,18	480	0	37	0	7	524	0.93%
Wood & paper	20,21	0	17	0	25	1	43	0.08%
Chemical	24	0	58	141	0	20	219	0.39%
Rubbers& plastics	25	126	198	5	0	20	349	0.62%
Non-metalic mineral products	26	0	256	0	120	56	432	0.77%
Basic metal	**27**	**45**	**820**	**10**	**18**	**334**	**1,227**	**2.18%**
Fabricated metal	28	10	107	54	318	19	508	0.90%
Machinary & equipment	29	229	317	163	578	185	1,472	2.62%
Office machinary	30	0	0	4	0	0	4	0.01%
Electronic machinary	**31**	**1,539**	**377**	**476**	**74**	**1,170**	**3,636**	**6.46%**
Medical apparatus	33	5	0	59	35	5	104	0.18%
Motor vehicles	**34**	**3,618**	**3,801**	**4,113**	**7,459**	**3,515**	**22,506**	**40.01%**
other transports	**35**	**1,768**	**2**	**30**	**533**	**9**	**2,342**	**4.16%**
Furniture & other manufacture	36	0	274	221	21	91	607	1.08%
Recycling	37	130	40	6	10	0	186	0.33%
Energy	40	25	45	1,102	0	7	1,179	2.10%
Water collection/treatment	41	0	0	0	0	3	3	0.01%
Construction	45	32	700	0	0	1	733	1.30%
Wholesale & retail trade	**50,51,52**	**1,007**	**80**	**165**	**829**	**164**	**2,245**	**3.99%**
Hotel & accommodation	55	0	569	0	74	243	886	1.57%

transport & logistics	60,62,63	20	216	230	323	200	989	1.76%
Post & telecommunication	64	310	1,620	158	588	196	2,872	5.11%
Financial services	**65,66,67**	**191**	**12**	**433**	**150**	**1,112**	**1,898**	**3.37%**
Real estate	70	0	0	0	0	4	4	0.01%
Rental & leasing activities	71	0	0	20	5	0	25	0.04%
Computer & related activities	72	178	471	867	41	827	2,384	4.24%
R&D	73	0	1	0	5	0	6	0.01%
Other business services	74	111	743	1,281	658	370	3,163	5.62%
Education	80	0	30	0	3	0	33	0.06%
Health & social care	85	0	30	336	1	7	374	0.66%
Leisure and entertainment	92	0	0	100	319	1,150	1,569	2.79%
Total		11,171	11,253	11,091	12,855	9,886	56,256	100%

For completeness, we present some basic productivity data for the local economy in figure 4.

Figure 4. WM GVA per head in NUTS 3 areas, 2011-2015

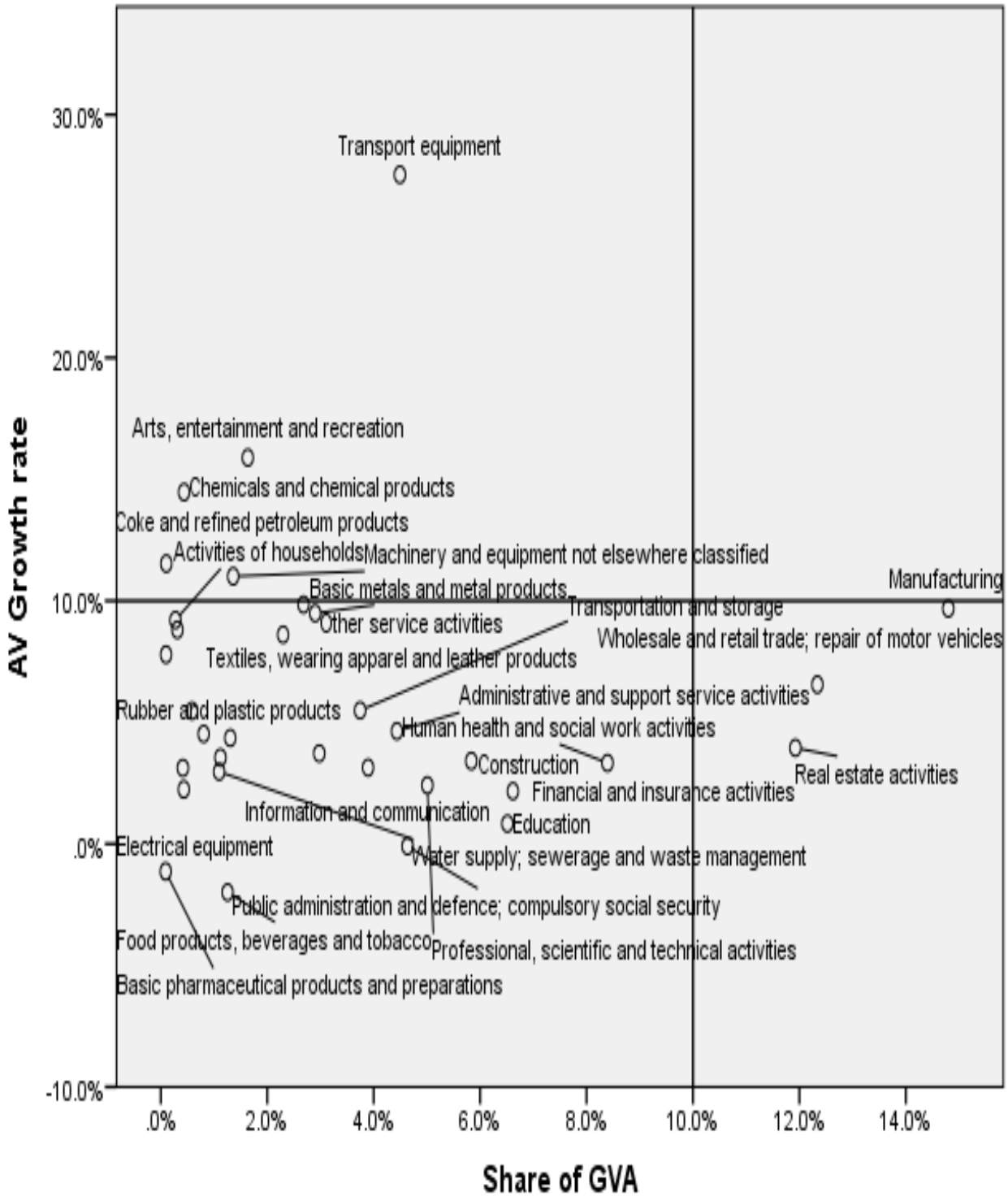


(Index where UK=100)
Source: calculated from ONS, UK regional gross value added (GVA), income approach, table 2

Solihull and Warwickshire are the only areas of the WMCA region to have productivity above the UK average, and both have high concentrations of inward investment, particularly in advanced manufacturing. This also illustrates that inward investors in Birmingham are a long way ahead of many local firms in terms of productivity.

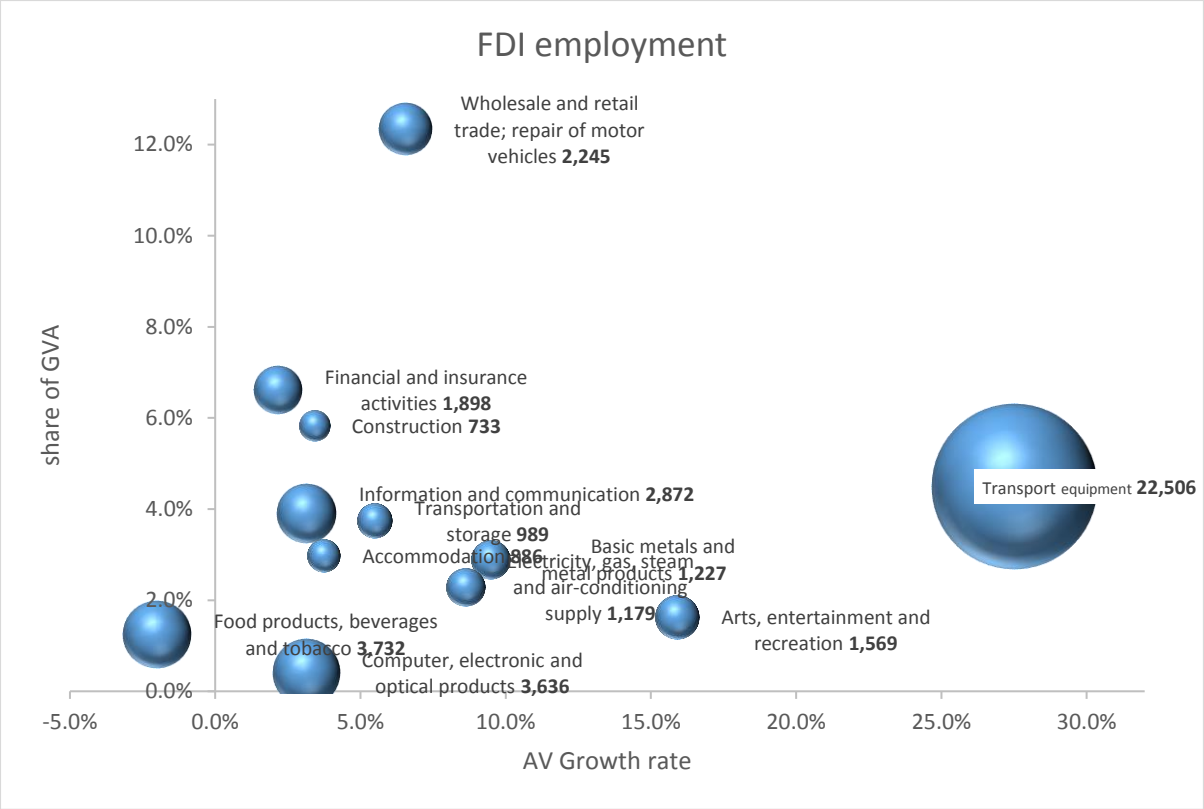
In order build on this, we extend previous work by for *Marketing Birmingham* who (for the GBS region) map inward investment onto sectoral growth, and the importance to the region of the sector of inward investment. It should be noted of course that inward investment in itself will be expected to impact on both of these metrics.
We start off by doing this for all of the sectors listed in table 3.

Figure 5. Inward investment, growth and GVA



In order to simplify this, and to focus on the main sectors, we focus on the sectors with significant inward investment, indicating the relative magnitudes of this investment.

Figure 6. Inward investment across the largest sectors



This highlights the growth in employment of the sector, against the share of GVA of the sector, for the main FDI sectors. This indicates the relative importance of the sector to the WM economy, as well as giving an indication of relative performance. Clearly this highlights the importance of the transport sector, but it also for example illustrates that inward investment in food and drink contribute less to productivity – though of course these sectors provide employment for less skilled workers. Indeed this illustrates neatly a finding from the academic literature, which is that with only a few exceptions, inward investment contributes to productivity, OR in generates significant employment opportunities. It is clear that the transport sector does both, and to an extent so do financial services, but most other sectors fall into one category or the other.

Table 5. Inward investment and contributions to local economic development

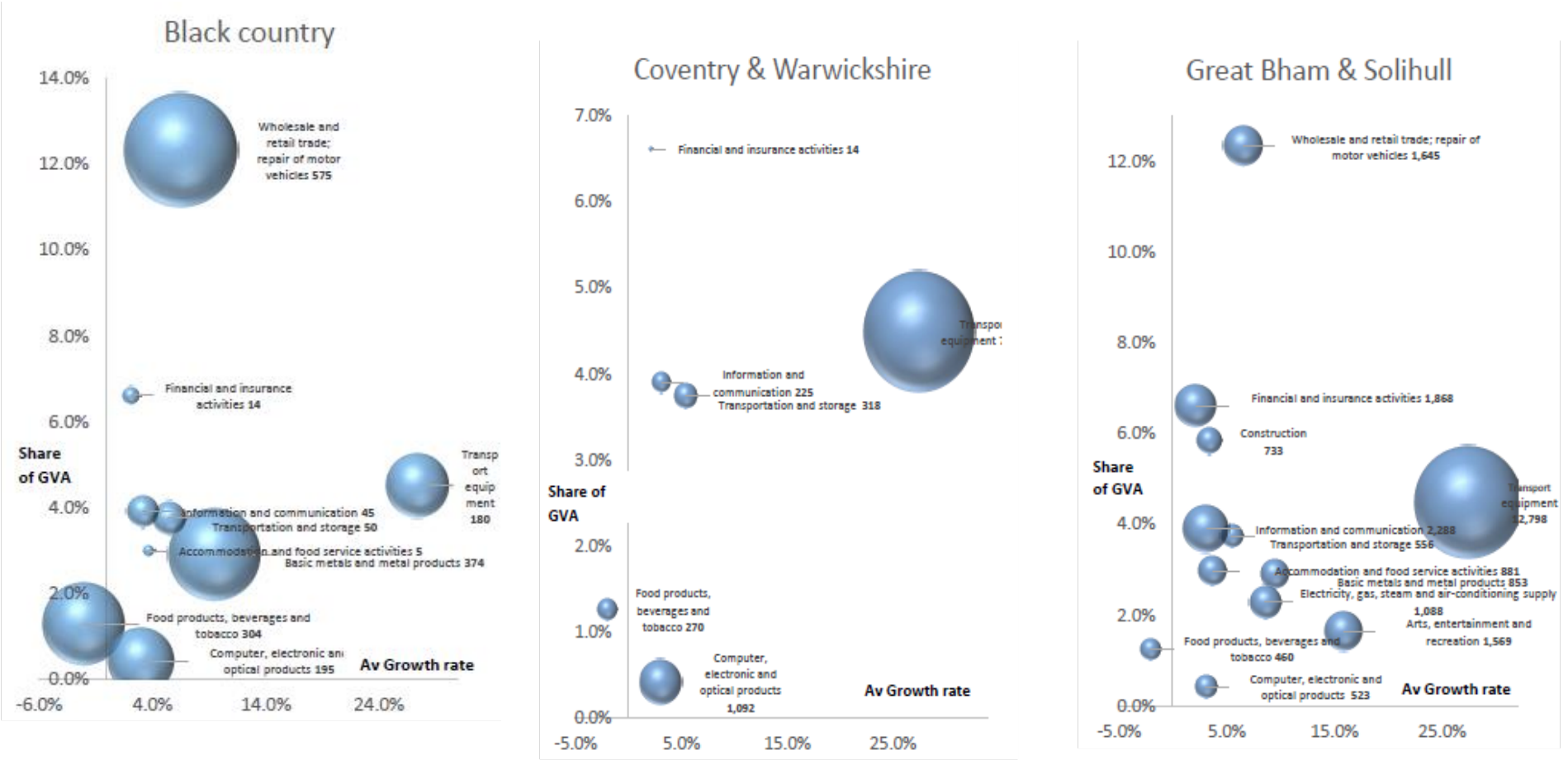
Sectors that generate employment	Sectors that generate productivity growth	Sectors that generate both
Transportation and storage	Information and communication	Financial and insurance activities
Construction	Computer, electronic and optical products	Transport equipment
Arts, entertainment and recreation	Electricity, gas, steam and air-conditioning supply	
Food products, beverages and tobacco		

We then offer the same analysis for the three constituent parts of the WM region:

Figures 7-9. Inward investment across the 3 LEP regions

These illustrate the relative importance of the main sectors across the region. For example, the motor trade is more important in the Black Country, as are accommodation and food service. Overall, the figure shows that the sectors in which the Black Country attracts FDI are those which tens to be more unskilled labour intensive, compared with those that attract inward investment in C&W. Not surprisingly given its relative size the GBS region reflects the overall pattern, with again a greater emphasis on the sectors that support the auto sector.

Figure 7-9 importance of inward investment by sectors across the 3 LEP regions



The importance of skills

We now introduce the importance of skill shortages into the analysis. Thus far the analysis has focussed on employment creation, though this may be moderated by a lack of available skilled workers. In order to understand this we employ the information provided by the national Skills Survey. The latest year available is 2015. This analyses by sector, the percentage of skills shortes reported by firms across the regions of the UK:

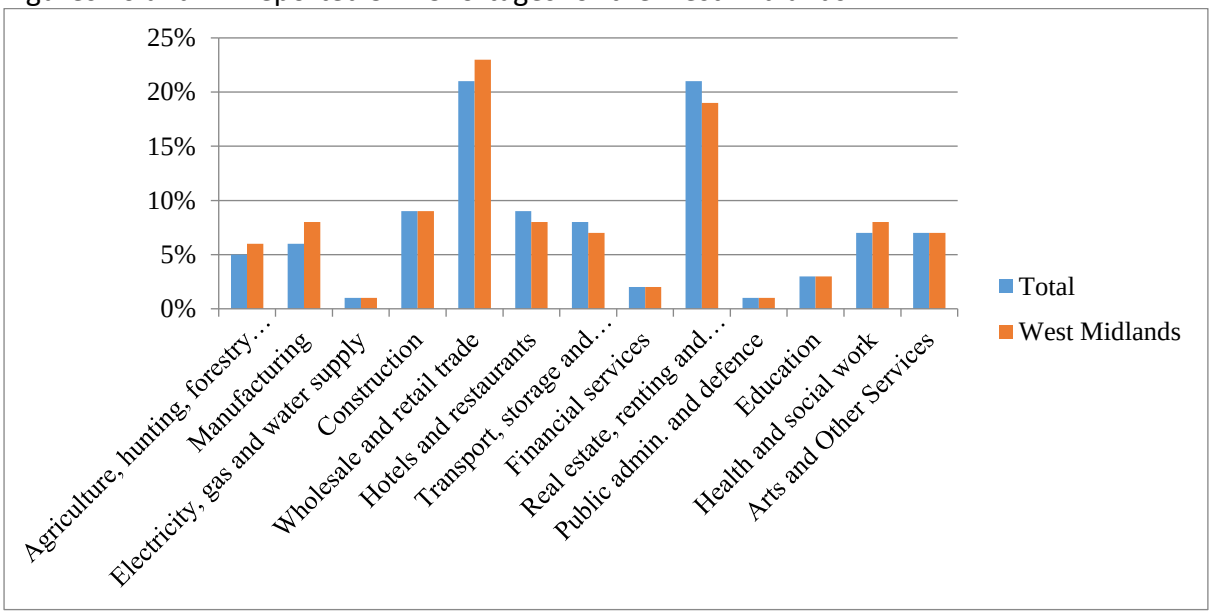
Table 6. Reported skill shortages in the UK

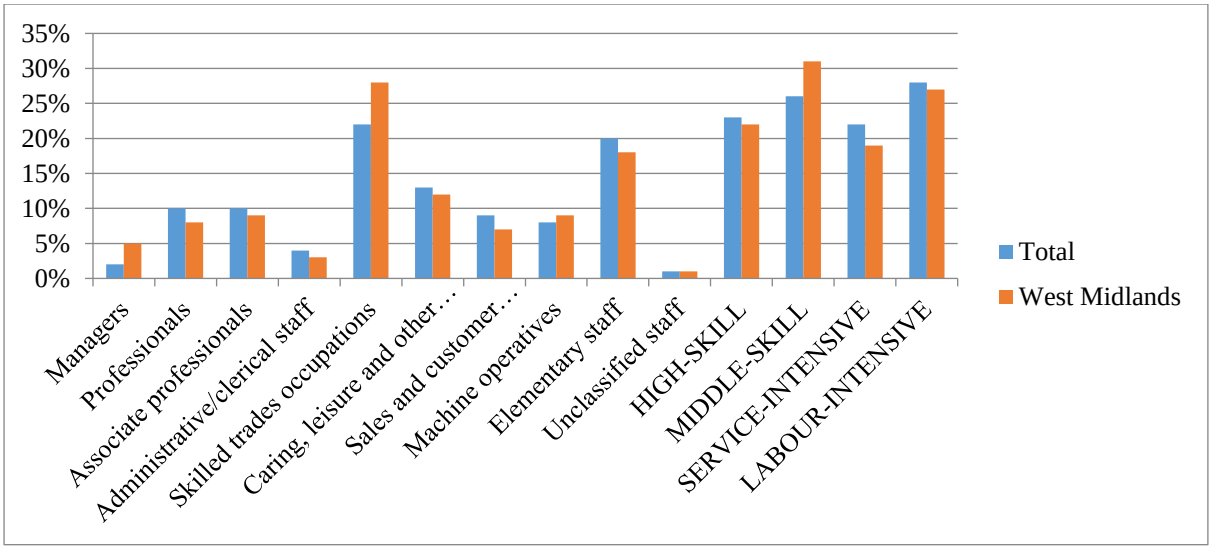
Industry	Total	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire and The Humber
Agriculture, hunting, forestry and fishing	5%	6%	5%	*%	5%	5%	3%	10%	6%	6%
Mining and quarrying	*%	*%	*%	*%	*%	*%	*%	*%	*%	*%
Manufacturing	6%	8%	6%	3%	6%	6%	5%	5%	8%	7%
Electricity, gas and water supply	1%	1%	1%	*%	1%	1%	1%	1%	1%	1%
Construction	9%	9%	11%	7%	9%	8%	10%	10%	9%	9%
Wholesale and retail trade	21%	22%	21%	19%	23%	23%	20%	20%	23%	23%
Hotels and restaurants	9%	8%	8%	10%	10%	9%	8%	10%	8%	9%
Transport, storage and communications	8%	6%	8%	10%	5%	6%	9%	6%	7%	6%
Financial services	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%
Real estate, renting and business	21%	18%	21%	29%	17%	20%	23%	19%	19%	18%

activities										
Public admin. and defence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Education	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%
Health and social work	7%	8%	7%	7%	9%	8%	7%	7%	8%	8%

These data are far from perfect, in that “manufacturing “is treated as a uniform sector, never the less the comparison between the UK and the WMCA region is instructive. These illustrate the reported skill shortages for the region, compared with the UK, both across sectors and activities. What is noticeable here, both for the WMCA region and the UK overall, as is well known, is the high levels of reported skill shortages in sectors with the greatest capacity for generating employment for less skilled people, such as wholesale and retail. Manufacturing appears relatively low, but as is well known this is too broad a category to inform firm level decisions or judge the likely impact on certain sectors or activities. To this end the figures regarding occupation are more informative, with very high reported skill shortages for skilled trades. This is potentially the type of employees that will be sought by inward investors in the manufacturing sector. It is noticeable that the position in the WMCA region is significantly worse than the UK average, as it is for middle- skill employment.

Figures 10 and 11 Reported Skill Shortages for the west midlands





Taking these together, we can then combine the sector analysis with the skill shortage analysis.

Table 7 maps our sectors discussed above onto the skill shortage data.

Table 7 – Inward investment , employment and skills

Sectors that generate employment	Sectors that generate productivity growth	Sectors that generate both
Transportation and storage	Information and communication	Financial and insurance activities
Construction	Computer, electronic and optical products	Transport equipment
Arts, entertainment and recreation	Electricity, gas, steam and air-conditioning supply	
Food products, beverages and tobacco		

The simple traffic light system indicates where the sectors face a challenge in terms of skill shortages, across both the high productivity and labour intensive activities. This does not necessarily argue that we should not seek inward investment in these sectors, but rather where the region faces a challenge in terms of education and training, given that we seek to attract more inward investment.

The relationship between inward investment and productivity

We now move on to the likely additional benefits of attracting inward investment, which is the likely impact on productivity. It is generally accepted that in a given location a typical foreign firm will have productivity which is 25-40% higher than the domestically owned sector, though some of this – up to 60% of this difference is removed by controlling for certain factors such as firm size, exporting, and whether the UK firm is itself a multinational, or part

of one.

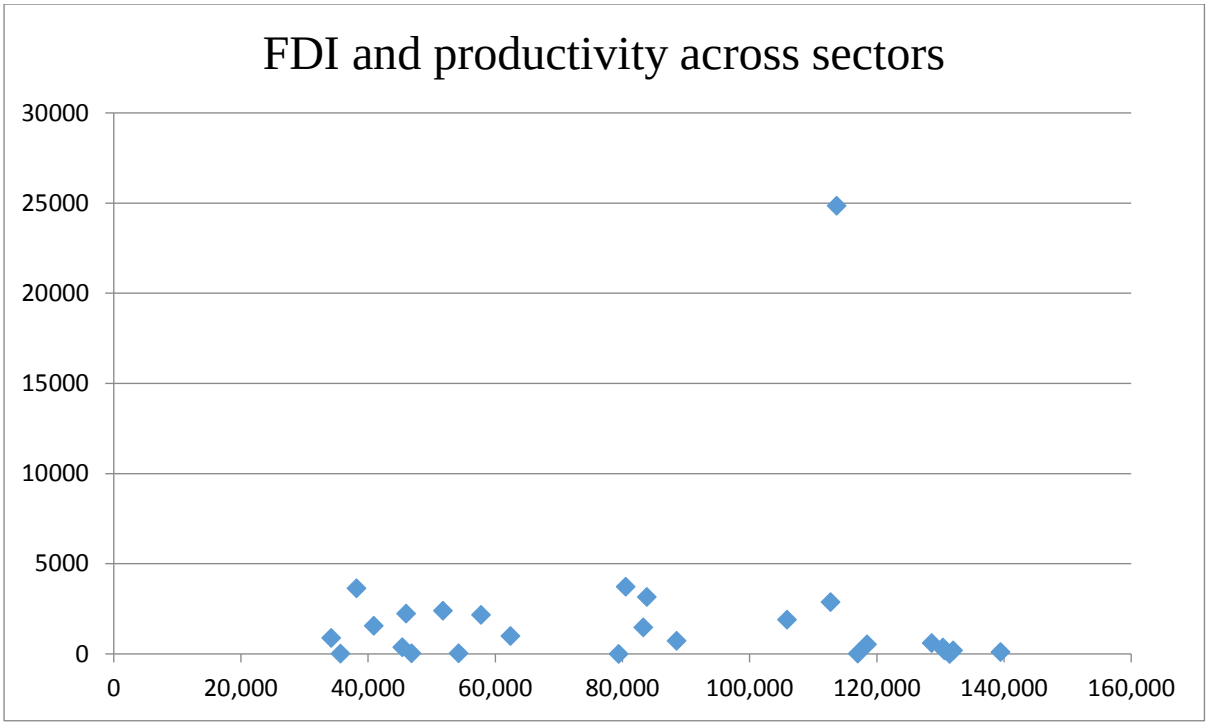
A detailed analysis of firm level data would be required to quantify the extent to which inward investment generates productivity growth at the sector level, and the extent to which this varies across sectors. Nevertheless it is informative to explore the extent to which inward investment is distributed across sectors with different productivity. There are numerous reasons for doing this. Firstly, *there is often an inherent contradiction between productivity and employment creation*. In any given sector, investment which generates significant investment in new technology tends to generate smaller numbers of high value jobs, while large scale employment of less skilled people tends to generate less in terms of productivity. This slight simplification holds for comparing sectors, or comparing activities within sectors. It also highlights the reasons why the region attaches such importance to advanced manufacturing, which may be considered as the "sweet spot" between productivity and employment.

There are a number of reasons why there is so much focus on advanced manufacturing in this space. The first is simply the typical length of supply chains, and the sheer variation in the nature of inputs in terms of different materials. Because of their production processes, there are huge advantages to having as many of these activities local to the firm, in order to manage inventory for example. There is a lot of evidence in the policy related and academic literature on the nature of spillovers from FDI, and the importance of supply chains in facilitating these benefits, creating value through supply chains and encouraging cluster formation. Clearly the best example of this locally is the automotive sector and associated industries, but other advanced manufacturing may play a role too. The table 7 below illustrates the FDI data compared with the basic measure of productivity as GVA / head. GVA for WM is estimated and published by ONS and we employ WM GVA per each industrial employees in WM. The table illustrates the GVA/Head and FDI employment in each sector.

Table 8. GVA/Head and FDI employment in each sector

SIC07	GVA/head	FDI employee
Agriculture, forestry and fishing	675,385	0
Mining and quarrying	131,429	2
Food products, beverages and tobacco	80,508	3,732
Textiles, wearing apparel and leather products	118,485	524
Wood and paper products and printing	54,206	43
Coke and refined petroleum products	530,000	0
Chemicals and chemical products	132,000	197
Basic pharmaceutical products and preparations	1,170,000	22
Rubber and plastic products	130,413	349
Basic metals and metal products	57,735	2,167
Computer, electronic and optical products	139,459	108
Electrical equipment	38,182	3,636
Machinery and equipment not elsewhere classified	83,292	1,472
Transport equipment	113,679	24,848
Other manufacturing and repair	128,651	607
Electricity, gas, steam and air-conditioning supply	243,063	1,179
Water supply; sewerage and waste management	130,656	189
Construction	88,494	733
Wholesale and retail trade; repair of motor vehicles	45,975	2,245
Transportation and storage	62,384	989
Accommodation and food service activities	34,192	886
Information and communication	112,731	2,872
Financial and insurance activities	105,864	1,898
Real estate activities	551,811	4
Professional, scientific and technical activities	51,765	2,390
Administrative and support service activities	35,639	25
Public administration and defence; compulsory social security	79,422	0
Education	46,852	33
Human health and social work activities	45,371	374
Arts, entertainment and recreation	40,894	1,569
Other service activities	83,816	3,163
Activities of households	1,180,000	0
All industries	68,221	56,256

Across all sectors the plot showing the potential relationship between inward investment and productivity shows two issues. Firstly the excellent performance of the automotive sector. It is likely of course that the high profile firms have much higher productivity than the average, while other parts of the supply chain have lower productivity. In addition to the obvious outlier of automotive, another outlier locally, with higher productivity than elsewhere, and high levels of foreign investment, is Food and Beverages, largely driven by Cadburys.



After these, there appears to be little relationship between inward investment and sectoral productivity. Inward investment is spread across all sectors in terms of productivity. The most noticeable sectors are perhaps computer, electronic and optical products, chemicals and chemical products and basic pharmaceutical products and preparations. Where productivity is high, but inward investment is low. These are sectors where attracting inward investment is hard, due to the high capital outlays required.

Seeing inward investment as part of the mechanism for improving productivity growth.

We have sought here to link the previous, extremely successful sector based approach employed by (then) Marketing Birmingham, to some wider considerations regarding potential benefits of inward investment in terms of productivity growth and employment growth, allied to some quite simple analysis of the labour market. This work therefore sits alongside the WMGC sectoral analysis, to emphasise how inward investment can contribute to productivity growth.

However, inward investment cannot be seen as part of the solution in isolation. The essential conclusion from this, which is consistent with a wide body of literature in this area, is that typically inward investment will either be the sort that will generate employment in relatively low value added activities, and that this can be relatively large scale, or, that it generates few jobs in more high value added activities. An example of the former may be logistics, or perhaps sectors of growing importance such as recycling. An example of the latter, may be aspects of life sciences such as clinical trials, which offer undeniable value but limited volume. Equally, many examples of high tech “science based” FDI are typically associated with

migration of skilled people from outside of the region, whether that is inter-or often intra-firm migration. This is of course welcome, and addresses a key element of the productivity problem, but only one element.

What is therefore required at a local level in terms of an inward investment strategy is a mix of these sectors. The high value added investment brings new technology, potentially spillovers, and develops knowledge transfer and training into supply chains and related sectors. However, in order for this to work effectively, there needs to be an emphasis on developing both delivery capacity, and absorptive capacity in these related sectors.

At the same time, one needs to consider the value proposition in perhaps less “fashionable sectors” that never the less create employment opportunities for people who are here, and whose skills are not being fully utilised. In order to do this, one needs to link the inward investment proposition to wider considerations of skills and skills development, which is of course occurring elsewhere within the productivity and skills commission. In terms of the analysis presented here, the skills and skills shortage analysis could be done at a more finely grained unit of analysis, examining for example the 3 LEP regions separately. However as we have seen, the skills data is already quite aggregate and may not present a fair picture. Equally, it is clear that despite these challenges, we see continued growth in inward investment in the region, even in sectors identified as problematic in terms of skill shortages such as transport equipment and food processing. This never the less highlight some challenges in education and training if these levels of growth are to be maintained.

In terms of building on recent successes, as well as developing new sectors to become “FDI ready”, the recent analysis conducted for the WMGC by IBM is compelling. This offers analysis of both current strengths and future opportunities. This report for example considers a set of criteria in terms of the contribution that inward investment can make to the wider economic development policy agenda. Key here, extending the distinction between job creation and value per job, is the match to current strengths and the value proposition that the region is able to project. There many examples of inward investors that exist (for a short time) in isolation from the wider economy, but they tend to be both short lived, and add little value while they are here.

As discussed above, certain sectors are inward investment ready, and indeed are already success stories for the region. Advanced manufacturing, transport and digital / creative for example have significant inward investment, and a strong value proposition going forward. Life sciences have some strengths, but supporting sectors still need to be developed if inward investment is going to generate significant jobs growth. Indeed the case of life sciences within

the local economy highlights another aspect of inward investment strategy linked to economic development, which is that inward investment cannot be expected to "do it all". Inward investment relies on skills, on wider sectoral strengths, as well as on infrastructure and development.

Beyond this however, there is still scope, as is suggested by the Industrial Strategy to consider the development of new sectors, to make them inward investment ready. Here one needs to consider the combination of initiatives that are required for a sector to reach this stage, and what the value proposition by a region to an inward investor may be. This involves a set of dynamic local firms across a range of sectors, as well as a wider set of support functions including transport and infrastructure in addition to skills. Inward investment on its own cannot solve all of these issues. We are not going to speculate here on wider solutions to these problems, such as devolution in skills provision, or better transport links to facilitate a more efficient labour market and larger travel to work areas, as that is beyond the scope of this brief note. Equally, we are still in a period of high uncertainty over Brexit, which despite the many good news stories on inward investment will continue to be a challenge for the UK, as may the potential restrictions on freedom of movement that may follow. The changing nature of the local economy, as well as potential changes resulting from Brexit, may well change the motivation for firms to invest in our region, but may also encourage for example some UK firms to "reshore" activities back to UK.

Recommendations

Taken together, this paper, along with the IBM work commissioned by the growth company highlights the essential tension between competitiveness achieved by offering inward investors access to a low cost, flexible workforce and ensuring decent work and wages to employees.

1**. Develop an inward investment strategy through greater understanding of why firms seek to invest in the region.** High value added FDI adds significantly to the underlying technological base of the economy, but creates fewer jobs, while FDI that generates large scale employment is typically (though not always) associated with less cutting edge technology. So our strategy needs to communicate which sectors will be able to attract inward investment of what type, and where this most likely to be sourced. This emphasises not 'sectors' as such, but value chains, where activity within the region is positioned within an international setting, and the vulnerabilities of value chains to global changes, or to macroeconomic factors such as exchange rate changes or changing terms of trade.

2. **Focus inward investment efforts on sectors where free trade with the EU is less**

important. This means seeking to maximise the benefits of large scale investments in infrastructure (in the context of the Midlands, HS2); recognising the need for example to support skills in jobs around project management and professional services associated with infrastructure projects; and building robust supply chains to support infrastructure development.

3. **Maximise the returns on inward investment**. This again requires an understanding of the benefits of inward investment, for example of the benefits to supply chains or through knowledge transfer from inward investors into local firms. In order to understand how policy levers in this space can be applied, one has to understand the motivation and financing of FDI. For example, in the years prior to the financial crisis, a high proportion of global FDI was funded by debt, that has since not been available. One response therefore needs to seek FDI which is genuinely exogenous to the UK, that is, it is funded, not by loans financing raised from UK capital markets, but from the home country. This varies by country. Much Asian FDI for example is now funded by cash flow generated in the home country, compared with US, EU and Japanese investment which is typically debt financed. A country strategy is required therefore for investment promotion agencies as well as a sectoral strategy.

4. **When selecting key sectors for inward investment, focus on job creation as well as value added.** The WM Growth Company, previously Marketing Birmingham have been very successful in attracting inward investment into the region. It should be recognised that they have a wider remit than simply generating productivity growth, in that they have to undertake a matching exercise between the regions value proposition, and the type of investment that they can attract. It should be recognised that, given the nature of the skill distribution across the region, that from an employment and productivity position, all investment is good investment. While obviously high skill, high value added jobs will increase productivity the most, generating employment for less skilled people may well increase aggregate value added by more. Equally, lower value added jobs tend to fill from the local labour market, rather than attracting people in from outside.

5. **Focus on job quality rather than just the number of jobs created**

In terms of the wider remits of WMCA and of this commission, it is also clear that social inclusion and skill development are important drivers of productivity. In terms of the contribution that the region's inward investment strategy can make to this, the nature of jobs created is also important. The skills analysis conducted as part of this commission rightly focuses on the supply side in terms of skill creation, but it is important to recognise the role that inward investment can play in the demand for skills. It should be recognised here that often inward investment, and their accompany supply chains have a disproportional influence

with policy makers, as the current brexit debates are illustrating. Often inward investors can influence skills strategies in terms of filling skills gaps in ways that local firms often find challenging. Regions can then use the needs to service inward investors as part of their ask of government around (devolution of) education and training.