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University
Centre for Brexit Studies



Annual Conference 2018

Brexit: A Regional Perspective

Presentation by
Paul Forrest
Head of Research, WMEF

Millennium Point
16th March 2018



Location of Greenfield Manufacturing FDI

January 2012-December 2016

Source: fDi Markets

Greenfield FDI		
Top 10 Western Europe States for Manufacturing		
By Job Creation January 2012-December 2016		
Rank	State	Country
1	West Midlands	UK
2	Catalonia	Spain
3	Scotland	UK
4	Baden-Wurttemberg	Germany
5	Vlaams Gewest	Belgium
6	North West	UK
7	North East	UK
8	South East	UK
9	Sudosterreich	Austria
10	East	France

source: fDi Markets

Greenfield FDI		
Top 10 Western Europe States for Manufacturing		
By Capital Investment January 2012-December 2016		
Rank	State	Country
1	Catalonia	Spain
2	Vlaams Gewest	Belgium
3	West Midlands	UK
4	Scotland	UK
5	Baden-Wurttemberg	Germany
6	Nordrhein-Westfalen	Germany
7	West-Nederland	Netherlands
8	North West	UK
9	Castilla y Leon	Spain
10	Est	France

source: fDi Markets

Greenfield FDI		
Top 10 Western Europe States for Manufacturing		
By Project Numbers January 2012-December 2016		
Rank	State	Country
1	Vlaams Gewest	Belgium
2	Catalonia	Spain
3	Scotland	UK
4=	Baden-Wurttemberg	Germany
4=	West Midlands	UK
6	Nordrhein-Westfalen	Germany
7	Bassin Parisien	France
8	Ouest	France
9	Est	France
10=	North East	UK
10=	Sachsen-Anhalt	Germany

source: fDi Markets

Greenfield FDI		
Top 10 Western Europe Cities for Manufacturing		
By Job Creation January 2012-December 2016		
Rank	State	Country
1	Wolverhampton	UK
2	Graz	Austria
3	Barcelona	Spain
4	Solihull	UK
5	Vigo	Spain
6	Coventry	UK
7	Birmingham	UK
8	Sunderland	UK
9	Swindon	UK
10	Valladolid	Spain

source: fDi Markets

Greenfield FDI		
Top 10 Western Europe Cities for Manufacturing		
By Capital Investment January 2012-December 2016		
Rank	State	Country
1	Martorell	Spain
2	Antwerp	Belgium
3	Vigo	Spain
4	Rotterdam	Netherlands
5	Dublin	Ireland
6	Valladolid	Spain
7	Lutembach	Switzerland
8	Madrid	Spain
9	Solihull	UK
10	Sunderland	UK

source: fDi Markets

Greenfield FDI		
Top 10 Western Europe Cities for Manufacturing		
By Project Numbers January 2012-December 2016		
Rank	State	Country
1	Antwerp	Belgium
2	Barcelona	Spain
3	Coventry	UK
4=	Madrid	Spain
4=	Rotterdam	Netherlands
6=	Dunkirk	France
6=	Ghent	Belgium
6=	Sunderland	UK
9=	Berlin	Germany
9=	Dublin	Ireland
9=	Livingston	UK

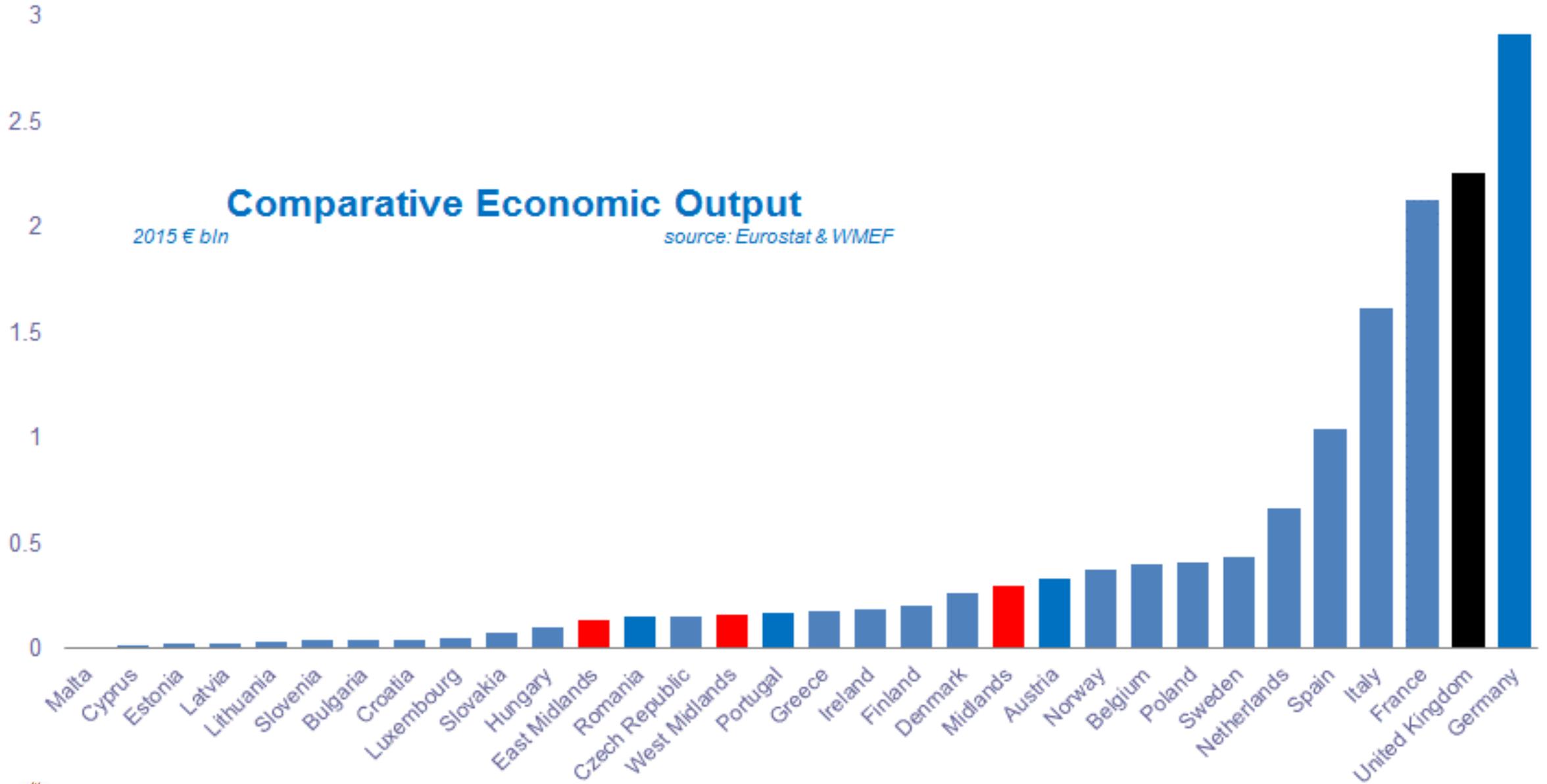
source: fDi Markets



Comparative Economic Output

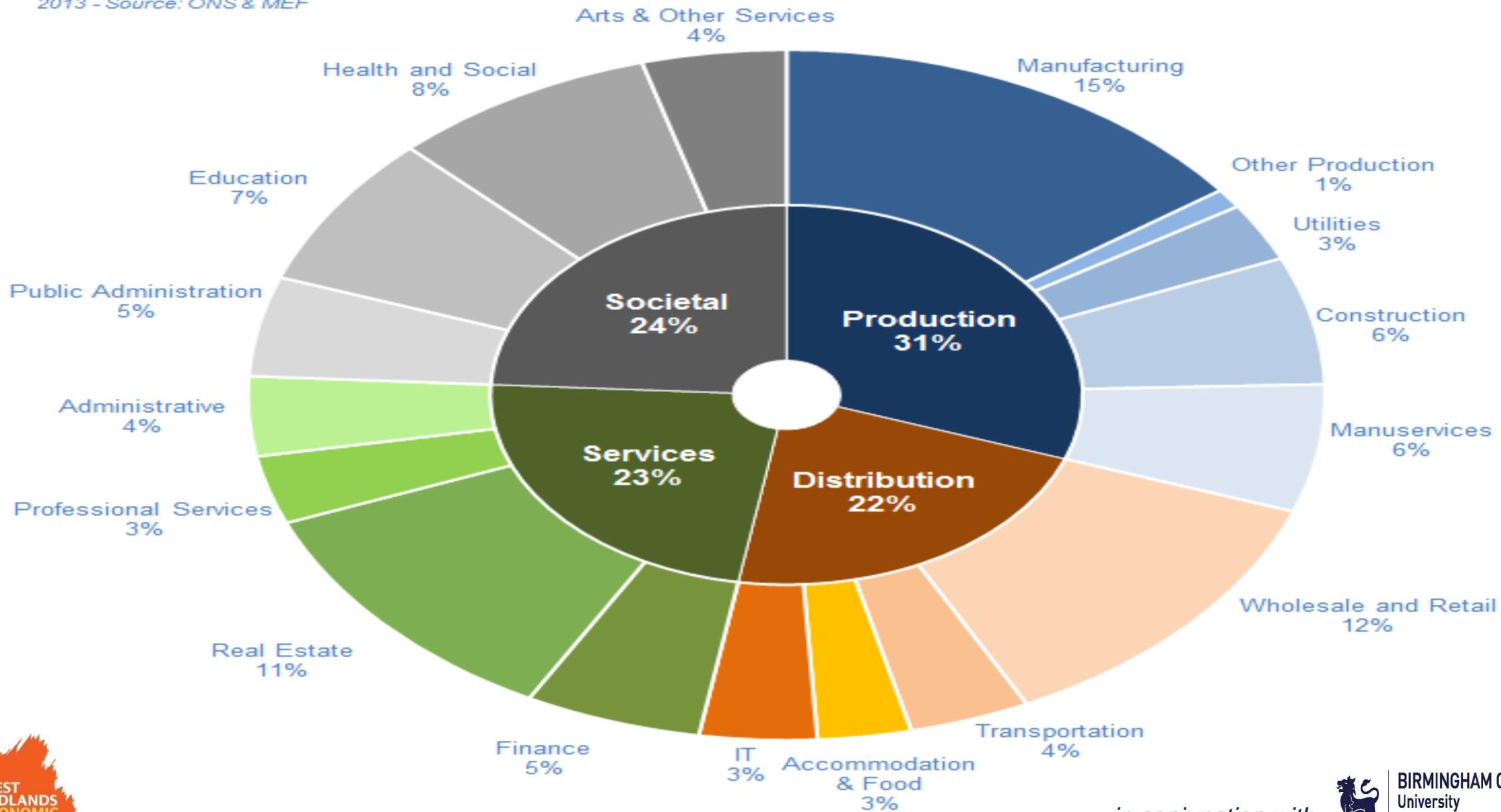
2015 € bln

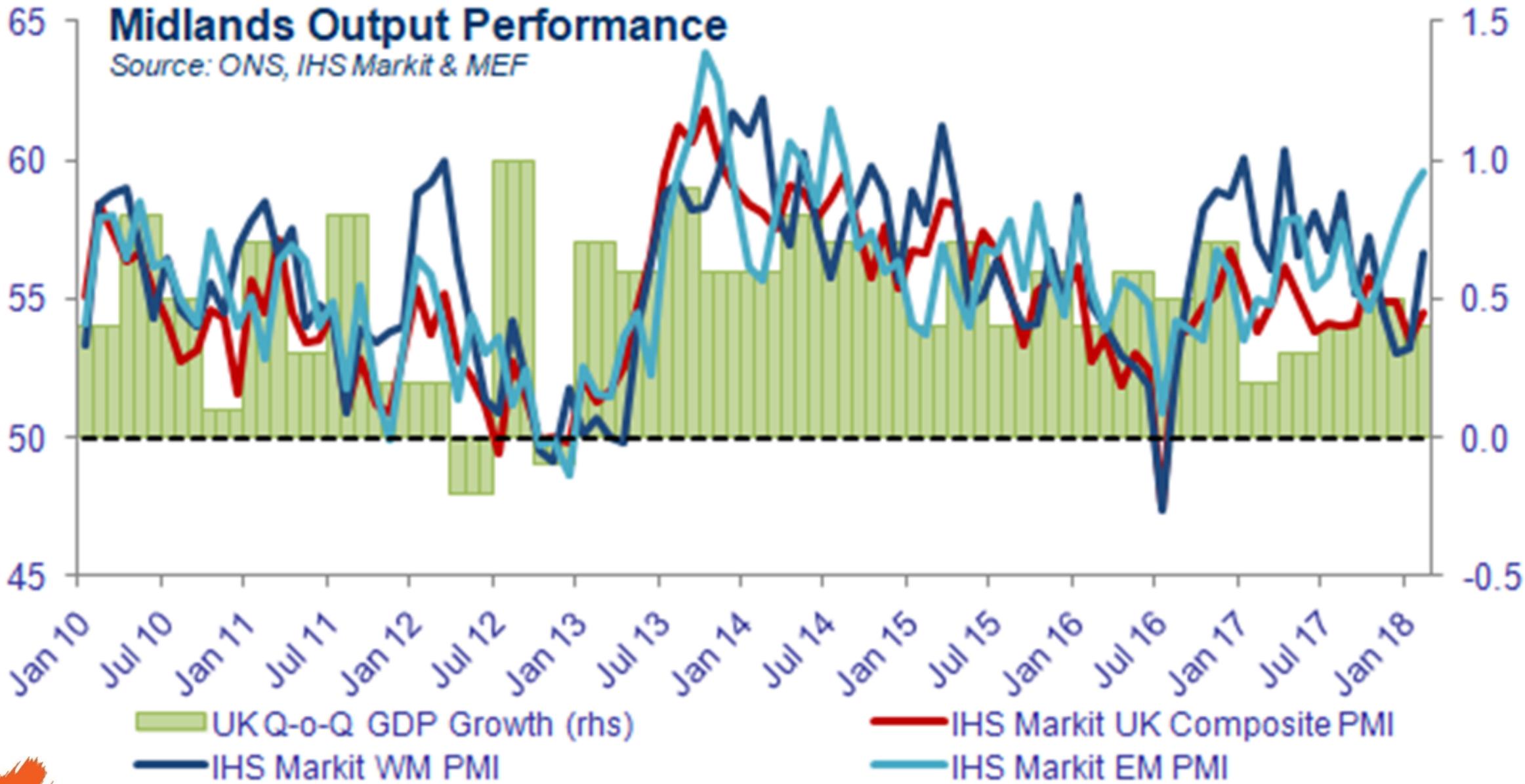
source: Eurostat & WMEF



West Midlands Output Structure

2013 - Source: ONS & MEF



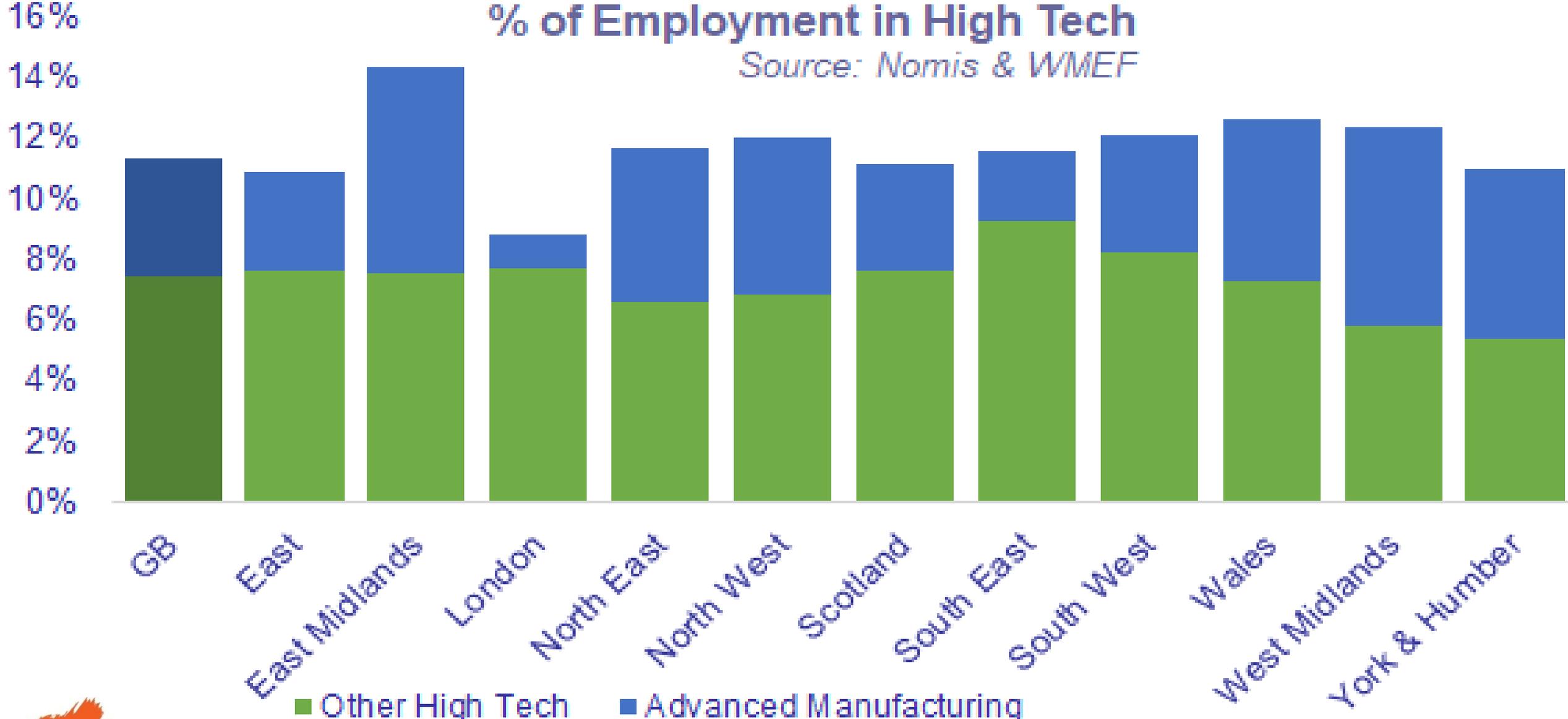


in conjunction with



% of Employment in High Tech

Source: Nomis & WMEF



■ Other High Tech ■ Advanced Manufacturing



in conjunction with



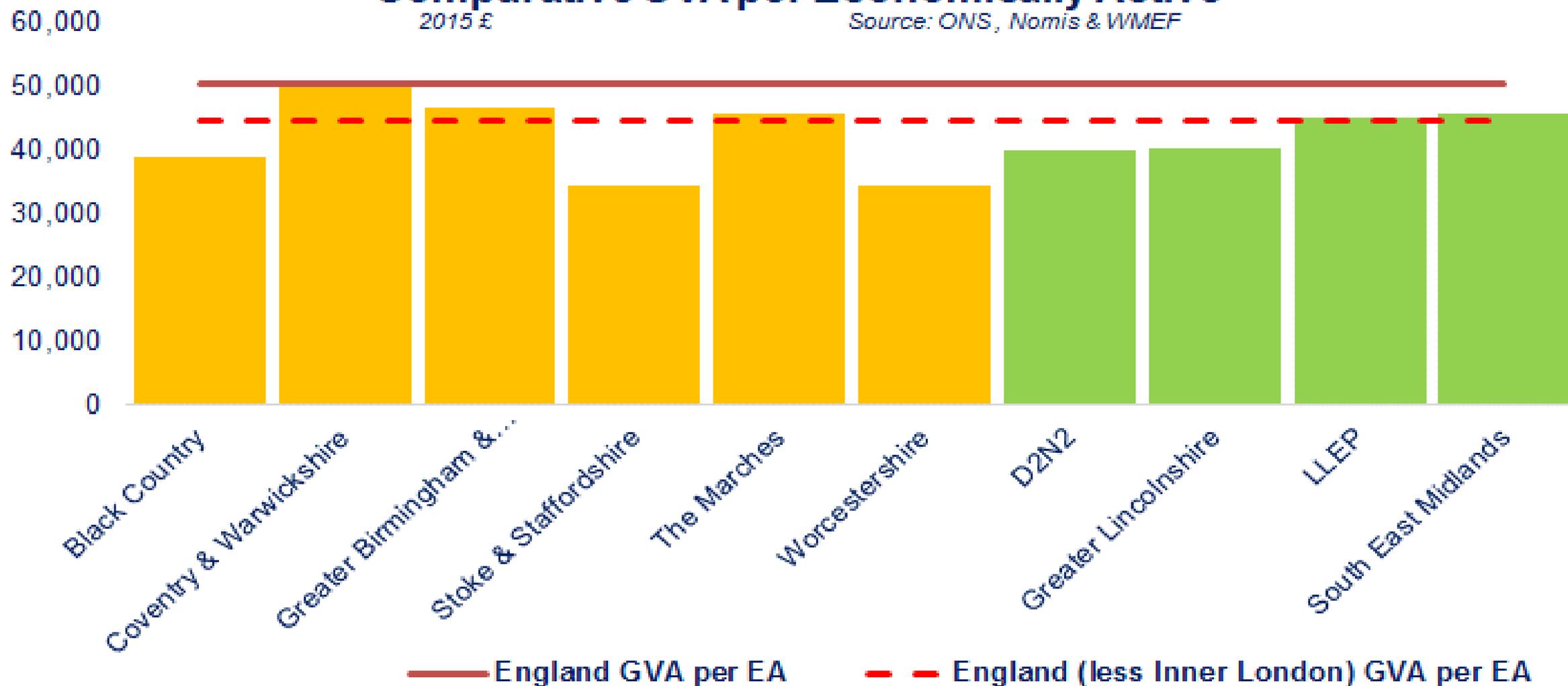
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Comparative GVA per Economically Active

2015 £

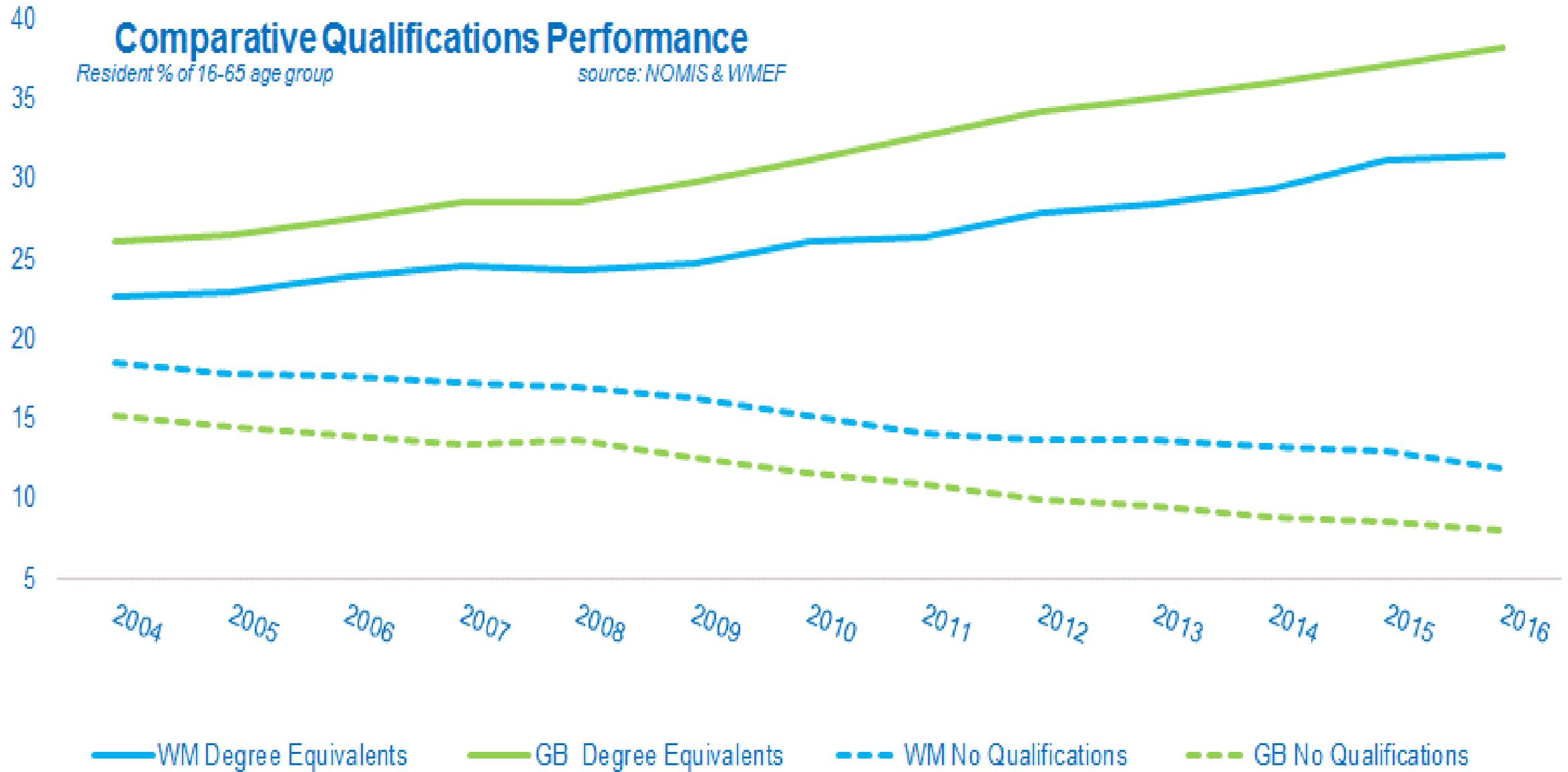
Source: ONS, Nomis & WMEF



Comparative Qualifications Performance

Resident % of 16-65 age group

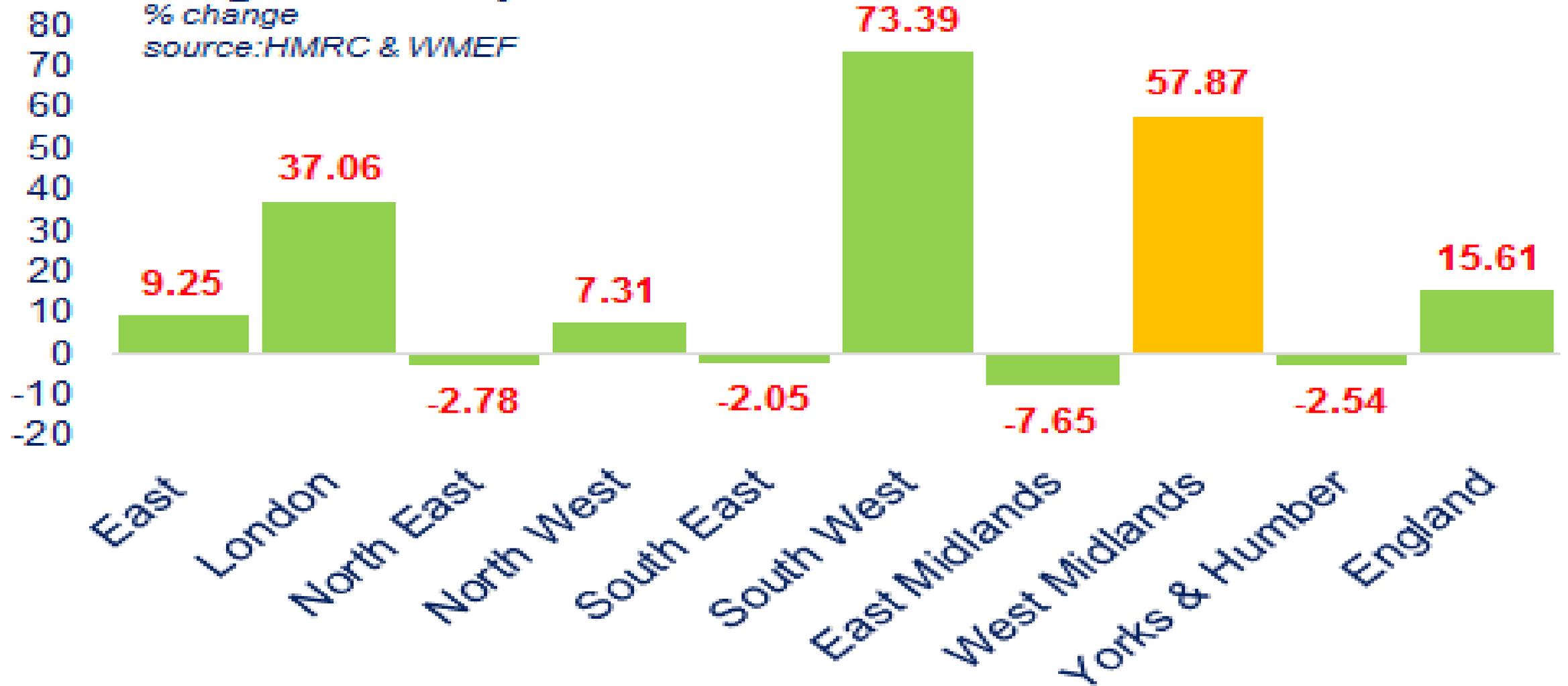
source: NOMIS & WMEF



Regional Export Growth 2008-16

% change

source: HMRC & WMEF

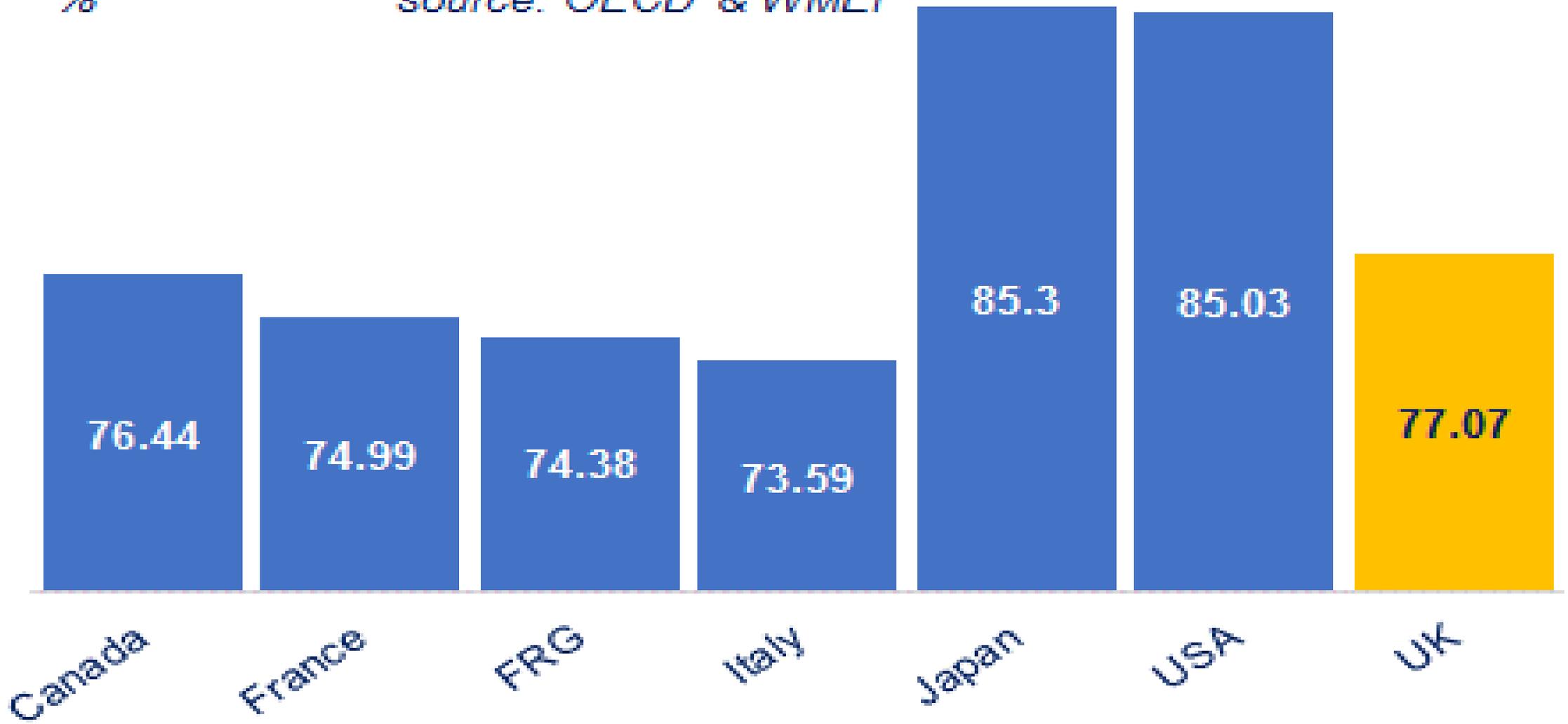


G7 Domestic value-added in Exports

%

source: OECD & WMEF

88
86
84
82
80
78
76
74
72
70
68
66



Midlands Top 20 Trade Partners (2016)

Source: HMRC & MEF

Exports	£m	%	Rank	%	£m	Imports
USA	6,532.4	15.1	1	17.4	9,640.9	FRG
FRG	5,167.4	11.9	2	9.9	5,448.6	PRC
PRC	3,072.6	7.1	3	7.6	4,193.3	Netherlands
France	2,671.7	6.2	4	6.6	3,645.4	USA
RoI	2,501.9	5.8	5	5.8	3,201.2	France
Netherlands	1,991.8	4.6	6	4.9	2,701.5	Belgium
Belgium	1,697.4	3.9	7	4.7	2,572.5	Italy
Italy	1,669.3	3.8	8	4.1	2,282.3	Spain
Spain	1,418.9	3.3	9	3.6	1,984.1	Japan
Singapore	1,173.0	2.7	10	2.5	1,403.3	Poland
Sweden	998.4	2.3	11	2.3	1,292.2	Turkey
Hong Kong	919.0	2.1	12	2.1	1,184.9	RoI
Turkey	829.1	1.9	13	2.0	1,116.3	Sweden
UAE	761.0	1.8	14	1.8	1,012.3	India
Japan	757.9	1.7	15	1.7	920.4	Czechia
Australia	749.2	1.7	16	1.3	742.3	Hong Kong
Canada	709.8	1.6	17	1.3	709.8	South Africa
Poland	600.5	1.4	18	1.3	695.5	Russia
RoK	588.2	1.4	19	1.1	608.9	Austria
India	521.5	1.2	20	1.1	600.0	Portugal
Top 20	35,330.9	81.5		83.1	45,955.6	Top 20
Total	43,386.7	100		100	55,313.2	Total

2016	Trade Connectivity*	Ease of Doing Business Ranking			% of Trade with UK		Midlands Trade Penetration	
		Overall	Doing Trade	Contract Enforcability	Exports to UK	Imports from UK		
<i>Source: UNCTAD, World Bank & MEF</i>								
1	Germany	0.832	20	39	22	7.02	3.72	0.65
2	USA	0.742	6	36	16	3.81	2.45	0.39
3	PRC	0.756	78	97	5	2.65	1.18	0.26
4	France	0.83	31	1	15	7.05	3.84	0.62
5	Netherlands	0.883	32	1	69	9.69	5.19	0.53
6	Belgium	0.897	52	1	52	8.90	4.77	0.62
7	Italy	0.63	46	1	108	5.39	3.01	0.55
8	Ireland	0.39	17	47	98	12.79	23.84	4.44
9	Spain	0.828	28	1	26	7.52	4.09	0.61
10	Japan	0.616	34	51	51	2.12	1.07	0.17
11	Poland	0.569	27	1	55	6.61	2.55	0.41
12	Sweden	0.627	10	18	36	5.86	5.17	0.95
13	Turkey	0.497	60	71	30	8.20	2.68	0.56
14	Hong Kong	0.684	5	31	28	2.17	1.13	0.22
15	Singapore	0.719	2	42	2	0.95	1.89	0.55
16	India	0.562	100	146	164	3.29	1.20	0.19
17	Czechia	n/a	30	1	91	5.22	2.67	0.38
18	Canada	0.476	18	46	114	3.32	1.55	0.23
19	RoK	0.732	4	33	1	1.40	1.28	0.19
20	Australia	0.45	14	95	3	3.96	2.80	0.51

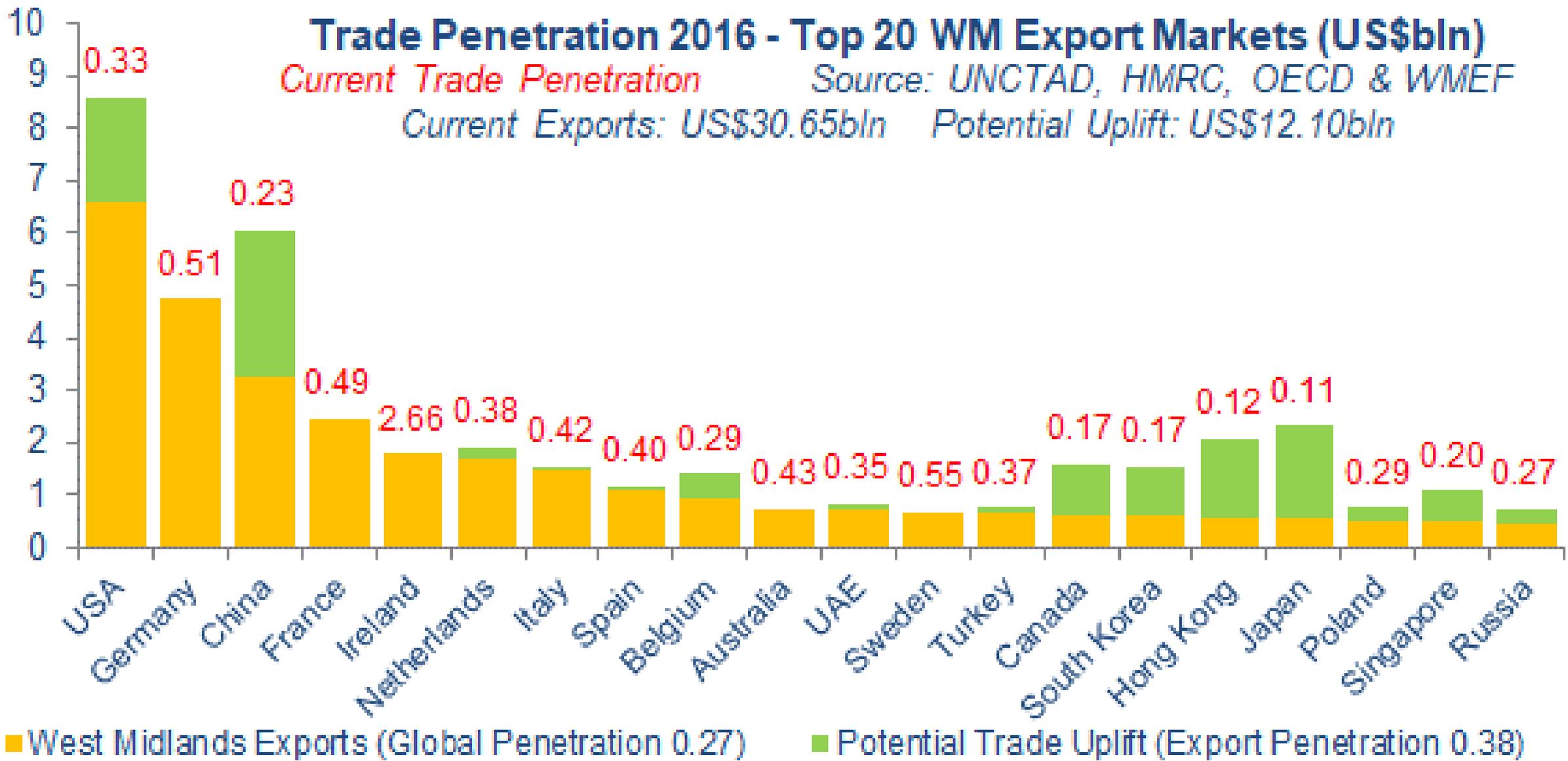
*UNCTAD Liner shipping bilateral connectivity index, annual, 2016 (1 strong/0 weak)

Trade Penetration 2016 - Top 20 WM Export Markets (US\$bln)

Current Trade Penetration

Source: UNCTAD, HMRC, OECD & WMEF

Current Exports: US\$30.65bln Potential Uplift: US\$12.10bln



WM Merchandise Trade Penetration 2016

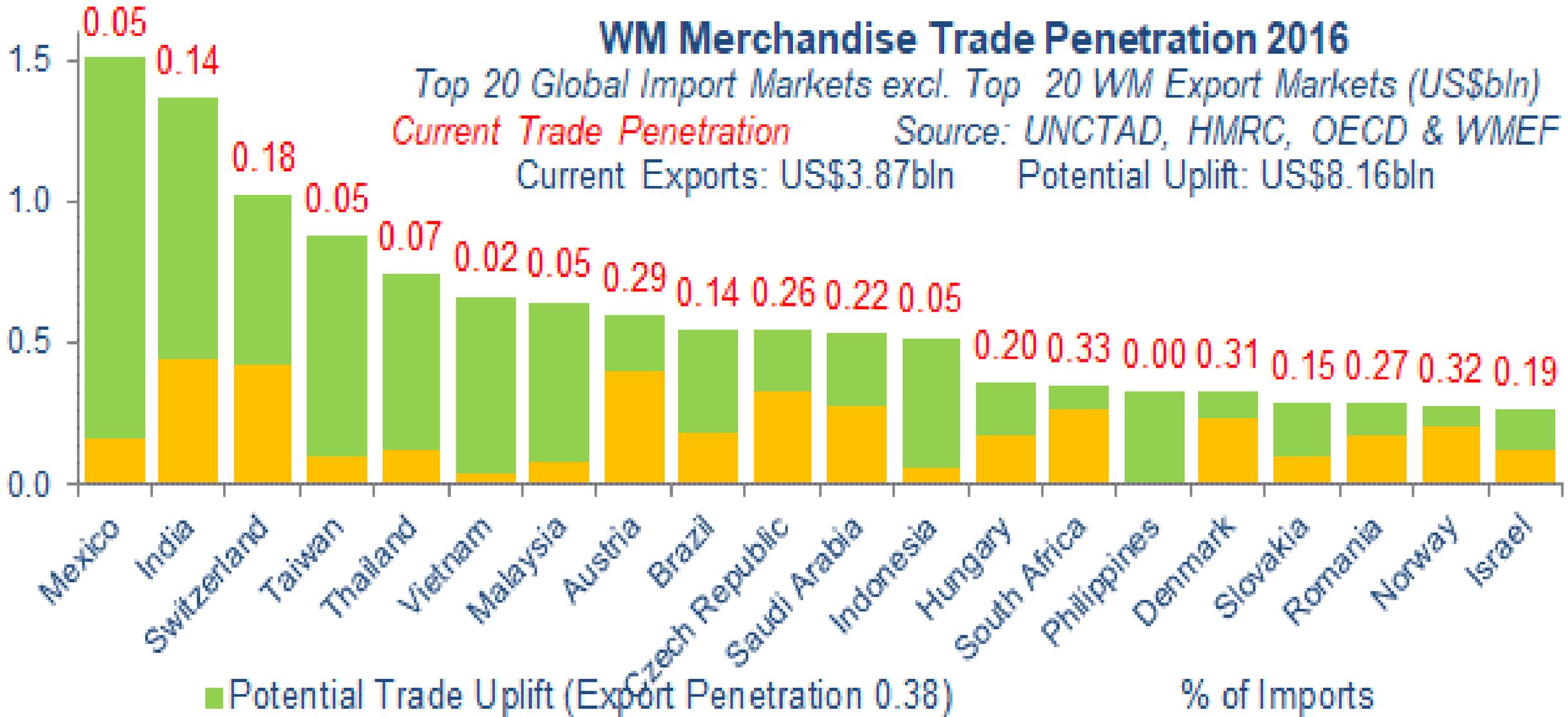
Top 20 Global Import Markets excl. Top 20 WM Export Markets (US\$bln)

Current Trade Penetration

Source: UNCTAD, HMRC, OECD & WMEF

Current Exports: US\$3.87bln

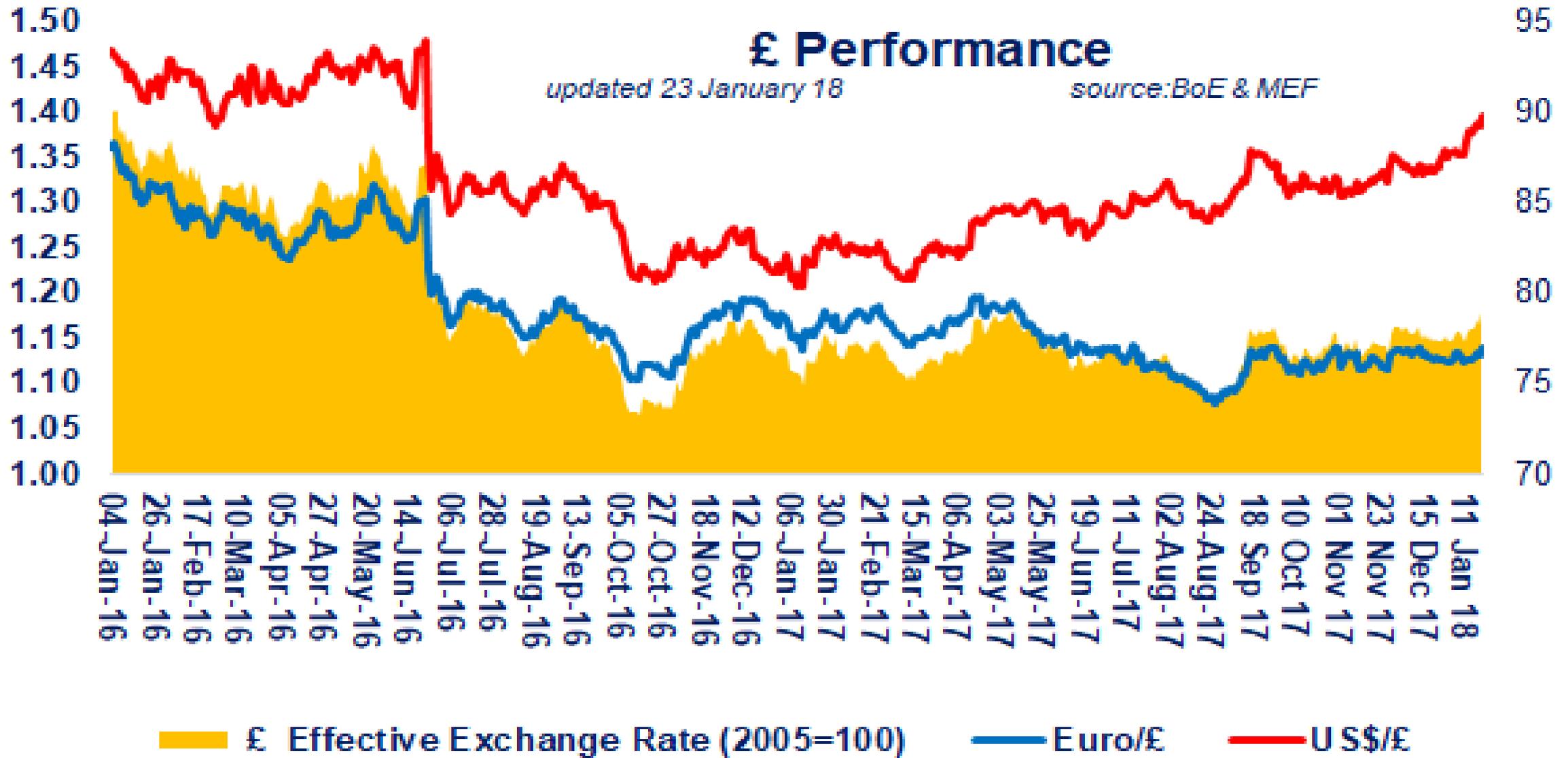
Potential Uplift: US\$8.16bln



£ Performance

updated 23 January 18

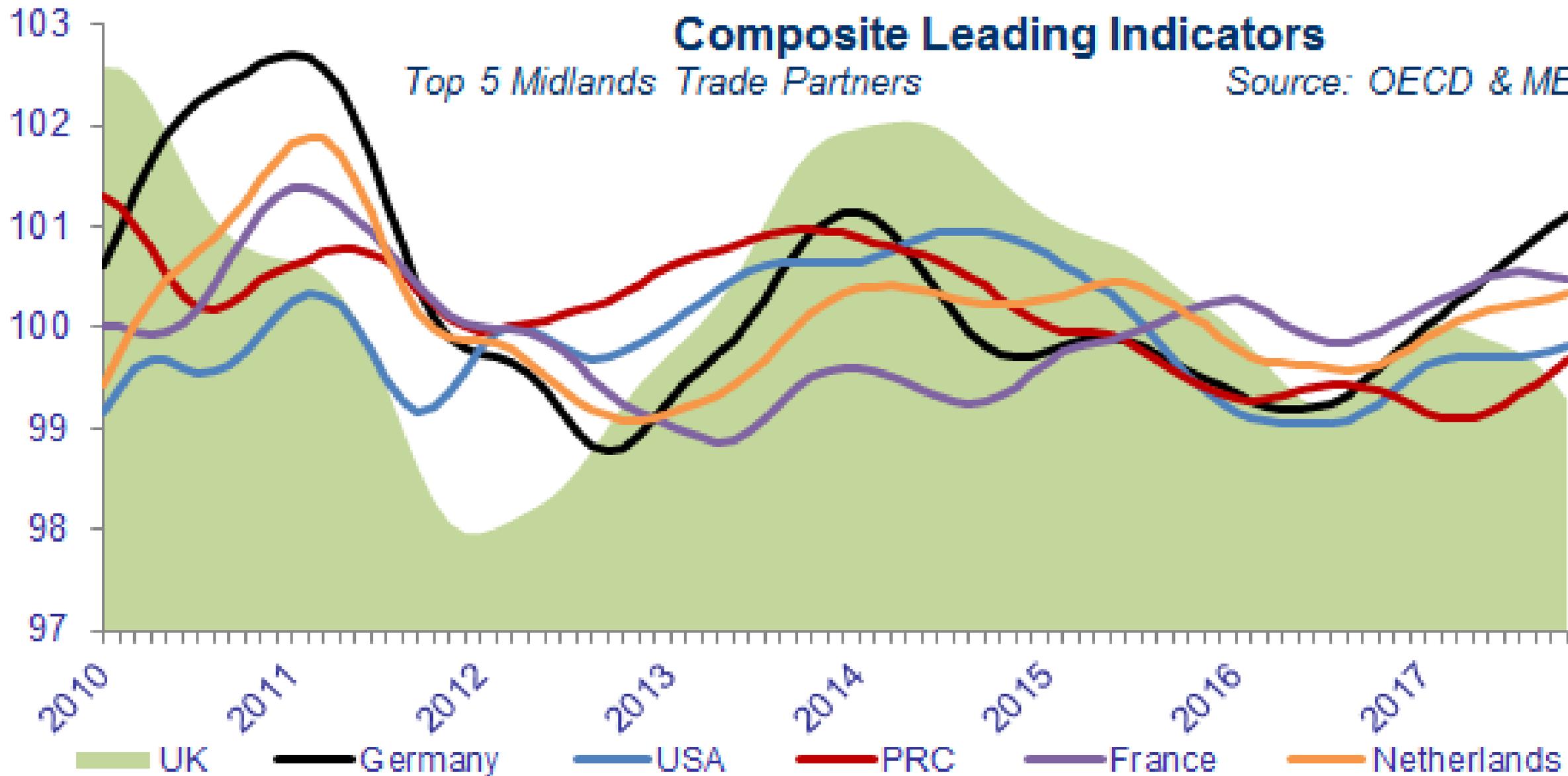
source: BoE & MEF



Composite Leading Indicators

Top 5 Midlands Trade Partners

Source: OECD & MEF



Impact of WTO trading regime on WM-EU Merchandise Exports

Assumes Tariff level equivalent to Export Compression, no policy accommodation to offset impact of WTO regime, no increased EU import demand and exchange rate stability.

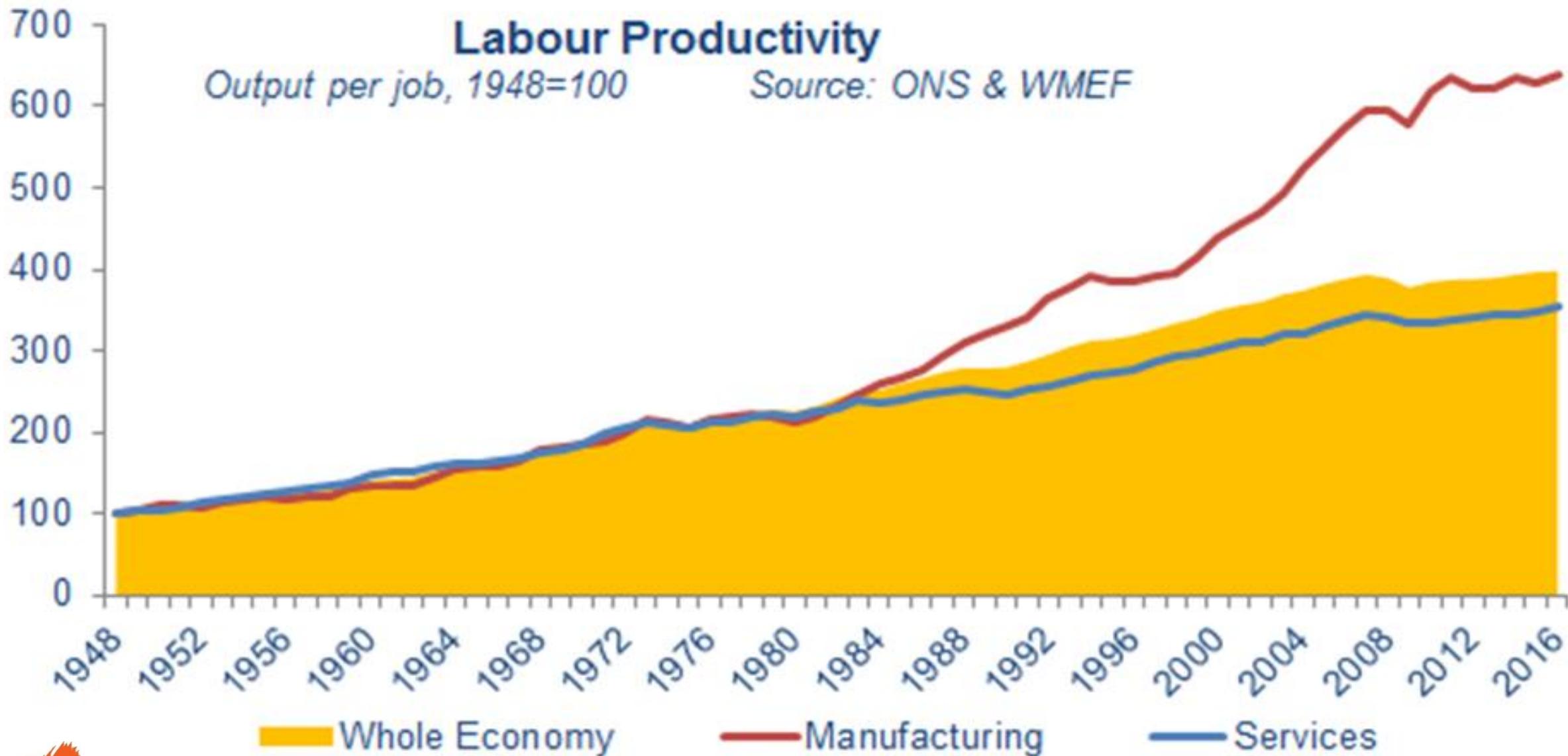
Source: WTO, HMRC & WMEF

		WMEF Estimated Impact		
SITC Code	WM-EU Exports 2016 (£'000)	Average Tariff	Minimum Tariff	Maximum Tariff
Total		512,794.06	31,525.79	1,693,078.02
% Impact		3.98	0.24	13.15

Labour Productivity

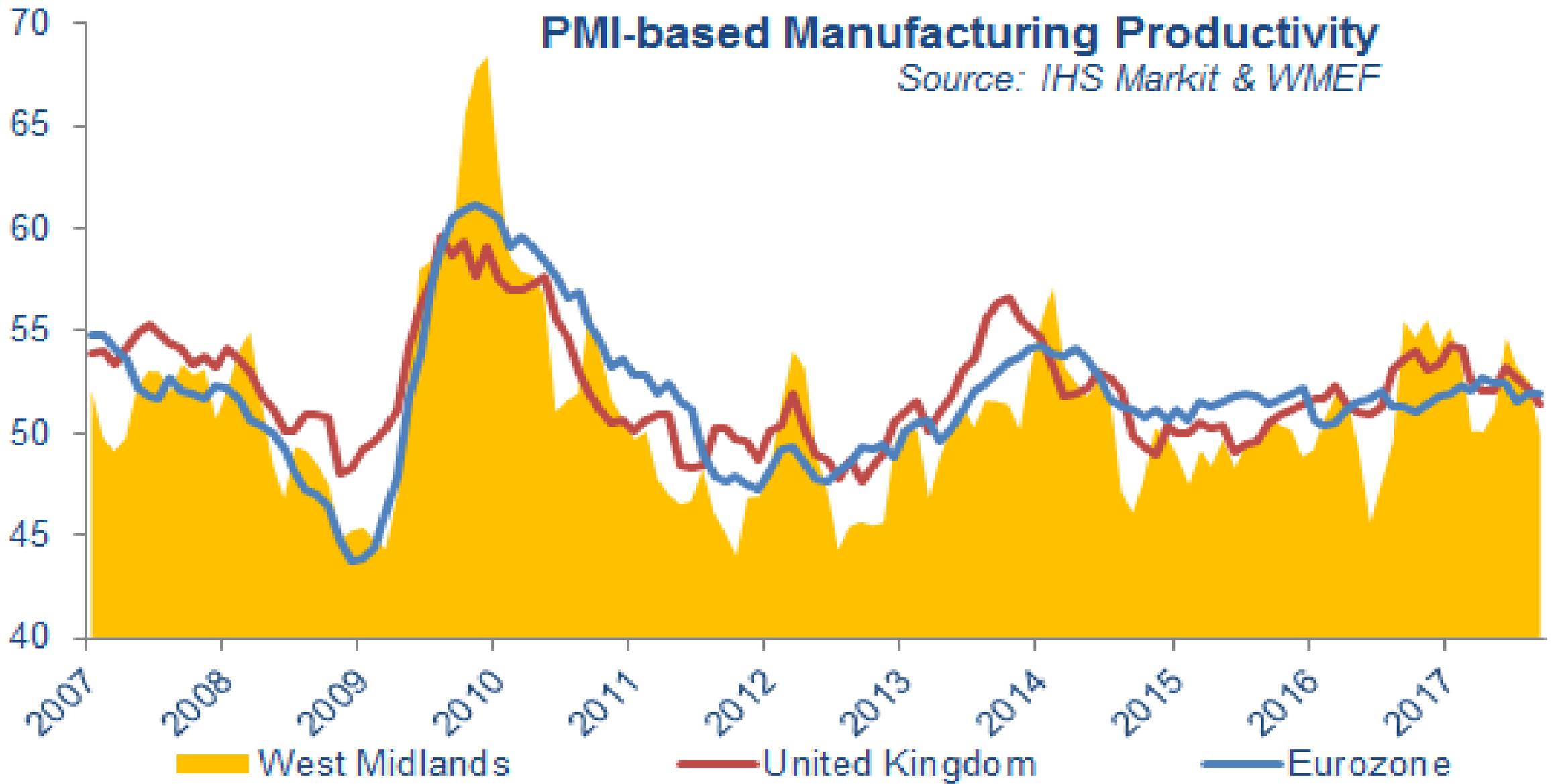
Output per job, 1948=100

Source: ONS & WMEF



PMI-based Manufacturing Productivity

Source: IHS Markit & WMEF



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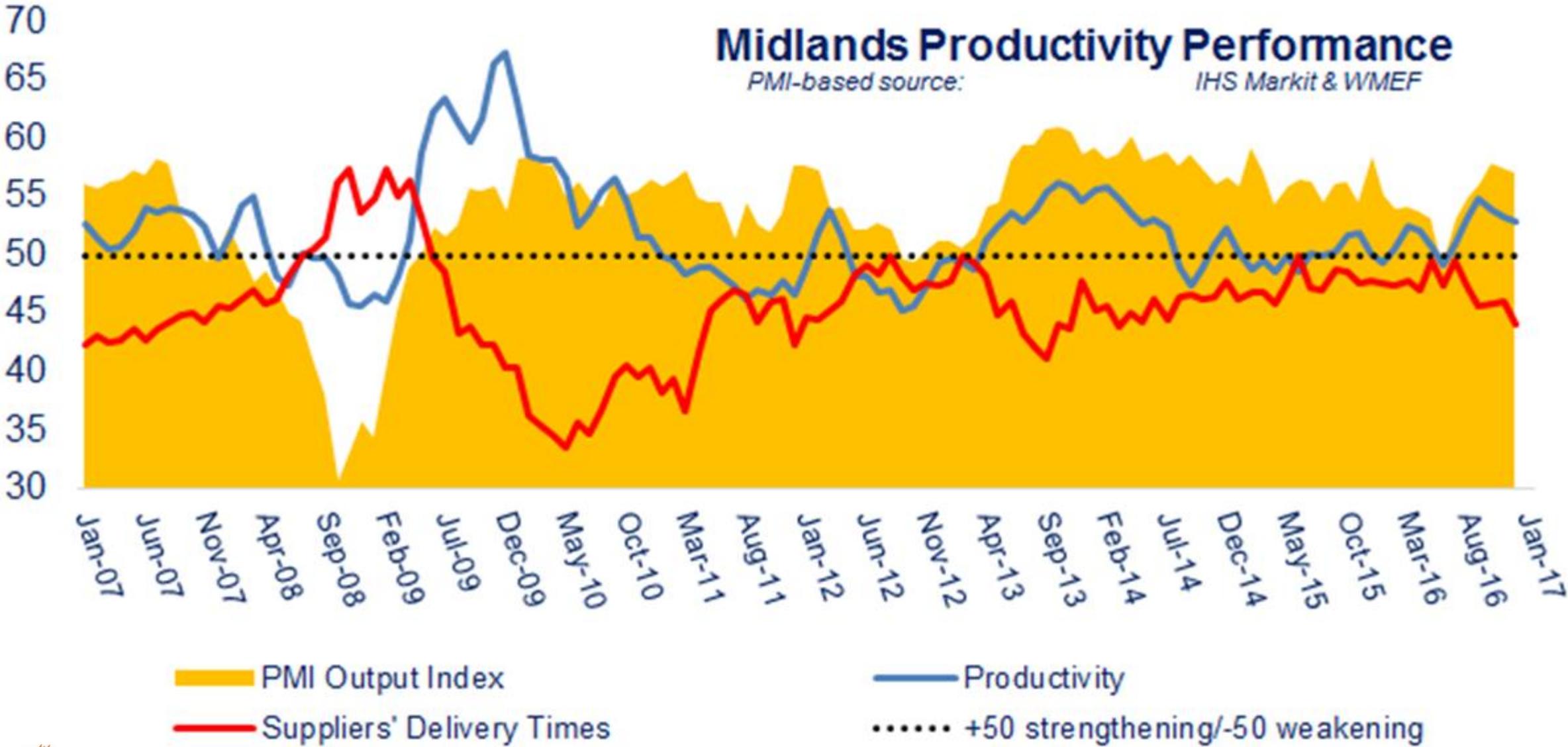
Growth trend in unit labor cost (ULC) in U.S. dollars and in national currency and exchange rates						
Country	Indicator	1999-2006	2007-2014	2014	2015	2016
United States	ULC in U.S. dollars	-2.0	0.4	3.3	1.8	3.2
	ULC in national currency	-2.0	0.4	3.3	1.8	3.2
	Exchange rates	0.0	0.0	0.0	0.0	0.0
Canada	ULC in U.S. dollars	4.6	1.7	-7.7	-10.5	-2.5
	ULC in national currency	1.2	1.3	-0.8	3.5	1.1
	Exchange rates	3.4	0.3	-6.9	-13.5	-3.5
France	ULC in U.S. dollars	0.9	1.6	0.8	-18.3	-0.4
	ULC in national currency	-0.6	0.9	0.8	-2.3	-0.2
	Exchange rates	1.5	0.7	-0.1	-16.4	-0.3
Germany	ULC in U.S. dollars	0.0	2.0	-2.1	-15.5	-0.5
	ULC in national currency	-1.5	1.3	-2.1	1.1	-0.2
	Exchange rates	1.5	0.7	-0.1	-16.4	-0.3
Italy	ULC in U.S. dollars	3.0	2.5	-0.9	-17.2	0.0
	ULC in national currency	1.5	1.8	-0.8	-1.0	0.3
	Exchange rates	1.5	0.7	-0.1	-16.4	-0.3
Japan	ULC in U.S. dollars	-2.6	-0.1	-8.2	-13.4	13.5
	ULC in national currency	-4.0	-1.3	-0.3	-1.0	2.1
	Exchange rates	1.5	1.2	-7.9	-12.5	11.3
United Kingdom	ULC in U.S. dollars	2.1	0.1	2.9	-2.9	-9.4
	ULC in national currency	0.7	1.5	-2.2	4.5	2.6
	Exchange rates	1.3	-1.4	5.3	-7.2	-11.6

source: US Conference Board & WMEF

Midlands Productivity Performance

PMI-based source:

IHS Markit & WMEF



Selected GVA Indicators

2014	ONS GVA per worker	WMEF estimated GVA per worker
London Region	74,516	
City of London & Camden <i>of which Financial Services</i>	93,208 203,046	101,523
West Midlands	39,984	
WMCA	46,248	
Aerospace		100,000
Automotive		80,000

source: ONS, NOMIS & WMEF

Transport Capital Expenditure 2005-15 (£ sterling)

Total (£m)	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Midlands	961	937	1,269	1,355	1,433	1,607	1,360	1,342	1,302	1,308	1,716
<i>of which: West Midlands</i>	557	559	763	775	836	899	746	730	829	740	962
London	1,892	2,310	2,379	2,311	2,796	3,593	3,341	2,957	2,514	2,924	3,869
Scotland	739	905	1,271	1,316	1,225	1,427	1,182	1,257	1,422	1,347	1,428

Memo Item:

Midlands Pop: 10.4m	London Pop: 8.7m	Comparative Midlands -London	Transport Capital Investment Shortfall 2004-15:	16,296
West Midlands Pop: 5.8m	Scotland Pop: 5.4m	Comparative West Midlands-Scotland	Transport Capital Investment Shortfall 2004-15:	5,123

Per Capita	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Midlands	99.96	96.79	133.43	147.93	151.82	156.20	134.77	132.28	126.74	127.33	165.69
<i>of which: West Midlands</i>	104.32	104.70	141.89	148.17	160.43	157.32	133.76	129.87	147.01	130.44	168.17
London	256.06	309.44	295.92	374.46	365.55	468.67	414.65	360.27	302.74	347.52	453.31
Scotland	145.55	177.54	245.30	248.37	257.95	240.52	224.59	237.17	267.74	252.82	267.29

Memo Item:

Midlands Pop: 10.4m	London Pop: 8.7m	Comparative Midlands-London	Per Capita Transport Shortfall 2004-15:	2,476
West Midlands Pop: 5.8m	Scotland Pop: 5.4m	Comparative West Midlands-Scotland	Per Capita Transport Shortfall 2004-15:	1,039

Source: HM Treasury & WMEF

BREXIT?

or

BINO?

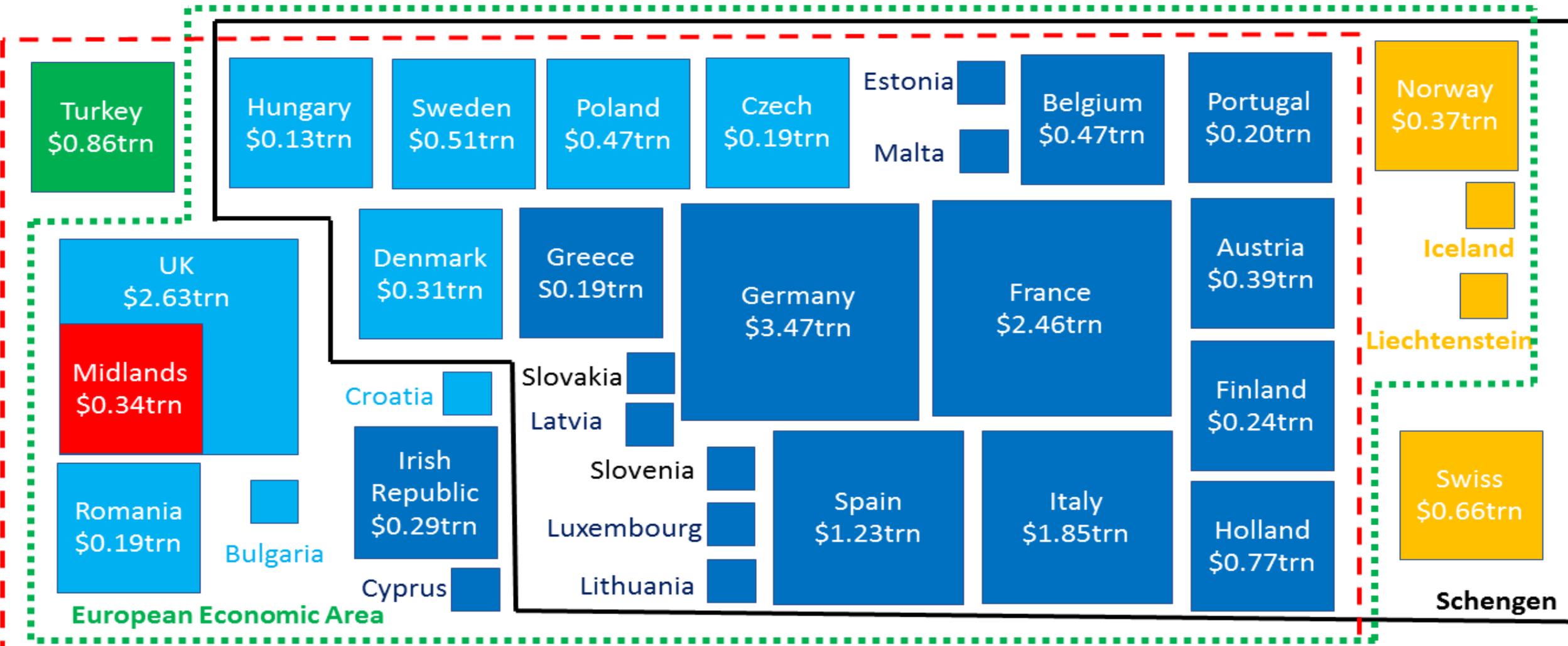


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EU & European Complexity



GDP Current US\$ 2016
 GDP other economies less than US\$100 billion

Source: EU, IMF, Bloomberg & WMEF

- EU-Euro Area
- EU-Own Currency
- EFTA
- EU Associate Member

Customs Union

Schengen

June 2016 Referendum: Comparative Results



	Remain %	Leave %	Leave Majority Votes	%	Turnout %
UK	48.10	51.90	1,269,501	3.80	72.20
of which:					
England	46.60	53.40	1,921,410	6.80	73.00
Scotland	62.00	38.00	-642,869	-24.00	67.20
Wales	47.50	52.50	82,225	5.00	71.70
Northern Ireland	55.80	44.20	-91,265	-11.60	62.90
West Midlands	40.70	59.30	548,512	18.60	72.00
East Midlands	41.20	58.80	442,443	17.60	74.20

WMCA Relationship	Local Government Area	Electorate	Percentage Turnout	Remain Votes	Leave Votes	Percentage Remain	Percentage Leave	Leave Majority	Percentage Leave Majority	Leave % of Electorate
Constituent	Birmingham	707,293	63.81	223,451	227,251	49.58	50.42	3,800	0.54	32.13
Constituent	Coventry	221,389	69.21	67,967	85,097	44.4	55.60	17,130	7.74	38.44
Constituent	Dudley	244,516	71.71	56,780	118,446	32.4	67.60	61,666	25.22	48.44
Constituent	Sandwell	221,429	66.58	49,004	98,250	33.28	66.72	49,246	22.24	44.37
Constituent	Solihull	160,425	76.06	53,466	68,484	43.84	56.16	15,018	9.36	42.69
Constituent	Walsall	194,729	69.68	43,572	92,007	32.14	67.86	48,435	24.87	47.25
Constituent	Wolverhampton	174,760	67.54	44,138	73,798	37.43	62.57	29,660	16.97	42.23
Non-Constituent	Cannock Chase	75,010	71.47	16,684	36,894	31.14	68.86	20,210	26.94	49.19
Non-Constituent	North Warwickshire	49,790	76.27	12,569	25,385	33.12	66.88	12,816	25.74	50.98
Non-Constituent	Nuneaton & Bedworth	93,978	74.35	23,736	46,095	33.99	66.01	22,359	23.79	49.05
Non-Constituent	Redditch	61,038	75.22	17,303	28,579	37.71	62.29	11,276	18.47	46.82
Non-Constituent	Rugby	74,137	79.03	25,350	33,199	43.3	56.70	7,849	10.59	44.78
Non-Constituent	Shropshire	236,788	77.42	78,987	104,166	43.13	56.87	25,179	10.63	43.99
Non-Constituent	Stratford-on-Avon	98,014	80.82	38,341	40,817	48.44	51.56	2,476	2.53	41.64
Non-Constituent	Tamworth	56,825	74.18	13,705	28,424	32.53	67.47	14,719	25.90	50.02
Non-Constituent	Telford & Wrekin	124,338	72.15	32,954	56,649	36.78	63.22	23,695	19.06	45.56
Non-Constituent	Warwickshire	103,099	79.22	47,976	33,642	58.78	41.22	-14,334	-13.90	32.63
LEP-affiliate	Bromsgrove	74,170	79.35	26,252	32,563	44.63	55.37	6,311	8.51	43.90
LEP-affiliate	East Staffordshire	83,558	74.39	22,850	39,266	36.79	63.21	16,416	19.65	46.99
LEP-affiliate	Lichfield	80,369	78.78	26,064	37,214	41.19	58.81	11,150	13.87	46.30
LEP-affiliate	Wyre Forest	77,878	74.05	21,240	36,392	36.85	63.15	15,152	19.46	46.73
Observer	Herefordshire	138,247	78.36	44,148	64,122	40.78	59.22	19,974	14.45	46.38
Other WM Region	Stoke-on-Trent	179,010	65.74	36,027	81,563	30.64	69.36	45,536	25.44	45.56
Other WM Region	Newcastle-under-Lyme	92,816	74.30	25,477	43,457	36.96	63.04	17,980	19.37	46.82
Other WM Region	South Staffordshire	85,777	77.81	23,444	43,248	35.15	64.85	19,804	23.09	50.42
Other WM Region	Stafford	99,612	77.83	34,098	43,386	44.01	55.99	9,288	9.32	43.55
Other WM Region	Staffordshire Moorlands	79,347	75.36	21,076	38,684	35.27	64.73	17,608	22.19	48.75
Other WM Region	Malvern Hills	60,217	80.61	23,203	25,294	47.84	52.16	2,091	3.47	42.00
Other WM Region	Worcester	73,516	73.85	25,125	29,114	46.32	53.68	3,989	5.43	39.60
Other WM Region	Wychavon	94,497	80.88	32,188	44,201	42.14	57.86	12,013	12.71	46.78

Rumoured Government Brexit Assessment

assumed forecast impact on economic growth over 15 years compared to current forecasts

Region	Single market	Free trade	No deal
East Midlands	-1.80%	-5%	-8.50%
West Midlands	-2.50%	-8%	-13%
Wales	-1.50%	-5.50%	-9.50%
United Kingdom	-2%	-5%	-8%

source:BBC

Rumoured Government Brexit Assessment

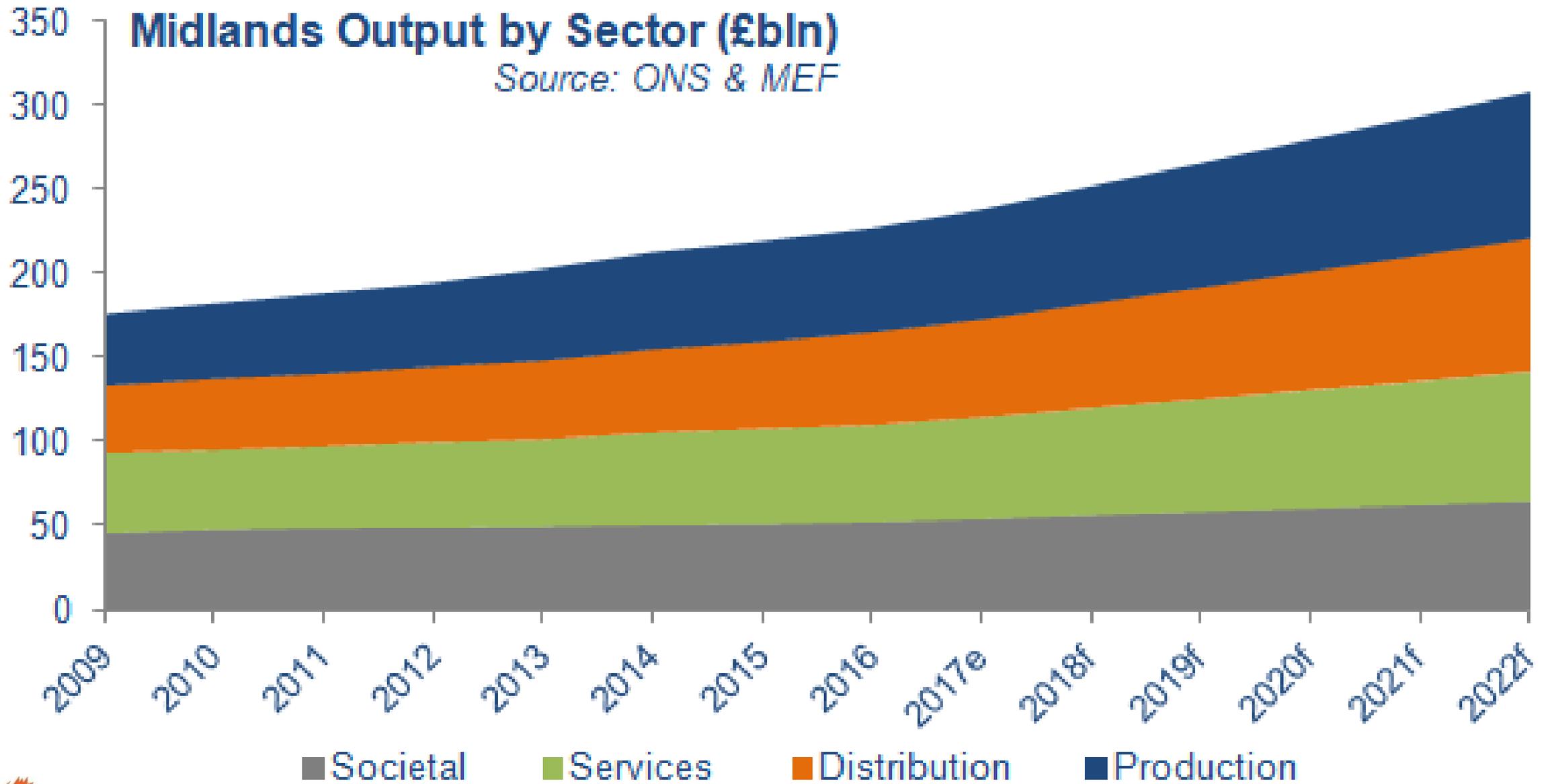
assumed forecast impact on annual economic growth over 15 years compared to current forecasts (%)

Region	Single market	Free trade	No deal
East Midlands	-0.12%	-0.33%	-0.57%
West Midlands	-0.17%	-0.53%	-0.87%
Wales	-0.10%	-0.37%	-0.63%
United Kingdom	-0.13%	-0.33%	-0.53%

source: BBC & WMEF

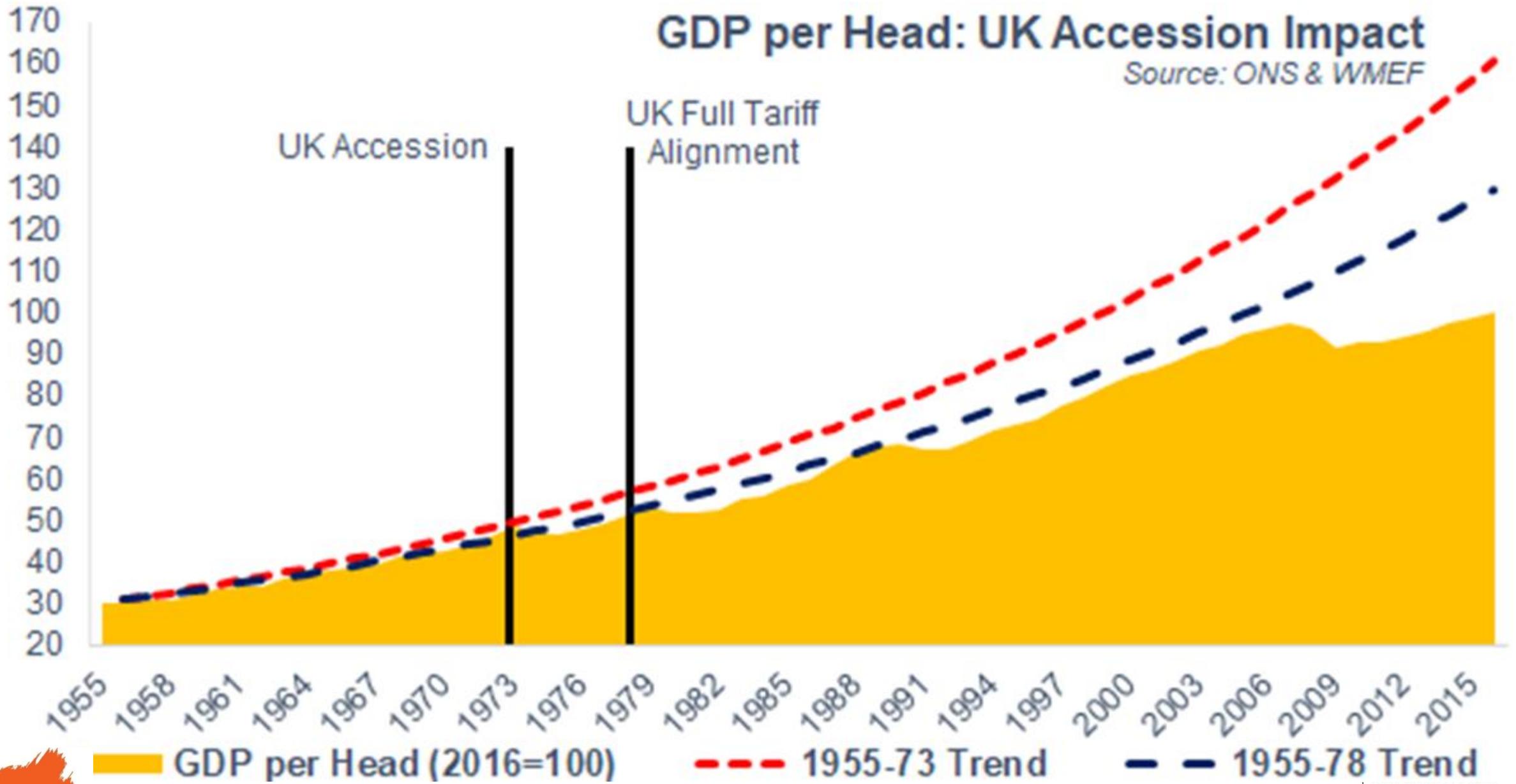
Midlands Output by Sector (£bln)

Source: ONS & MEF



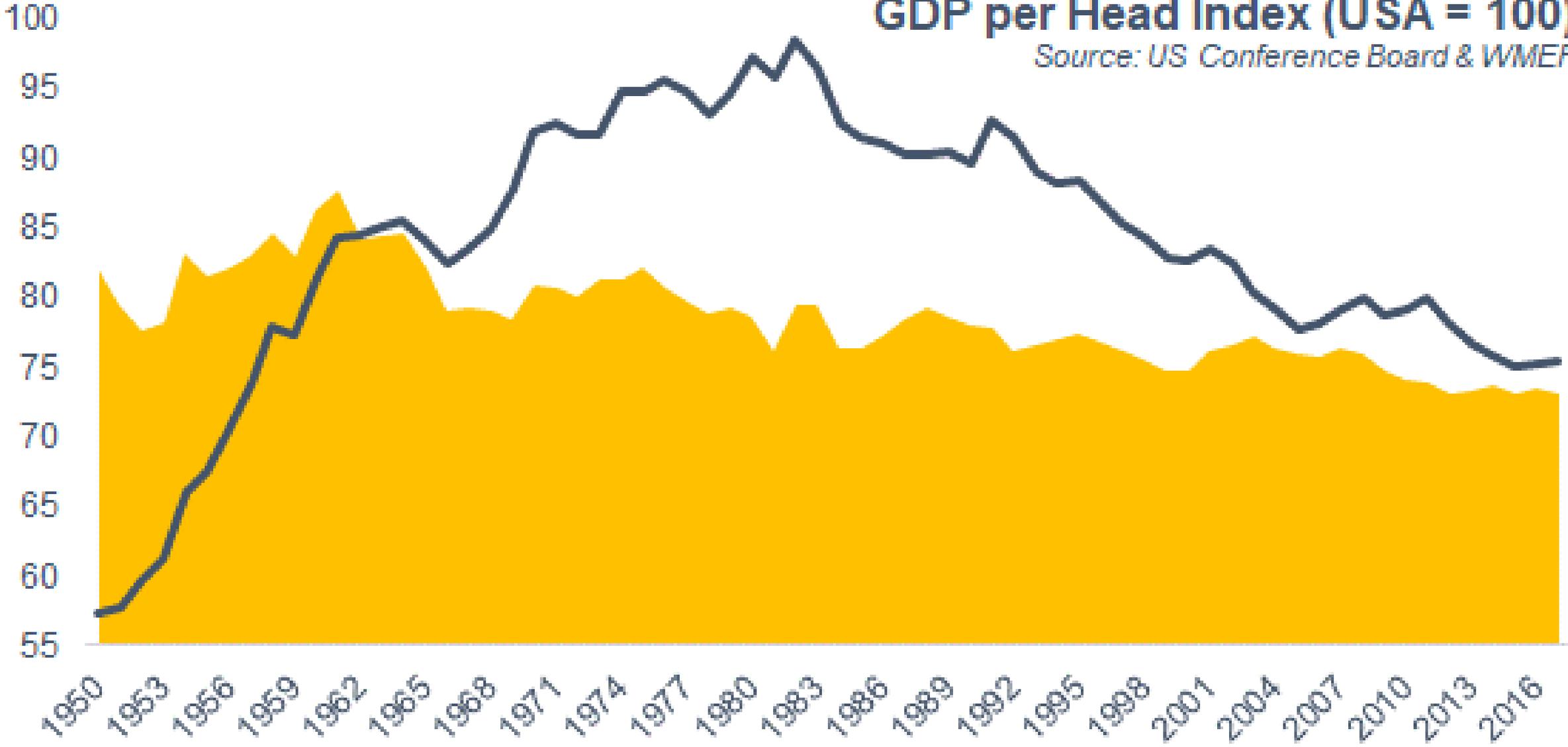
GDP per Head: UK Accession Impact

Source: ONS & WMEF



GDP per Head Index (USA = 100)

Source: US Conference Board & WMEF



UK

EU6 (weighted average by population)



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BCU-MEF Output Model - Quarterly Assumption

Change in %	2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1f	Q2f	Q3f	Q4f
GDP (Preliminary)	0.4	0.6	0.5	0.6	0.3	0.3	0.4	0.5	0.4	0.6	0.5	0.6
GDP (Final)	0.4	0.6	0.6	0.6	0.3	0.4	0.5	0.5	0.4	0.6	0.5	0.6
UK GVA	0.3	1.5	1.7	1.1	1.0	1.2	1.1	1.2	1.1	1.3	1.1	1.4
Midlands GVA	0.4	1.6	1.8	1.2	1.0	1.3	1.1	1.2	1.1	1.5	1.3	1.5
GDP	1.9				1.8				2.1			
Midlands GVA	3.5				4.8				5.8			

Source: ONS, IMF & MEF

BCU-MEF Output Model - Yearly Assumptions

	2015	2016	2017e	2018f	2019f	2020f	2021f	2022f
<i>Source: ONS, IMF & MEF</i>								
UK GDP (£bln)	1,889	1,925	1,960	2,001	2,045	2,096	2,153	2,211
UK GDP Growth (%)	2.3	1.9	1.8	2.1	2.2	2.5	2.7	2.7
UK GVA (£bln)	1,685	1,748	1,828	1,930	2,031	2,132	2,233	2,337
UK GVA Growth (%)	2.8	3.7	4.6	5.6	5.2	5.0	4.7	4.7
Midlands GVA (£bln)	218.9	226.7	237.7	251.5	265.2	279.1	292.9	307.4
Midlands GVA Growth (%)	3.1	3.5	4.8	5.8	5.4	5.2	4.9	4.9

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