

UK employment and the UK's membership of the Single Market

A Cebr report for Britain Stronger in Europe

May 2016

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Contents

1	Background	4
2	New data from HM Treasury	4
3	Jobs linked to UK exports to EU countries	5
4	Jobs linked to Single Market deepening	8

1 Background

Cebr's October 2015 report for the Britain Stronger in Europe campaign presented estimates of the past, present and future benefits arising from the UK's membership of the European Single Market. This included estimates of the jobs that can be linked to exports from the UK to other EU countries and the number of jobs that could be created given potential future openness and co-operation in the Single Market.

Specifically, we estimated that:

- Total employment (including multiplier effects) attributed to the UK's trading links with Europe was just over 3.1 million in 2014 (the latest available data at the time of producing the original Cebr report).
- The greater openness and co-operation of a deepened Single Market can, with continued UK membership, deliver a permanent boost to GDP of 2.8%, leading to the creation of 791,000 net additional jobs.

Cebr was requested by Britain Stronger in Europe to provide regional and sectoral breakdowns of both estimates. That is the purpose of this report.

2 New data from HM Treasury

Since Cebr's report, HM Treasury has produced estimates of the number of jobs that are linked to UK exports to EU countries. HMT's analysis suggests that 3.25 million jobs, out of a total of 33.8 million across the UK, depend on exports to the EU. This 3.25 million is also broken down by UK region (Table 1).

Table 1: HMT's estimates of UK jobs linked to exports to EU countries (Ex-regio - activities not assigned to any UK region)

Area	Jobs related to EU exports	Total UK workforce jobs Dec 2015
UK	3,250,000	33,783,000
North East	100,000	1,172,000
North West	350,000	3,542,000
Yorkshire and the Humber	250,000	2,635,000
East Midlands	200,000	2,343,000
West Midlands	250,000	2,800,000
East of England	300,000	3,068,000
London	650,000	5,576,000
South East	450,000	4,693,000
South West	250,000	2,944,000
Wales	100,000	1,452,000
Scotland	250,000	2,697,000
Northern Ireland	50,000	849,000
Ex-regio	50,000	12,000
TOTAL	3,250,000	33,783,000

Source: HM Treasury

The most likely reason for the difference between the Cebr and HMT estimate – 3.1 million vs. 3.25 million respectively – is that the HMT analysis is more up-to-date, based on employment statistics for December 2015. Employment in the UK had increased substantially between 2014, the latest available data for Cebr’s original study, and the end of 2015.

Given that the HM Treasury estimates use more up-to-date data, we used these estimates as the starting point for our analysis.

3 Jobs linked to UK exports to EU countries

HMT provides further detail on how its 3.25 million estimate breaks down between direct jobs – those directly involved in exporting – and indirect jobs – those relating to indirect demand generated in the wider economy as a result of export activities. These estimates are shown in Table 2, which shows HMT’s estimates of 1.90 million direct jobs and 1.35 million indirect jobs.

The table also presents Cebr’s estimates of how these direct and indirect jobs estimates are likely to break down across the regions of the UK.

Table 2: Jobs linked to UK exports to the EU, by region

Area	Direct jobs	Indirect jobs	Total jobs
UK	1,900,000	1,350,000	3,250,000
North East	64,900	35,100	100,000
North West	196,200	153,800	350,000
Yorkshire and the Humber	145,950	104,050	250,000
East Midlands	129,800	70,200	200,000
West Midlands	155,100	94,900	250,000
East of England	169,950	130,050	300,000
London	308,900	341,100	650,000
South East	259,950	190,050	450,000
South West	163,100	86,900	250,000
Wales	80,450	19,550	100,000
Scotland	149,400	100,600	250,000
Northern Ireland	47,050	2,950	50,000
Ex-regio	29,250	20,750	50,000
TOTAL	1,900,000	1,350,000	3,250,000

Source: HM Treasury, Cebr analysis

Direct jobs are broken down according to each region’s share of HMT’s total workforce jobs data, as presented in Table 1 above. This amounts to a simplifying assumption that the strength of each region in providing jobs directly related to exporting reflects the region’s overall strength in providing workforce jobs. This is not an unreasonable assumption, given the law of comparative advantage and the incentives trade provides towards specialisation. This is the best available approach.

The regional breakdown of indirect jobs is taken as the residual when Cebr's regional direct jobs estimates are subtracted from HMT's regional estimates of all jobs (direct and indirect) linked to trade with EU countries.

Table 3 shows HMT's direct and indirect jobs estimates and how Cebr has broken these down by industry sector. This breakdown was informed by Cebr's modelling of the economic impacts of exporting to the EU for the October 2015 report. We applied Cebr's industry sector shares of direct jobs linked to trade with the EU to HMT's estimates of direct jobs. We used Cebr's input-output models to produce estimates of indirect jobs by mapping the supply chain links between the directly exporting sectors and the other sectors of the economy.

Table 3: Jobs linked to UK exports to EU countries, by sector

Sector	Direct jobs	Indirect jobs	Total jobs
Agriculture, forestry and fishing	42,410	42,880	85,290
Mining and quarrying	40,100	34,090	74,190
Manufacturing	565,500	376,210	941,710
Electricity, gas, steam and air-conditioning supply	140	6,590	6,730
Water supply; sewerage, waste management	20,950	10,580	31,530
Construction	2,870	20,470	23,340
Wholesale and retail trade, repair of motor vehicles	344,340	10,540	354,880
Transportation and storage	68,350	165,320	233,670
Accommodation and food service activities	101,000	27,440	128,440
Information and communication	95,080	86,720	181,800
Financial and insurance activities	216,730	60,500	277,230
Real estate activities	2,850	9,700	12,550
Professional, scientific and technical activities	180,840	219,800	400,640
Administrative and support service activities	139,000	223,490	362,490
Public administration and defence; compulsory social security	5,760	8,200	13,960
Education	22,480	23,460	45,940
Human health and social work activities	1,420	2,240	3,660
Arts, entertainment and recreation	43,350	9,890	53,240
Other service activities	6,830	11,880	18,710
TOTALS	1,900,000	1,350,000	3,250,000

Source: HM Treasury, Cebr analysis

The remaining task was to marry Table 2 and Table 3 to provide a breakdown by sector **and** region. This is presented in Table 4 below.

These breakdowns were informed by the strength of employment in each sector in each region.

Table 4: Direct and indirect jobs linked to UK exports to EU countries, by sector and region

Total jobs (direct and indirect)	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland	Ex-regio	TOTALS
Agriculture, forestry and fishing	1,770	6,700	6,120	4,980	6,600	9,440	810	10,820	11,750	7,400	13,810	5,090		85,290
Mining and quarrying	820	630	1,670	1,590	130	660	2,170	1,460	1,130	490	15,160	490	47,790	74,190
Manufacturing	41,640	128,690	103,180	89,900	110,920	89,200	55,880	102,720	83,960	42,780	72,680	20,160		941,710
Electricity, gas, steam and air-conditioning supply	180	640	480	800	840	360	660	1,100	460	100	1,100	10		6,730
Water supply; sewerage, waste management	1,020	3,660	2,340	2,160	2,960	3,040	3,580	4,780	3,190	1,220	2,910	670		31,530
Construction	650	2,330	1,080	1,190	1,390	2,550	5,300	4,090	1,920	790	1,840	210		23,340
Wholesale and retail trade, repair of motor vehicles	12,370	37,240	24,300	22,900	29,030	35,370	61,870	55,010	30,080	12,860	25,550	8,300		354,880
Transportation and storage	7,250	26,560	19,900	14,200	18,960	21,990	50,980	36,110	14,370	3,940	17,900	1,510		233,670
Accommodation and food service activities	3,860	13,120	7,730	6,130	7,160	11,410	31,170	19,720	12,990	5,210	8,350	1,590		128,440
Information and communication	3,530	12,670	8,490	4,930	7,850	16,630	68,700	36,660	9,710	2,610	8,550	1,470		181,800
Financial and insurance activities	5,100	24,710	19,160	7,110	12,380	18,600	104,300	34,480	20,280	6,270	21,100	3,740		277,230
Real estate activities	350	1,130	640	510	810	740	4,660	1,750	970	360	570	60		12,550
Professional, scientific and technical activities	8,300	41,040	21,260	16,710	20,190	37,420	129,760	65,510	26,640	5,090	25,490	3,230		400,640
Administrative and support service activities	9,200	38,140	26,850	20,670	23,460	41,420	90,540	54,330	22,830	6,180	26,670	2,200		362,490
Public administration and defence; compulsory social security	360	1,150	550	390	520	680	4,930	1,110	560	460	760	280	2,210	13,960
Education	1,410	4,130	2,130	1,960	2,060	4,260	14,030	8,410	3,510	1,600	2,220	220		45,940
Human health and social work activities	40	310	40	30	40	250	1,930	670	220	20	50	60		3,660
Arts, entertainment and recreation	1,670	5,320	3,210	2,960	3,650	4,410	12,740	8,110	4,170	2,020	4,360	620		53,240
Other service activities	480	1,830	870	880	1,050	1,570	5,990	3,160	1,260	600	930	90		18,710
TOTALS	100,000	350,000	250,000	200,000	250,000	300,000	650,000	450,000	250,000	100,000	250,000	50,000	50,000	3,250,000

4 Jobs linked to Single Market deepening

In the original October 2015 report, we presented an estimate of 791,000 jobs that could be created as a result of greater openness and co-operation in a deepened Single Market. This section provides indicative breakdowns of this forecast, again by sector and region.

These breakdowns are presented for a narrower set of industry sectors that correspond with how the European Parliament has disaggregated the economy for the purposes of their EU-wide assessments of the economic impacts of these further Single Market measures.

The results are presented in Table 6 below. Note that 'Miscellaneous' covers, as indicated by the European Parliament, other consumer services and includes:

- Education;
- Health and social care;
- Arts, entertainment and recreation; and
- Other service activities.

Producing Table 6 involved a number of steps, as follows:

- First, we broke the 791,000 net additional jobs forecast down according to the different programs designed to deepen the workings of the Single Market, including the Digital Single Market (DSM), the completion of the existing Single Market (including the Single Market for services), financial market reform, integrated energy market, transport, TTIP and an 'all else' category to cover a number of smaller programs.
- Second, we consulted the reports prepared on behalf of the European Parliament on each of these programs. Some of these, for instance, the report by GHK on the DSM includes details of how the anticipated boost to EU-wide GDP (0.4%) as a result of implementation of the DSM is spread across broad sectors.¹ In Cebr's October 2015 report, this was translated into a permanent boost of £3.6 billion (2015 prices) to UK GDP by 2030. This is illustrated in Table 5 below.
- We note that the timing of the benefits anticipated as a result of the various single market programs is different in the various reports dealing with them. The GHK analysis is, for example, based on the DSM benefits being realised by 2020. Others are based on the benefits being realised by either 2025, 2027 or 2030. For that reason, and in line with the October 2015 report, we adopted the conservative assumption that the projected benefits would be realised by 2030.
- GHK notes that the sectoral pattern of results reflects the strength of the supply chain links between computing and the rest of the economy. Communications and computing is, unsurprisingly, anticipated to receive the strongest boost to its sector-level GDP contribution of 1.0%. Relatively strong benefits also accrue to sectors that use computing services and hence experience lower unit costs, such as the 'miscellaneous' consumer services category. Manufacturing and construction are also anticipated to benefit relatively significantly from the DSM measures.

¹ GHK (2014), "The Cost of Non-Europe in the Single Market: III – Digital Single Market", Report prepared by GHK London for the European Added Value Unit the European Parliament.

Table 5: Projected sector-level GDP boost forecasted to arise from implementation of the Digital Single Market

CoNE DSM	% GDP boost
Agriculture	0.1%
Mining and utilities	0.2%
Manufacturing	0.5%
Construction	0.8%
Distribution and retail	0.4%
Transport and warehousing	0.2%
Hotels and catering	0.3%
Communications and computing	1.0%
Banking and business sectors	0.3%
Real estate and other business services	0.4%
Public administration	0.1%
Miscellaneous	0.6%
TOTAL	0.4%

Source: GHK

- Third, we applied the same logic to the other Single Market programs, on which there was not the same level of sector-level detail in the European Parliament reports. In other words, drawing on the more qualitative reports produced on these other programs, we made judgements about the sectors likely to be most impacted, both directly and indirectly, by these programs.

Table 6 provides our best estimates, therefore, of how the job creation anticipated to result from greater openness and co-operation in a deepened European Single Market are spread across the regions and broad sectors of the UK economy.

Table 6: Net additional UK jobs projected to result from further Single Market deepening, by region and broad sector

BROAD SECTOR	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland	Ex-regio	TOTALS
Agriculture	240	750	700	610	760	1,030	10	810	1,320	870	1,550	620		9,270
Mining and utilities	320	660	610	680	540	510	280	630	670	330	2,450	250	5,960	13,890
Manufacturing	5,640	15,100	12,270	11,410	13,320	10,220	2,260	8,100	10,310	6,130	9,100	3,530		107,390
Construction	1,370	2,920	1,520	2,120	1,990	2,920	2,340	3,240	2,690	1,770	2,620	1,110		26,610
Distribution and retail	5,690	12,010	8,200	9,320	10,010	10,630	7,100	11,420	10,610	6,630	9,330	5,240		106,190
Transport and warehousing	1,980	4,610	3,560	3,290	3,580	3,540	3,150	4,020	2,970	1,790	3,560	1,390		37,440
Hotels and catering	1,940	4,040	2,560	2,780	2,570	3,210	3,390	3,830	4,330	2,660	3,060	1,640		36,010
Communications and computing	2,250	3,450	2,540	2,890	2,680	3,740	6,020	5,710	3,350	2,620	3,120	2,360		40,730
Banking and business sectors	6,550	14,120	9,430	9,420	8,730	10,650	17,320	13,120	12,120	7,780	12,160	6,920		128,320
Real estate and other business services	4,410	10,150	7,430	7,640	7,120	9,910	8,730	9,150	7,360	4,590	8,200	3,550		88,240
Public administration	840	1,620	890	1,100	860	840	2,350	930	1,080	1,160	1,340	940	3,090	17,040
Miscellaneous	10,360	19,080	10,560	14,240	12,290	15,220	22,480	21,280	17,530	13,200	14,310	9,250		179,800
TOTALS	41,590	88,510	60,270	65,500	64,450	72,420	75,430	82,240	74,340	49,530	70,800	36,800	9,050	790,930