

NIESR Election Briefing No. 7

THE UK'S PRODUCTIVITY PUZZLE: LABOUR, INVESTMENT AND FINANCE

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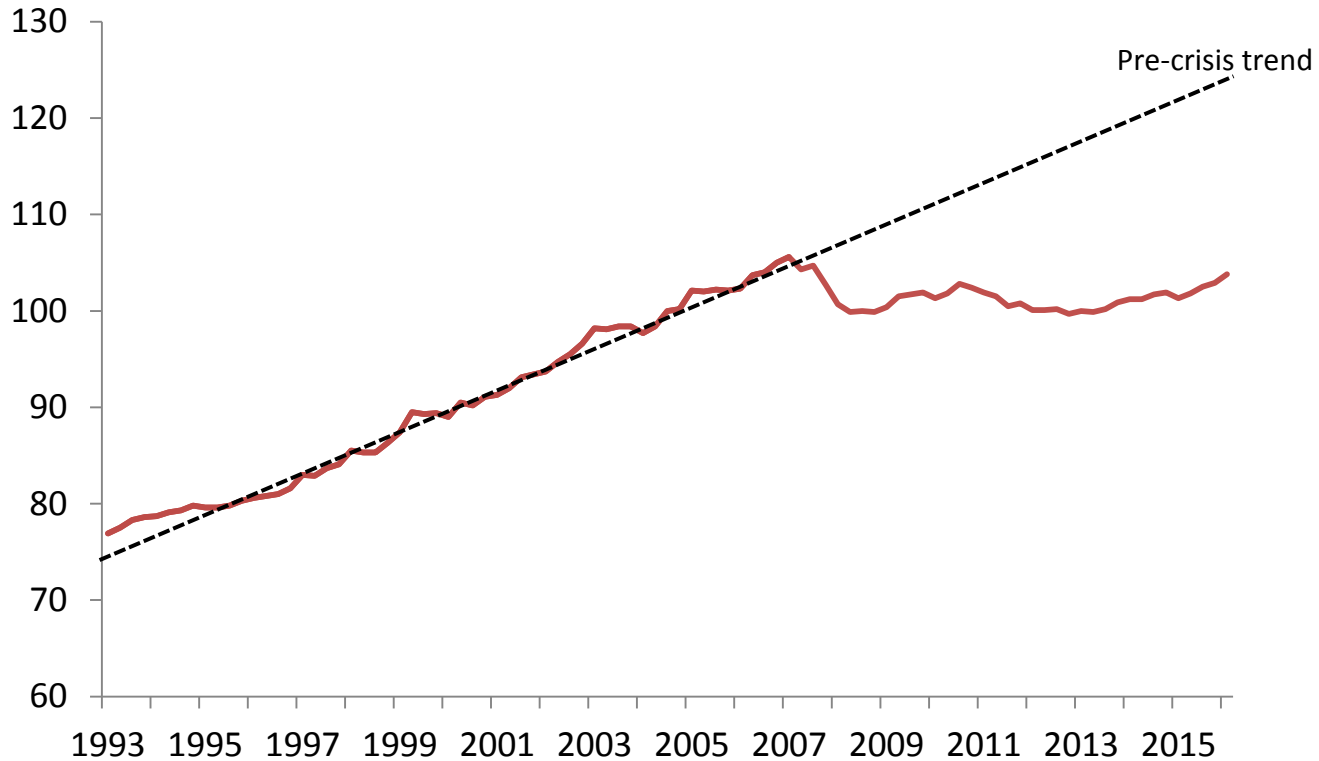


June 2017 election briefing and analysis on key economic themes



National Institute of Economic and Social Research

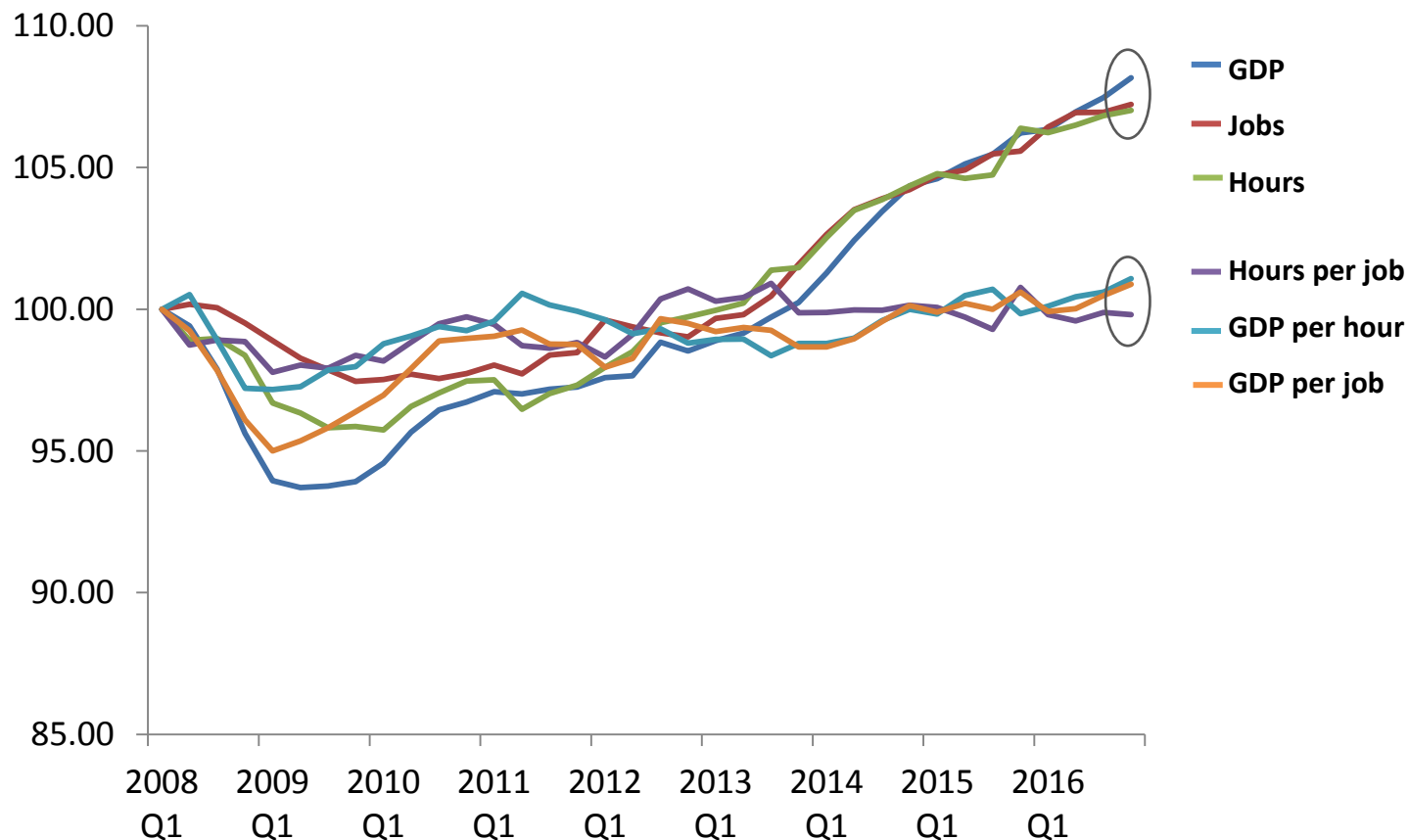
Figure1. Output per Hour Worked



Note: Market Sector SA; Output is measured as nominal GVA; Index 2013=100
Source: ONS & NIESR



Figure 2. Trend in output, employment and productivity after the crisis



Note: Output is measured as real GVA; Index 2008Q1 = 100

Source: ONS & NIESR



Table 1. Growth accounting

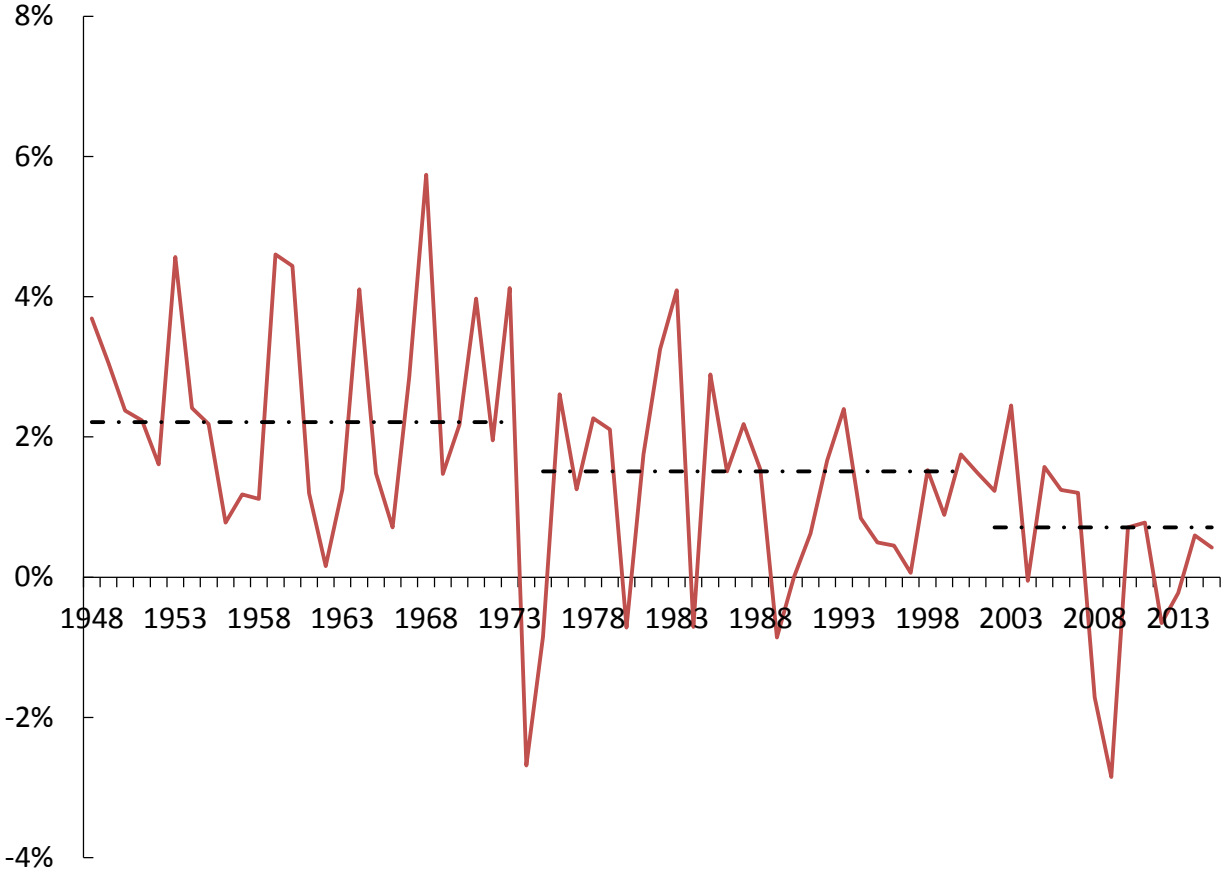
	Annual Growth Rate of Y/L	Contribution of K/L (capital deepening)	Contribution of A	Contribution of K/L (capital deepening)	Contribution of A
1760-2015	1.33	0.48	0.85	36%	64%
1938-2015	2.38	0.90	1.48	38%	62%
1950-2015	2.46	1.02	1.44	41%	59%

	Average Annual Growth rate of Y	Average Contribution of Labour	Average Contribution of K	Average contribution of A	Average Contribution of Labour	Average Contribution of K	Average contribution of A
1760-2015	1.94	0.37	0.71	0.85	19%	37%	44%
1938-2015	2.42	0.03	0.91	1.48	1%	38%	61%
1950-2016	2.52	0.04	1.04	1.44	2%	41%	57%

Source: NIESR & BoE



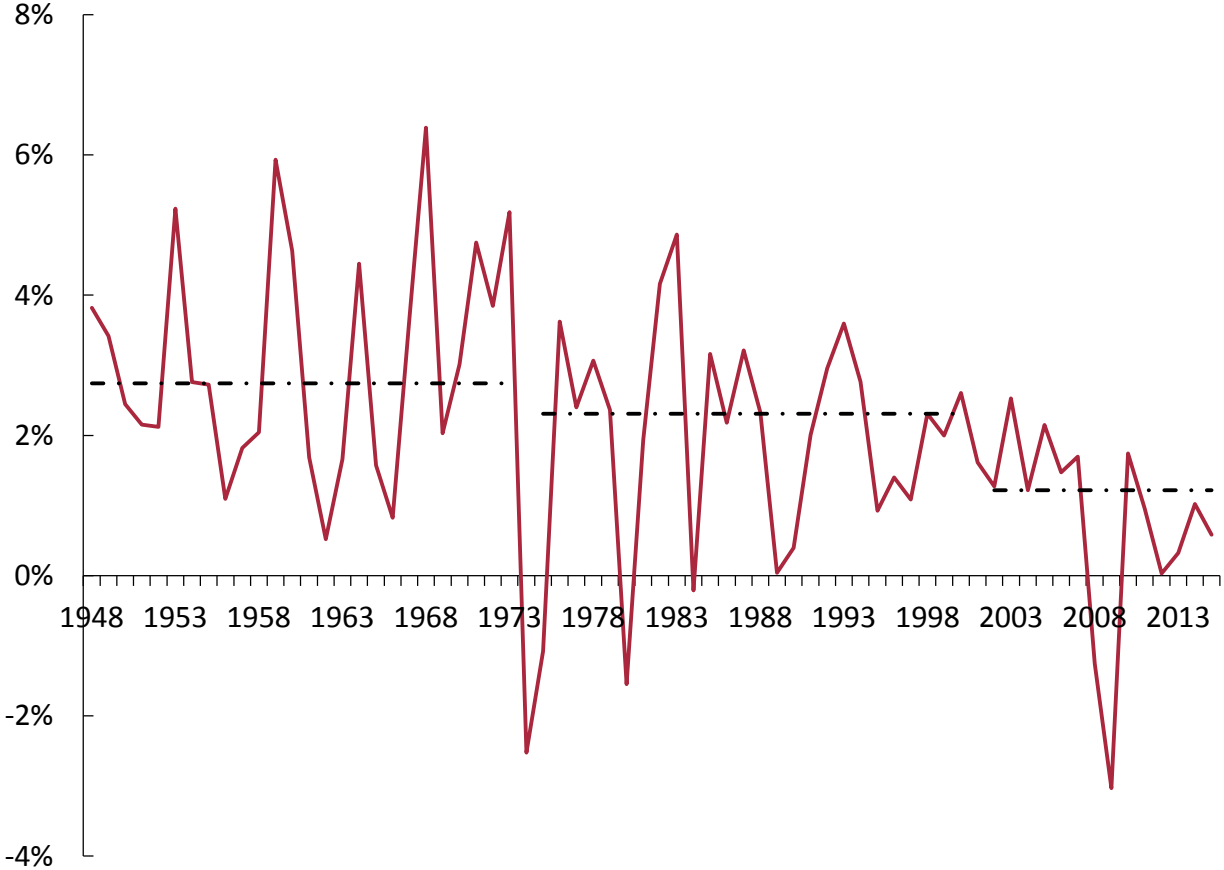
Figure 3. Total factor productivity growth 1948–2015



Note: Output is measured as Real GDP
Source: Bank of England, 3 centuries dataset



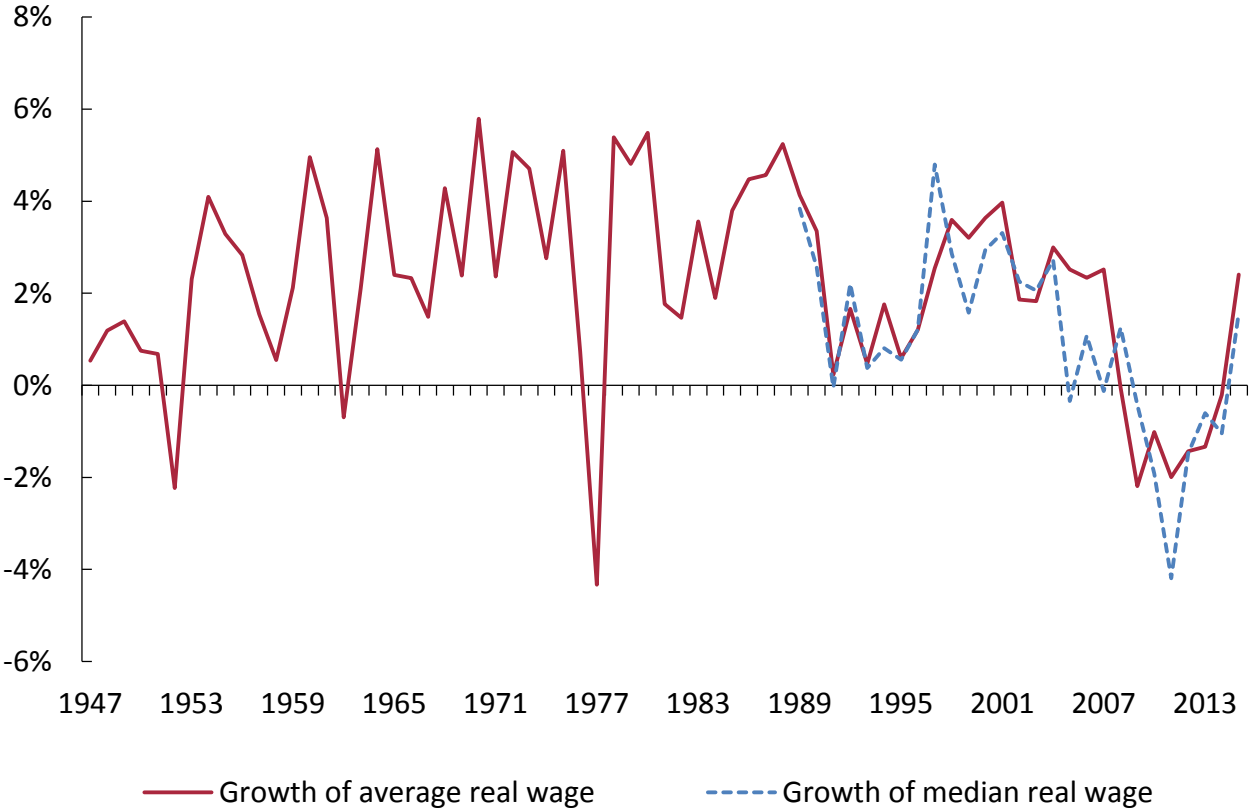
Figure 4. Labour productivity per head growth 1948–2015



Note: Output is measured as Real GDP
Source: Bank of England, 3 centuries dataset



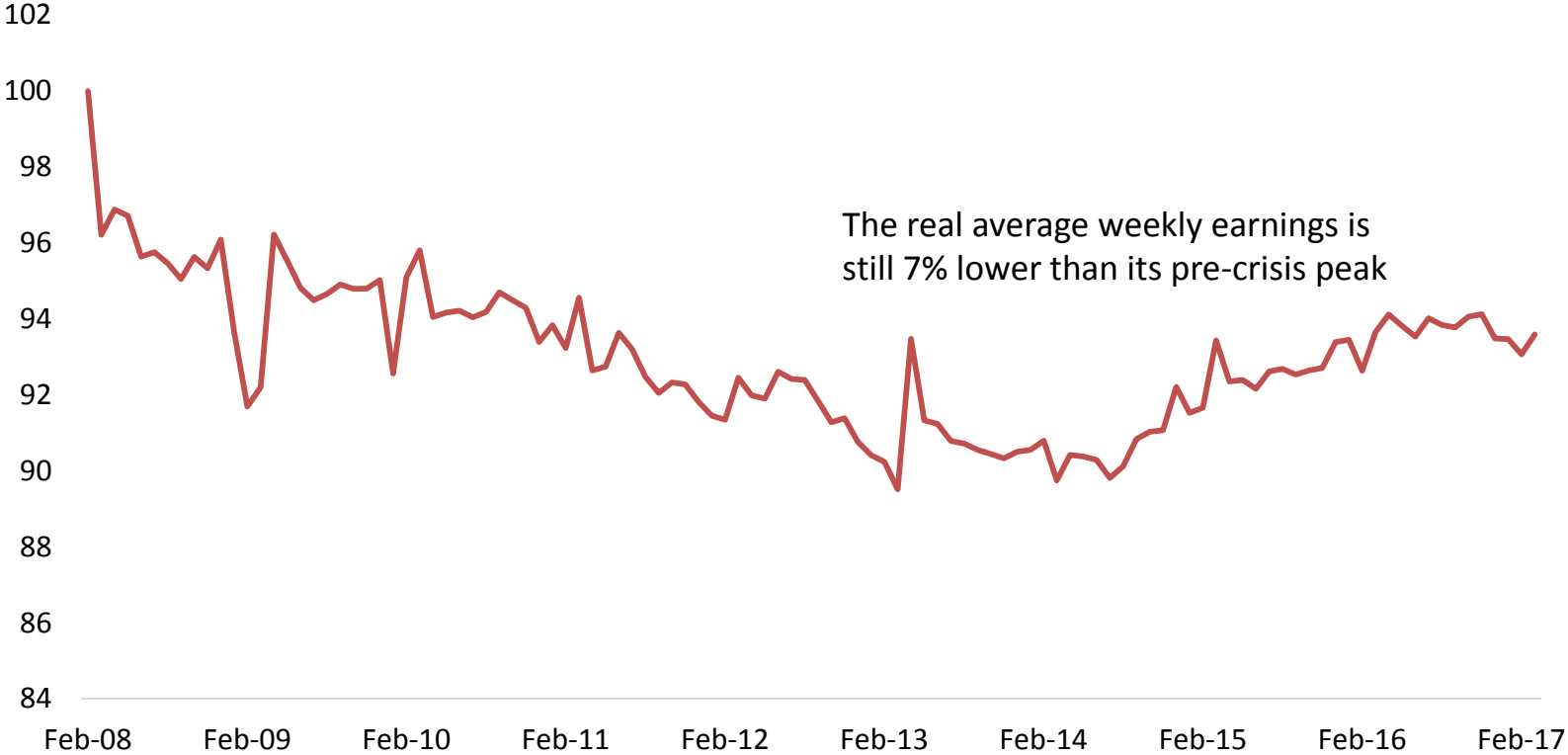
Figure 5. Growth of average and median real wage 1946 - 2015



Source: ONS and Bank of England.



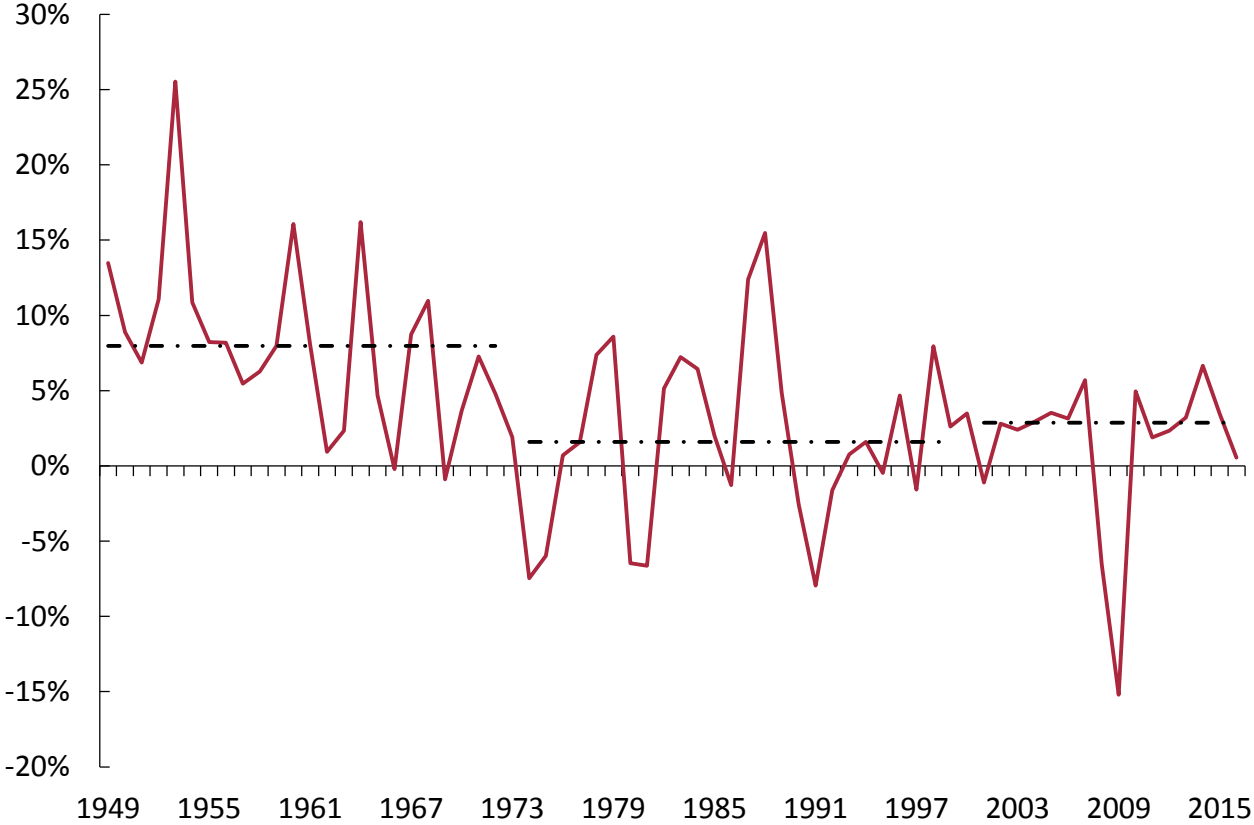
Figure 6. Real Average Weekly Earnings (January 2005 – March 2017)



Note: Feb 2008 = 100, SA
Source: ONS (EARN01)



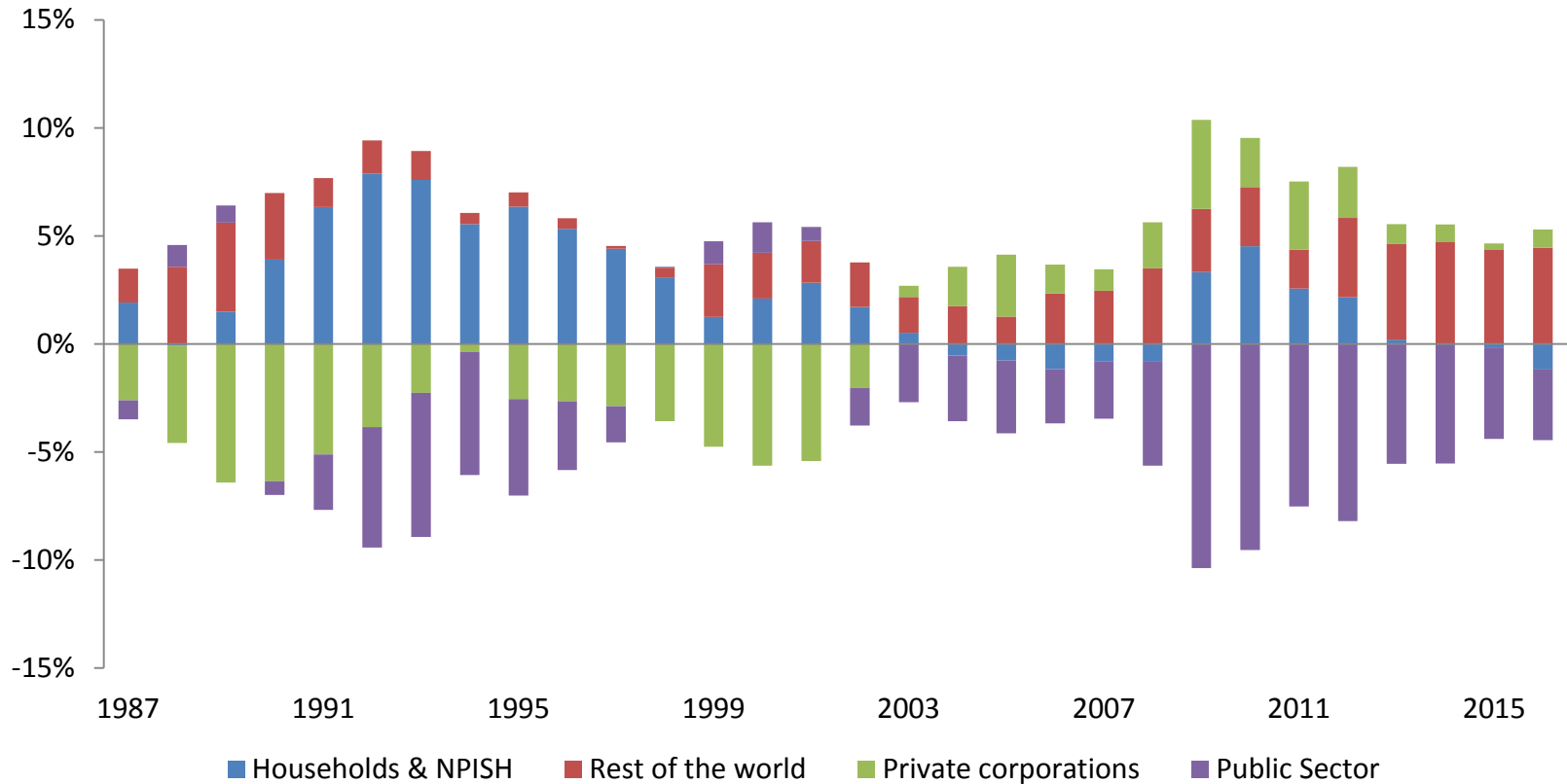
Figure 7. Real investment growth 1949–2016



Source: European Commission and NIESR.



Figure 8. Sectoral balances (as % of GDP), 1987 – 2016



Source: ONS



Table 2. Productivity growth

Panel 1

Average growth of Productivity by sector

	Whole Economy	Production	Manufacturing	Services
95-07	0.50	0.77	0.85	0.49
08-16	0.00	-0.07	0.16	0.06

Panel 2

Average growth of Productivity for the service sector components

	Info & comms	Wholesale & retail	Transport & storage	Professional services	Finance & insurance services	Real estate	Arts, ent & recreation
95-07	1.13	0.50	0.95	0.83	1.13	-0.26	0.08
08-16	0.33	0.35	-0.27	0.15	-0.19	-0.03	-0.29

Note: Output per hour: % change on Q, SA, UK

Source: ONS



Table 3. MFP contribution to GVA growth, by industry and total economy

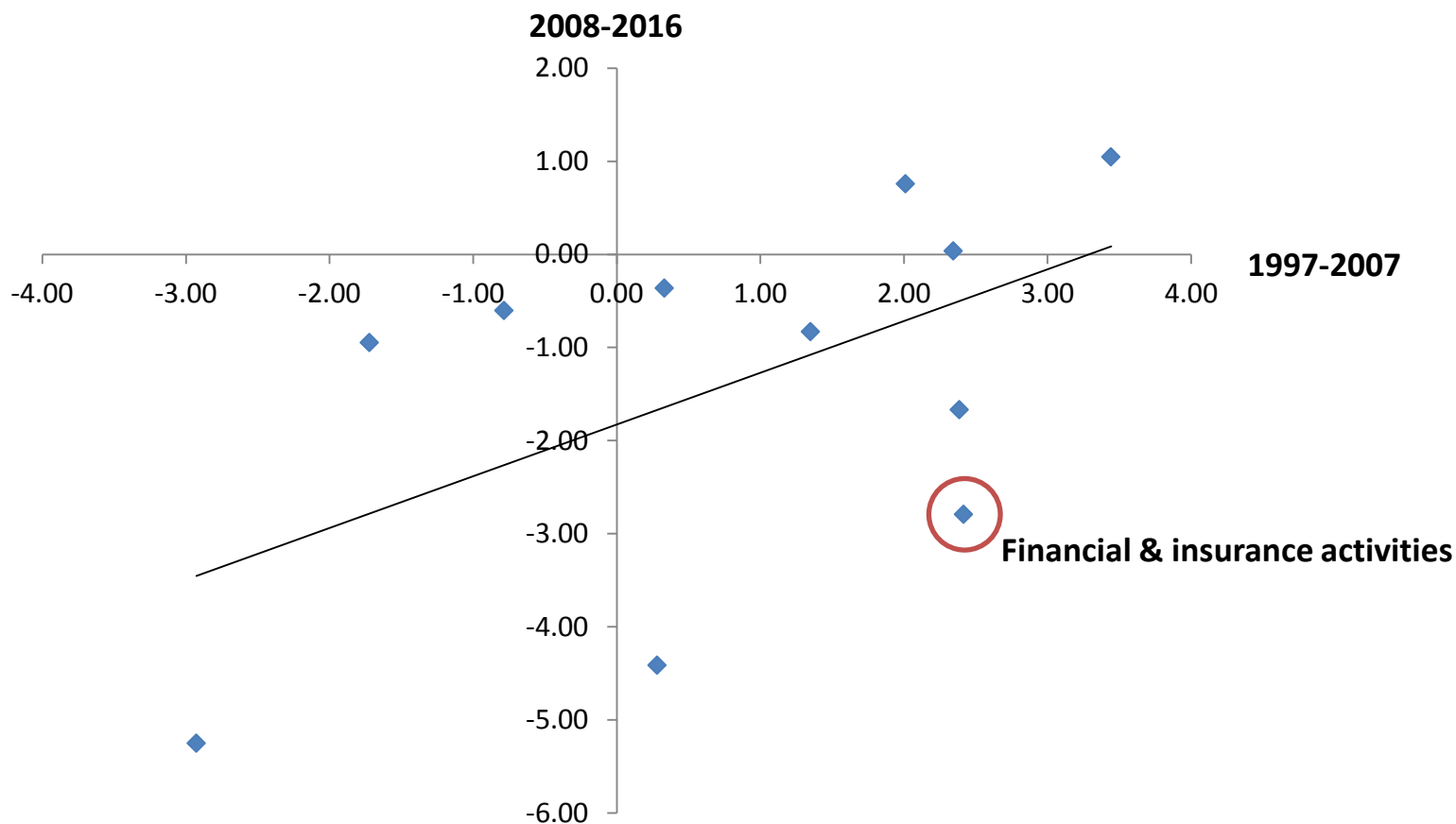
Average contribution of GVA growth

	1997-2007	2008-2016
Agriculture; Forestry & fishing; Mining & quarrying; Utilities	0.28	-4.41
Manufacturing	2.35	0.03
Construction	-0.78	-0.60
Wholesale & retail trade; Accommodation & food services	0.33	-0.36
Transportation & Storage	2.39	-1.67
Information & communication	3.44	1.05
Financial & insurance activities	2.42	-2.79
Real estate activities; Professional & scientific activities; Administrative & support activities	2.01	0.76
Education; Health & social work	-2.93	-5.25
Arts & entertainment; Other services	-1.72	-0.95
Total Market Sector	1.35	-0.83

Source: ONS Multi-factor Productivity (experimental): Estimates



Figure 9. MFP contribution of GVA growth before and after the crisis



Source: ONS



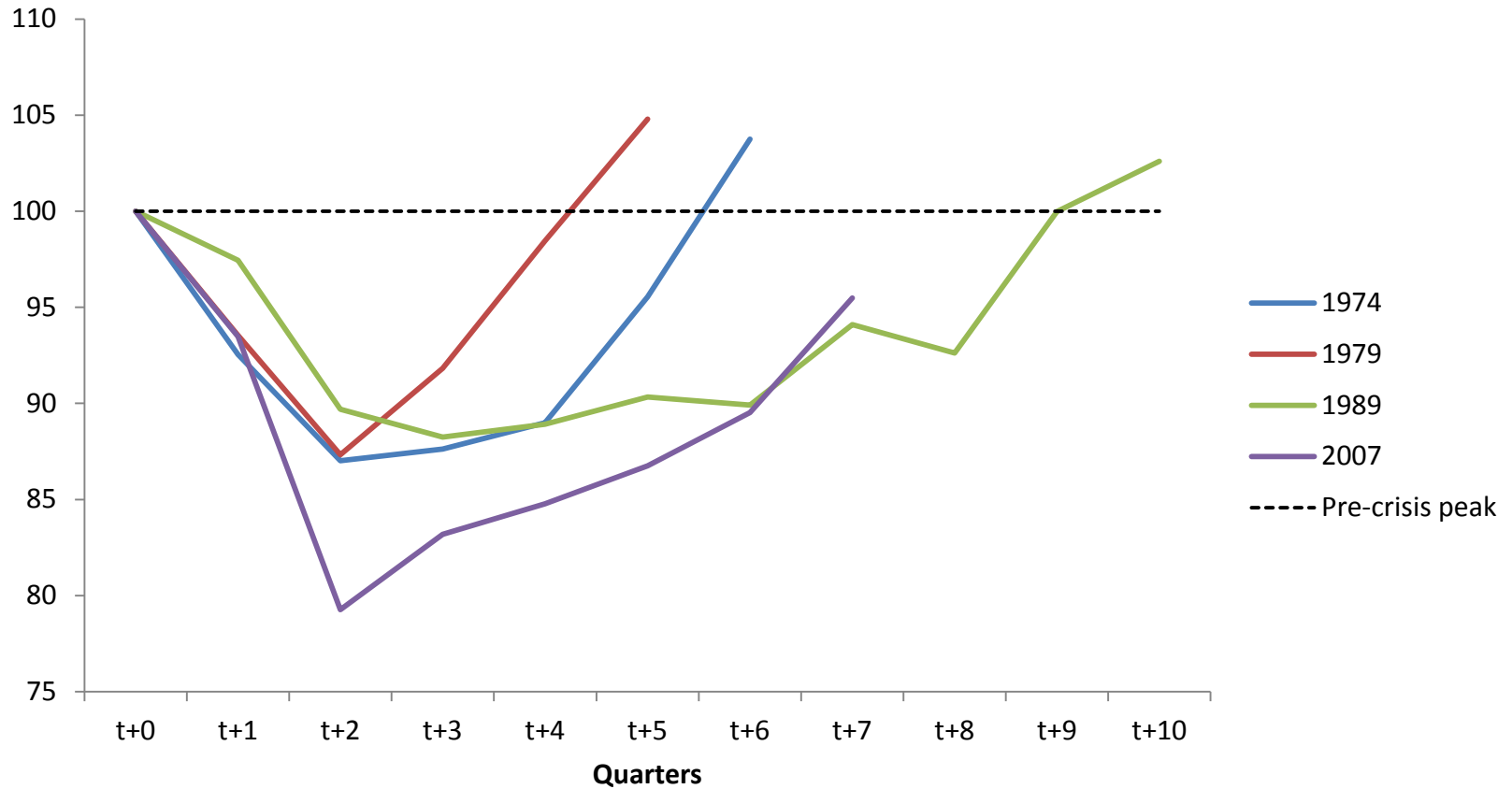
Table 4. Sectoral breakdown of the UK economy in 2007 & 2015

		Share of GDP %		Share of employment %		Relative productivity, ratio	
		2007	2015	2007	2015	2007	2015
Agriculture, Forestry And Fishing	A	0,6	0,7	1,17	1,14	0,54	0,57
Mining And Quarrying	B	2,2	1,0	0,21	0,21	10,44	4,92
Manufacturing	C	10,1	9,8	9,24	7,75	1,10	1,26
Electricity, Gas, Steam And Air Conditioning Supply	D	1,2	1,5	0,27	0,40	4,44	3,75
Water Supply; Sewerage, Waste Management And Remediation Activities	E	1,1	1,0	0,49	0,58	2,30	1,73
Construction	F	6,9	6,1	7,25	6,35	0,95	0,96
Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	G	11,1	11,0	15,73	14,80	0,70	0,74
Transportation And Storage	H	4,1	4,6	4,71	4,72	0,87	0,98
Accommodation And Food Service Activities	I	2,6	3,0	6,28	6,61	0,42	0,45
Information And Communication	J	6,1	6,5	3,87	4,06	1,58	1,60
Financial And Insurance Activities	K	8,6	7,2	3,67	3,26	2,34	2,21
Real Estate Activities	L	12,2	13,0	1,41	1,65	8,69	7,85
Professional, Scientific And Technical Activities	M	6,8	7,5	7,11	8,63	0,96	0,87
Administrative And Support Service Activities	N	4,2	4,8	7,98	8,54	0,53	0,57
Government, health and education	O,P,Q	18,5	18,4	24,85	25,54	0,74	0,72
Arts, Entertainment And Recreation	R	1,4	1,4	2,69	2,88	0,52	0,48
Other Service Activities	S-T	2,2	2,6	3,07	2,87	0,71	0,89

Source: ONS Blue book & LMS



Figure 10. Post crises recoveries in the level of real investment



Note: t+0 = Pre-crisis peak

Source: ONS



Figure 11. Real investment to GDP

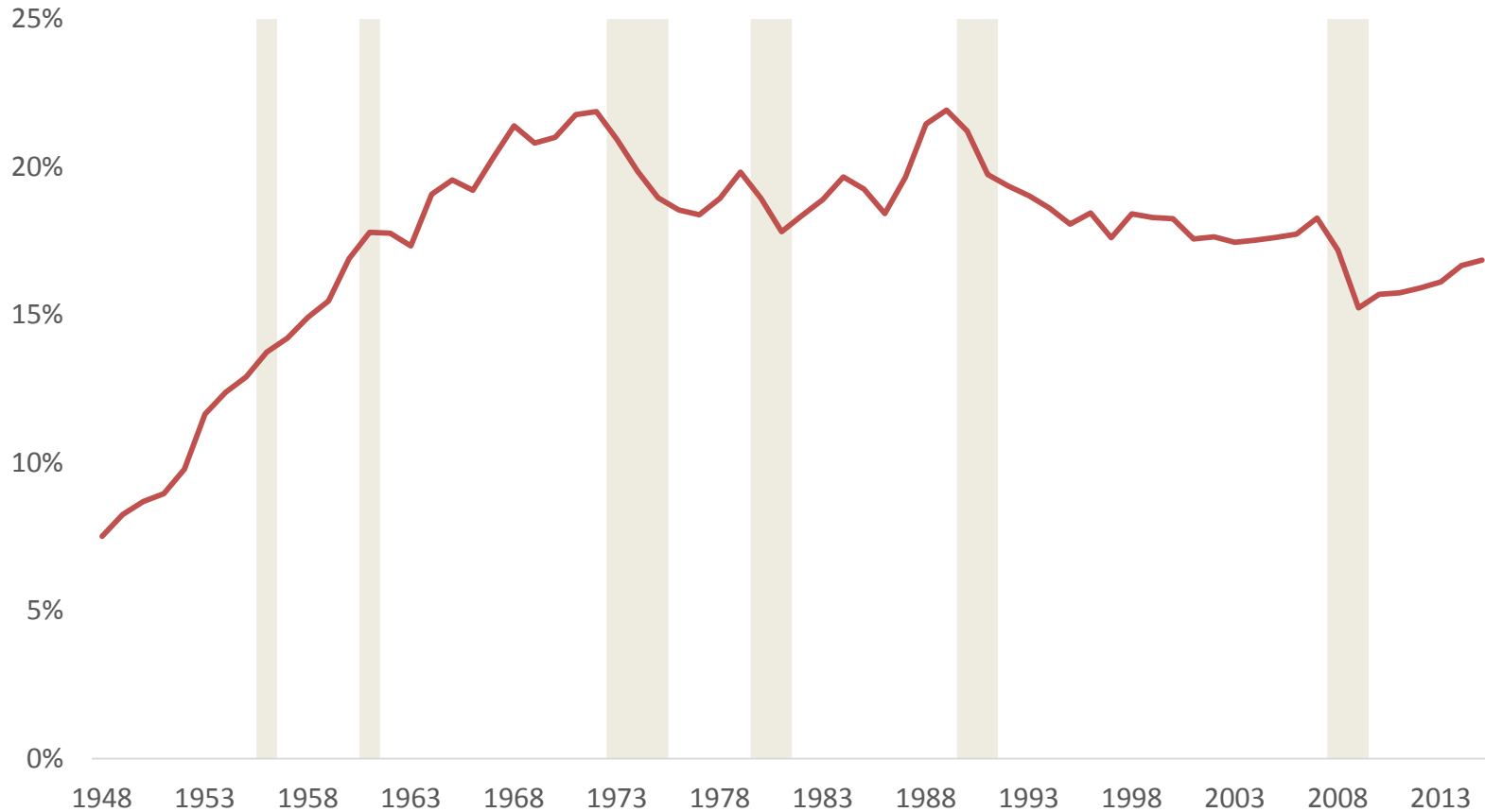
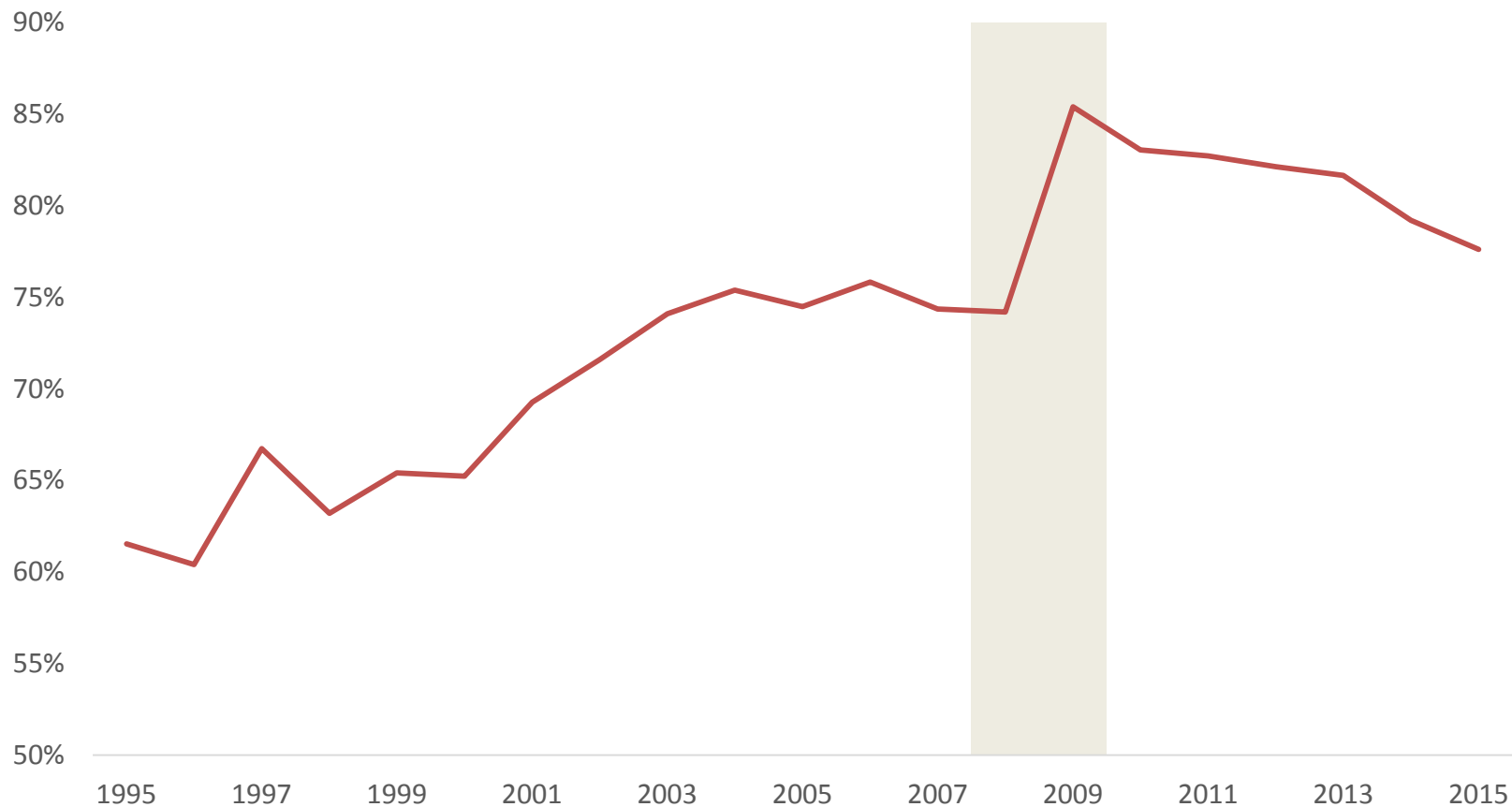


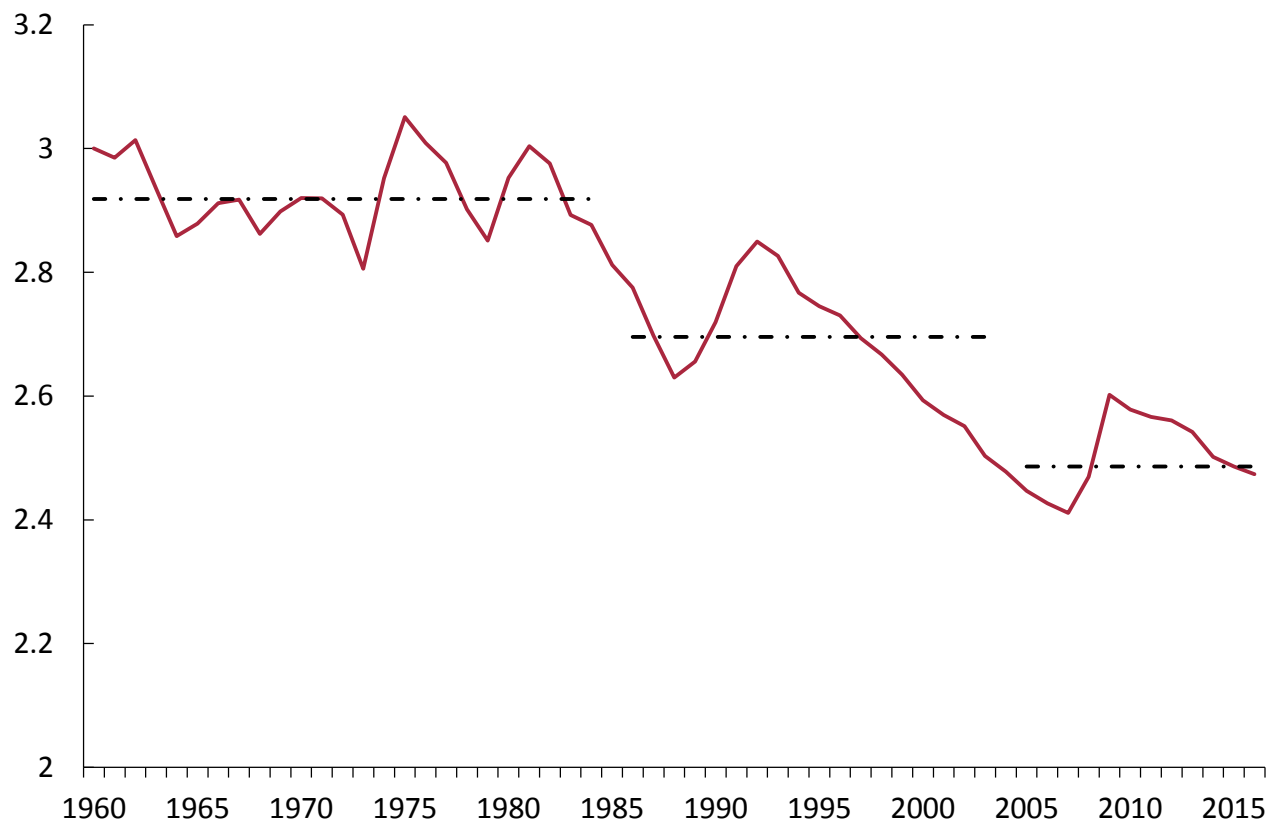
Figure 12. Share of new investment used for capital replacement



Source: ONS



Figure 13. Net Capital–output ratio at constant prices 1960–2016



Source: European Commission and NIESR.



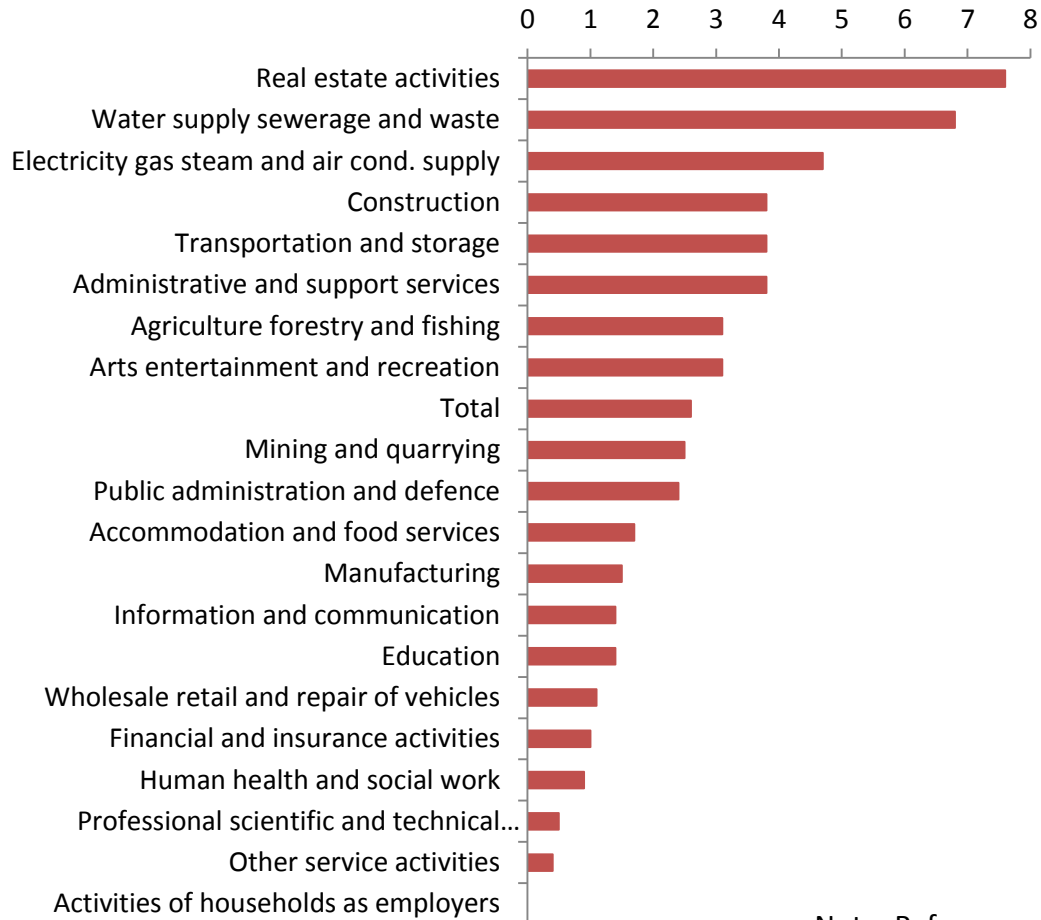
Figure 14. Real Gross Capital–output ratio (cvm) 1995–2015



Source: ONS



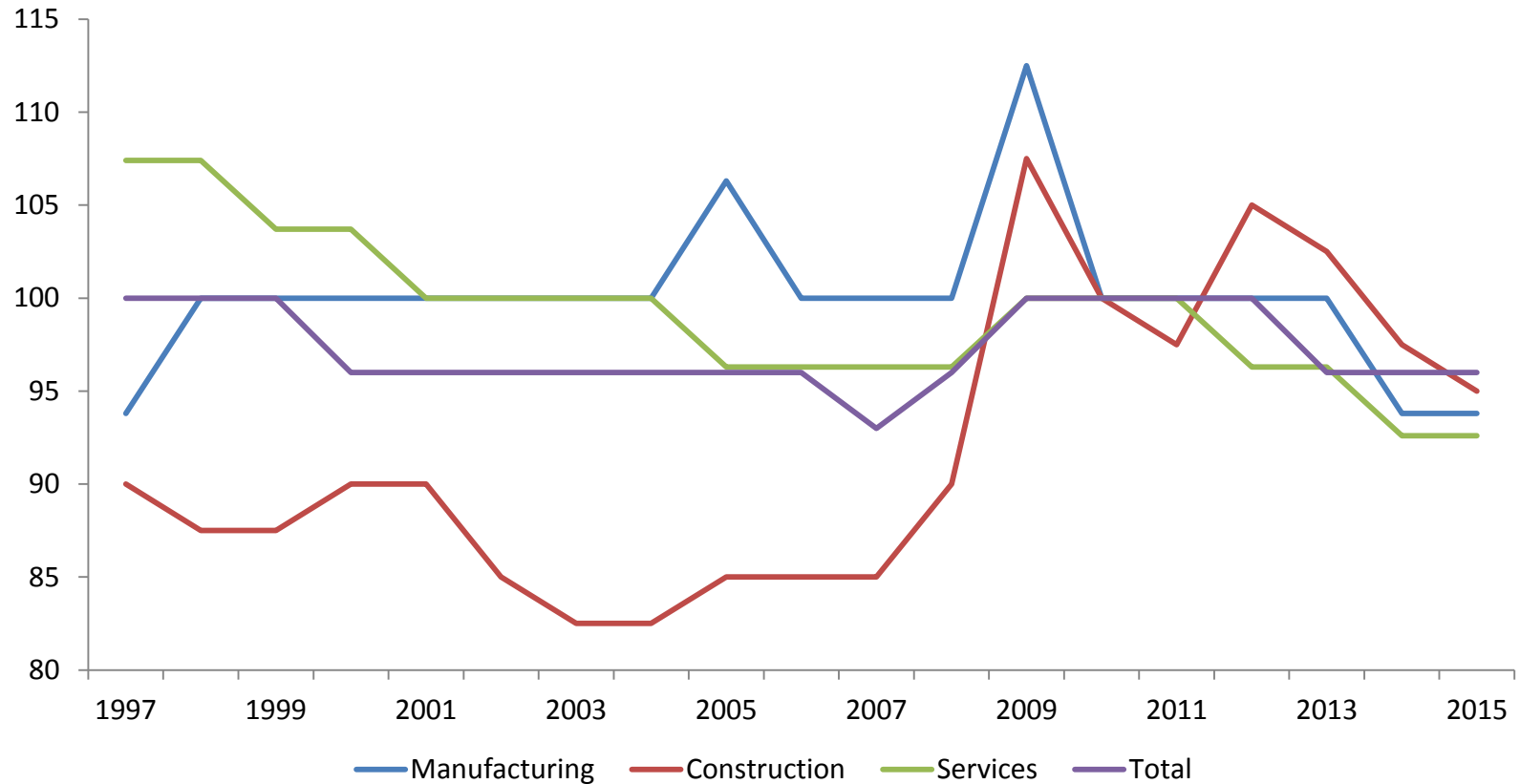
Figure 15. Capital intensity by industry sector, 2015



Note: Reference year: 2013
Source: ONS



Figure 16. Net capital stock to output ratios by broad industry groups, 1997 - 2015



Source: ONS



**Figure 17. Growth in net capital stock per employee,
1998 - 2015**



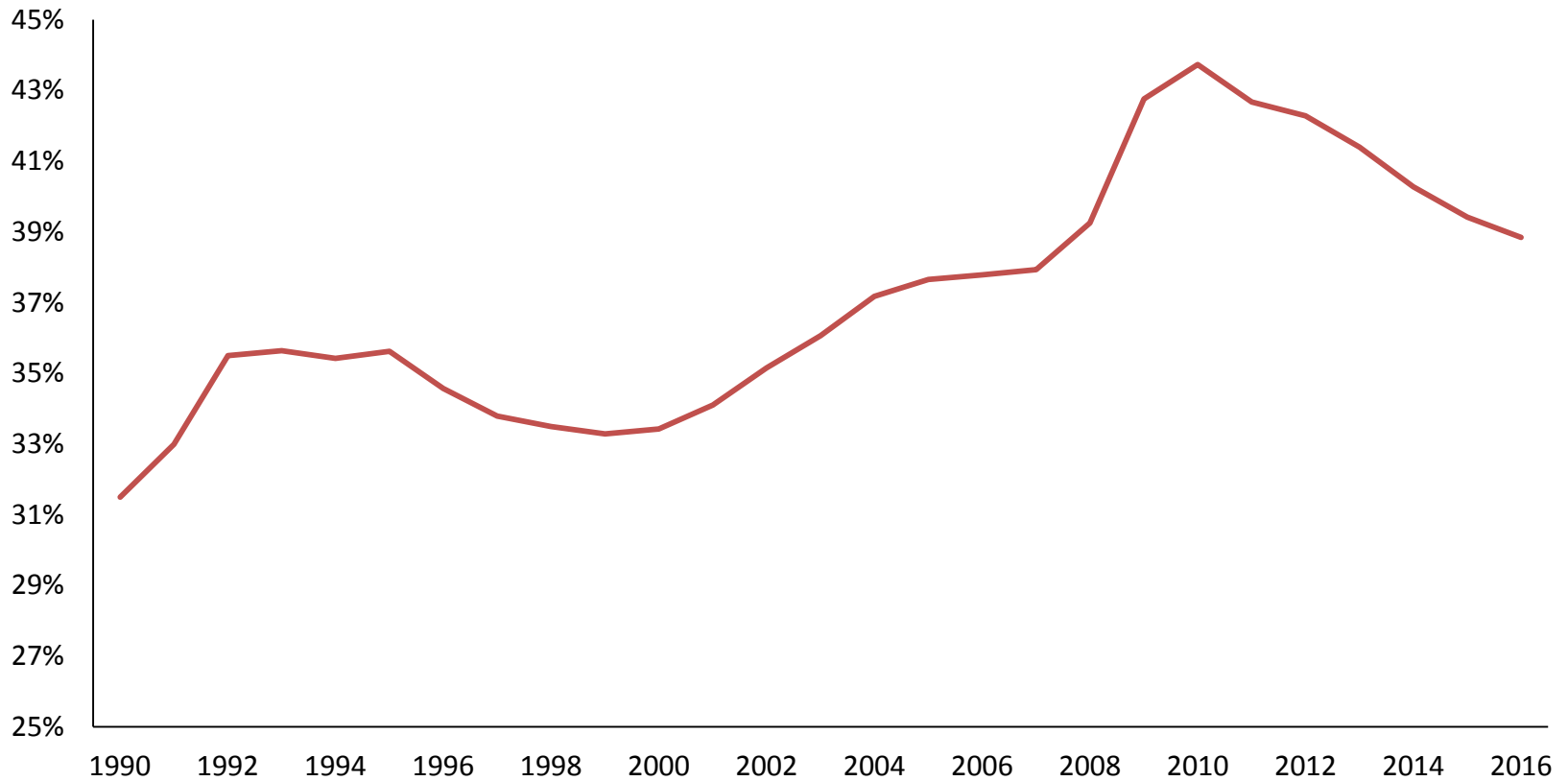
Note: Reference year: 2013

Source: ONS



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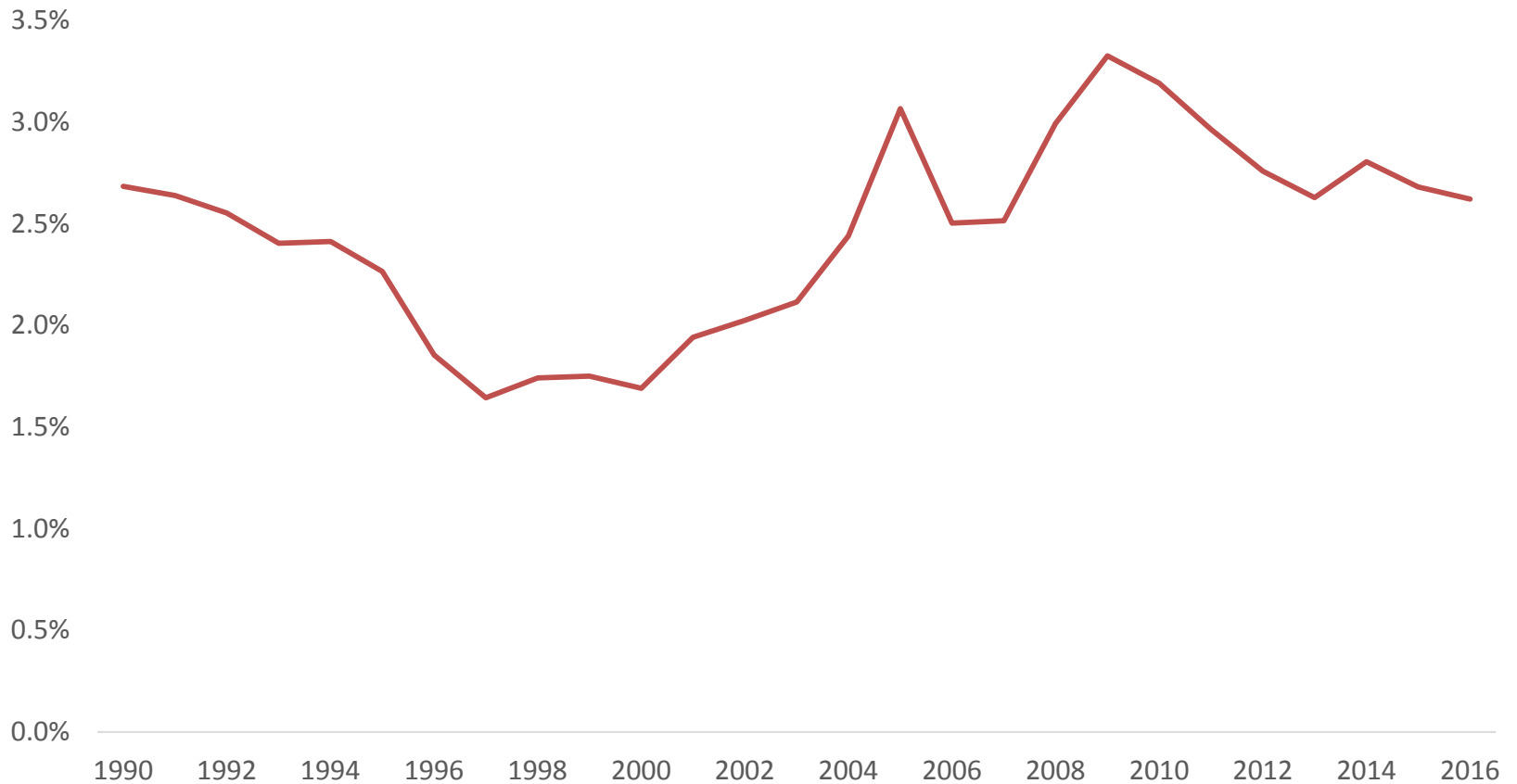
Figure 18. Current expenditure (as % of GDP), 1990 - 2016



Source: European Commission



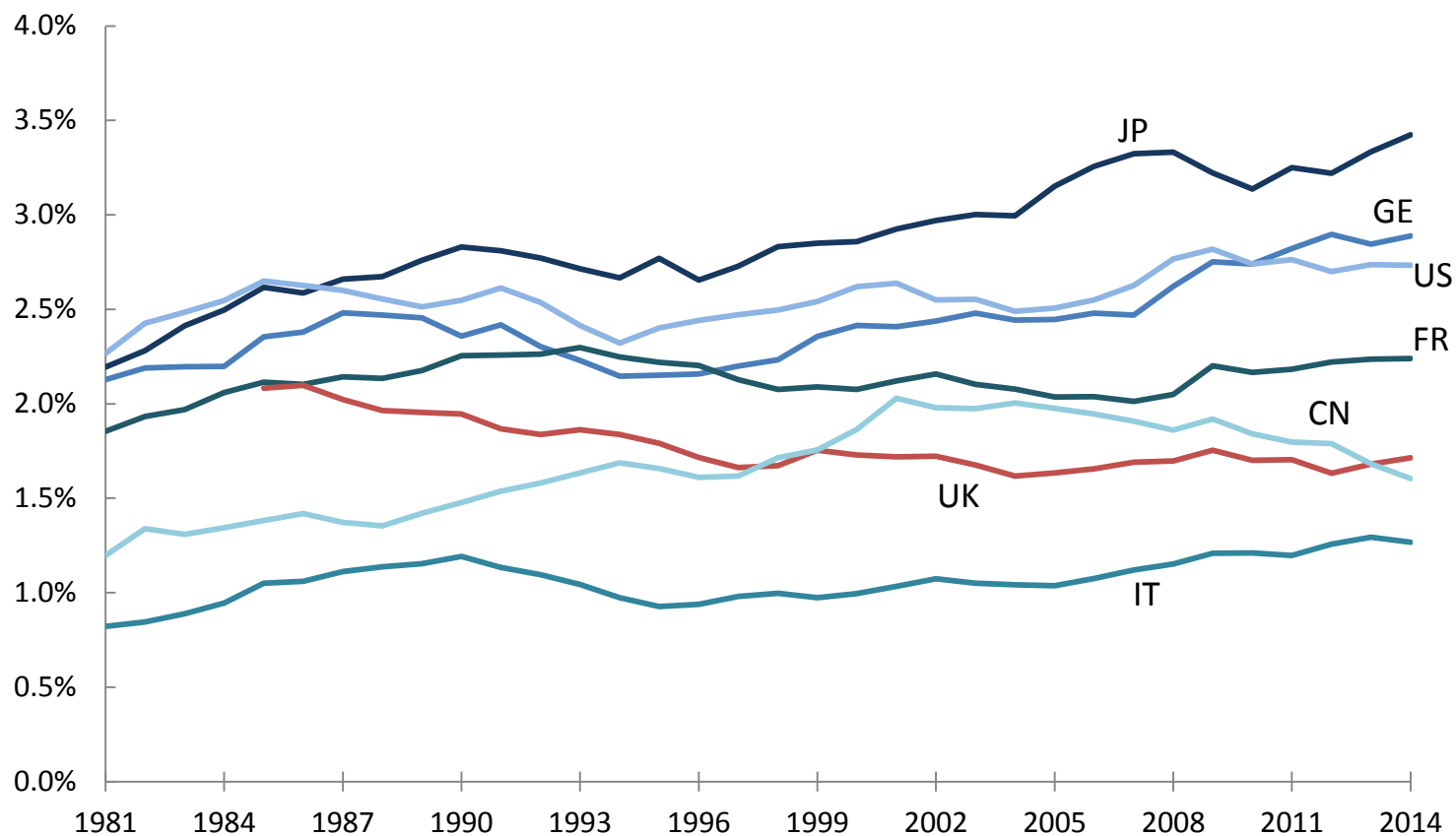
Figure 19. Public investment (as % of GDP), 1990 - 2016



Source: European Commission



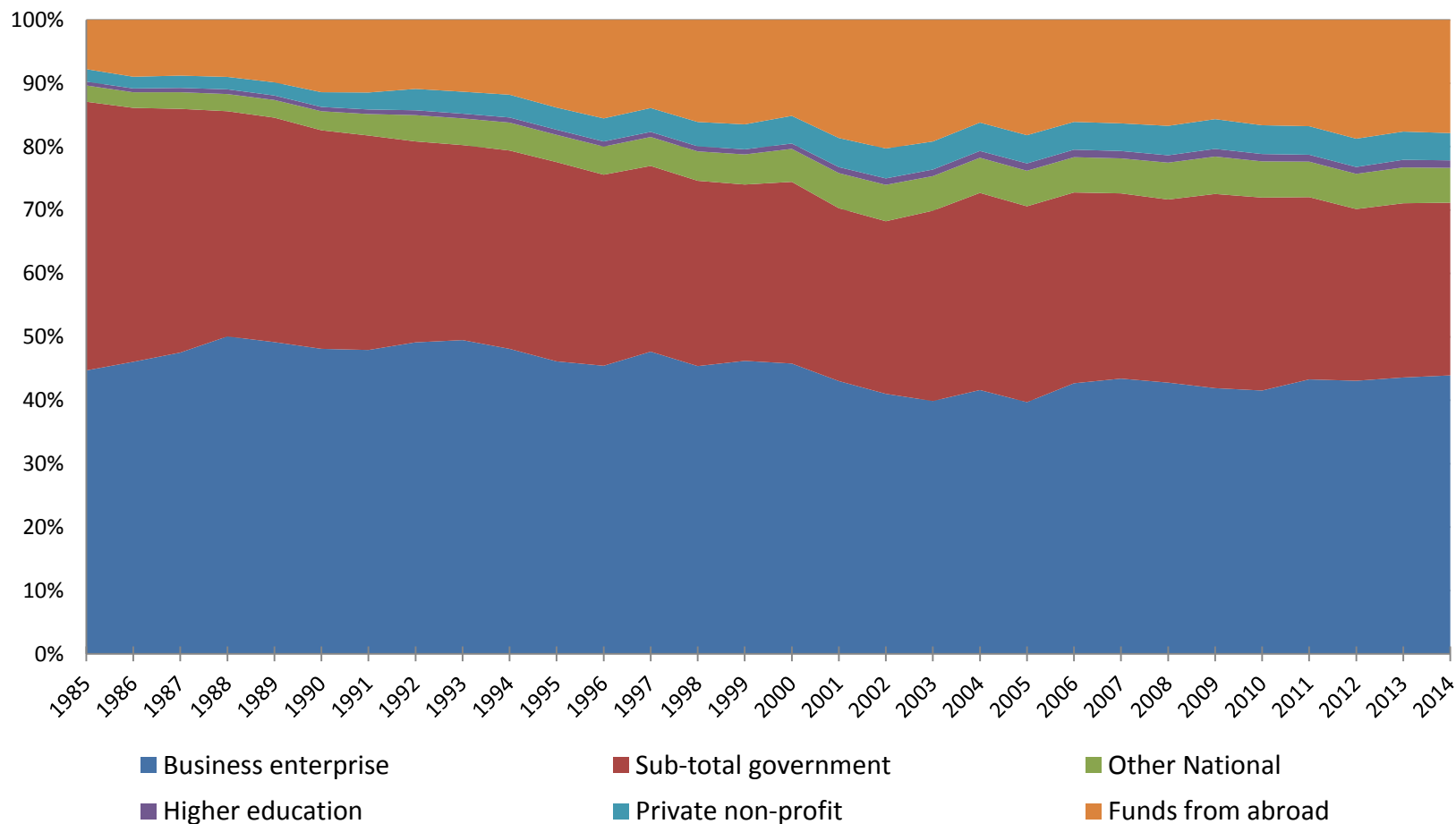
Figure 20. R&D expenditure to GDP ratio in the UK and rest of G7, 1981-2014



Source: OECD, NIESR



Figure 21. Decomposition of R&D expenditure in the UK, 1985-2014



Source: OECD, NIESR

