Patterns of growth

Since the early 1970s manufacturing's share in all OECD economies has fallen and the service sectors' has risen. **Stephen Nickell, Stephen Redding** and **Joanna Swaffield** examine the large differences in the pattern and timing of this process from country to country.

% of GDP
20.00
19.50
19.00
18.50
18.00
17.50
17.00

by Stephen Nickell, Stephen Redding and Joanna Swaffield

A key feature of economic growth in industrialised countries since the early 1970s has been the decline in manufacturing's share of GDP and the rise in the share of the services sector. Although these changes are common to all OECD countries, their magnitude and timing varies substantially. While the United Kingdom and United States were quick to de-industrialise, Germany and Japan have retained larger shares of manufacturing in GDP.

A variety of explanations have been proposed for this change and there has been much popular debate about its causes and implications. However, there have been few systematic econometric analyses of the phenomenon and what work there has been has typically focused on manufacturing to the exclusion of other sectors.

We have looked at five broad industrial sectors (including agriculture, manufacturing and the service industries) for 14 OECD countries since the mid-1970s in order to analyse the reasons for differing patterns of specialisation. Two popular explanations for de-industrialisation have been differential rates of technological progress and changes in relative prices. Our approach incorporates both of these considerations, while also allowing a role for factor endowments in explaining variation in the magnitude and timing of structural change and allowing a role for labour market institutions in shaping the speed of such change.

Levels of educational attainment are one popular explanation for differences in industrial structures. For example, Germany is frequently characterised as having high levels of the intermediate or vocational qualifications that lead to employment in the manufacturing sector. We investigate this hypothesis using a new dataset on educational attainment constructed from individual-level information in labour force surveys.

The data allow us to use a definition of educational attainment that is as consistent as possible for different countries and we have explicitly controlled for any remaining cross-country variation in the classification of educational levels. Information is available on an annual basis, providing a considerable advance on previous work, which relied on data available only every five years. The period since the mid-1970s is characterised by increasing levels of educational attainment in all OECD countries, although the magnitude and timing of these changes again varies substantially from country to country.

A second feature of this period is the marked change in female labour participation and education decisions. Between 1975 and 1994, for example, the percentage of the Canadian female population with a college degree or equivalent rose from 4.9% (approximately 50% of the male level) to 11.8% (over 75% of the male level). It is plausible that male/female differences in labour market outcomes and their change over time are driven by largely exogenous cultural attitudes. Indeed, the extent of change varies markedly across countries with different cultural attitudes. Thus, while the percentage of the female population with a college degree or equivalent in Japan rose rapidly between 1975 and 1994, it was still only about 30% of the male level.

There is a wide literature on the male/female variation in education decisions and labour market outcomes. For example, many people have found a substantial gender wage differential, even after controlling for observable characteristics (such as age, experience, and occupation) and for unobserved heterogeneity. There is also informal evidence of substantial differences by industry and occupation. For example, men constituted 71% of manufacturing employment in the UK in 1975, compared with 42% in business services and 50% in "other" services. Further variation is observed in levels of educational attainment. Thus, in 1995, the percentage of female employees with a college degree or equivalent in UK manufacturing was approximately 7%, compared with 19% for men.

There has, however, been little attempt so far to systematically examine the implications of the changes in female/male education decisions for the production structures of different economies. Have economies that have been particularly successful in increasing levels of female educational attainment, tended to specialise in a different set of industries from those that have not?

Our preferred measure of education endowments is the number of men/women out of the working age male/female population with a particular level of educational attainment. This variable rises over time as education levels rise. The data allows us to test whether the effect on production structures of particular education levels is the same for men and women.

There is also a large theoretical and empirical literature on the role of institutions and public policies in shaping labour market outcomes. This emphasises the impact of employment protection and job security provisions in determining the speed at which workers are reallocated from old and declining sectors to new and expanding ones. In particular, previous research has found evidence of a negative effect of employment protection on growth and aggregate productivity and employment levels.

We examined the role of employment protection legislation in determining speeds of adjustment to long-run changes in patterns of specialisation. Our sample includes countries with very different extents of employment protection. We tested econometrically whether or not employment protection affects the speed of adjustment towards long-run equilibrium.

Our main source of data in is the OECD's International

Labour market outcomes and institutions play an important roll

Sectoral Data Base (ISDB), which provides information for aggregated manufacturing and non-manufacturing industries on current price value-added, constant price value-added, employment, hours worked and the stock of physical capital. Data on a country's GDP and aggregate endowment of physical capital are also obtained from the ISDB. Information on educational endowments comes from individual countries' labour force surveys, while data on arable land area are taken from the United Nations Food and Agricultural Organisation (FAO).

Our sample is an unbalanced panel of 14 OECD countries and of aggregated (one digit) industries during the period 1975 to 1994. Table 1 lists the five one-digit industries used, together with a sixth category of "Government and Other Producers". This last is somewhat of a residual category and is less likely to be characterised by profit-maximising behaviour. For these reasons, it is excluded in the econometric analysis. More detailed information on the disaggregated sectors included in each one-digit industry is given in Appendix B of the discussion paper on which this article is based. Table 2 shows the evolution of industry shares of GDP in each of the 14 countries over the period we are studying.

We see a decline in the share of agriculture in GDP in all countries, although the rate of decline varies substantially – from over 95% in Germany from 1975 to 1993 to less than 30% in the Netherlands between 1975 and 1994. Countries also differ substantially in terms of the share of manufacturing industry in GDP. In Germany and Japan, manufacturing constituted about 30% of GDP in 1975, while in Australia, Canada and Denmark it was responsible for only 20%.

All countries experienced a decline in manufacturing's share of GDP. However, the magnitude and timing of this decline varies across countries. In Australia and the United Kingdom, manufacturing's share of GDP declined by approximately 35% over the sample period, while in Denmark and Finland it fell by less than 10%. In The Netherlands and Norway, the decline was most rapid in the first half of the period, whereas in Germany and Japan most of the fall in manufacturing's share of GDP occurred in the second half. In other countries, such as Italy and the United Kingdom, the rate of decline of manufacturing's share of GDP was roughly constant over time.

The initial level of the share of "other production" in GDP varies from about 10% in Germany and the United States to over 15% in the natural resource rich countries of Australia and Canada. In all countries except Norway and Japan the share of this sector in GDP declined between 1975 and 1994. The share of "business services" in GDP rose in all countries for which data are available. The increase was most rapid in Australia, The Netherlands, Sweden and the United Kingdom. It was least rapid in Denmark and Norway. The share of "other services" in GDP rose in all countries except Denmark and Norway.

Table 3 shows male and female educational attainment as a percentage of the male and female population respectively for the years 1975, 1985 and 1994. Data for 1975 are only available for half of the 14 countries and, therefore, the discussion here concentrates on the period from 1985 to 1994. All countries in the table experienced an increase in the share of the population with higher education (college degree or equivalent). The rate of increase in this period varies markedly: from 38% in Italy and 36% in The Netherlands to 14% in Denmark and 15% in the United States.

All countries showed an increase in the proportion of both men and women with higher education. The increase is typically largest for women, which is reflected in a rise (except in France) in the share of women in the total number

Table 1: Industry Composition (International Standard Industrial Classification (ISIC))

Industry	Industry Code	Further Details
1. Agriculture	10	Agriculture, Hunting, Forestry and Fishing (ISIC 10)
2. Manufacturing	30	Manufacturing (ISIC 30)
3. Other Production	40	Mining and Quarrying (ISIC 20) Electricity, Gas, and Water (ISIC 40) Construction (ISIC 50)
4. Other Services	50	Wholesale and Retail Trade, Restaurants and Hotels (ISIC 60) Transport, Storage, and Communication (ISIC 70) Community, Social, and Personal Services (ISIC 90)
5. Business Services	60	Financial Institutions and Insurance (ISIC 82) Real Estate and Business Services (ISIC 83)
Excluded industry:		
Government/Other Producers	70	Producers of Government Services Other Producers

Notes: see Appendix B of DP545 for detailed information on the disaggregated sectors included in each one-digit industry.

Table 2: Shares of Industrial Sectors in a Country's GDP (per cent)(a)

Country	Year	Agric	Manuf	Other Prod.	Business Services	Other Services	Gov./ Other
Australia	1975	4.96	20.35	15.90	15.14	39.02	4.63
	1985	3.94	16.94	16.81	18.68	39.59	4.04
	1994	2.76	14.25	12.78	24.51	42.08	3.62
Belgium	1975	2.92	25.91	12.84	3.44 (a)	39.39	15.50
	1985	2.32	22.67	10.30	5.76 (a)	44.01	14.94
	1994	1.57	19.70	9.75	5.45 (a)	50.09	13.44
Canada	1975	4.91	20.35	15.01	15.28	26.14	18.31
	1985	3.10	18.96	15.77	18.22	25.78	18.17
	1992	2.38	16.26	12.77	21.29	26.94	20.36
Denmark	1975	5.59	19.99	10.21	14.58	29.19	20.44
	1985	5.60	19.57	8.15	16.76	27.83	22.09
	1992	3.86	18.53	8.60	17.95	28.36	22.70
Finland	1975	10.54	26.05	14.06	12.69	21.38	15.28
	1985	8.06	25.09	10.92	14.37	22.95	18.61
	1994	5.47	24.42	8.13	18.82	22.23	20.93
France	1975	5.60	27.22	10.36	15.95	25.55	15.32
	1985	4.07	23.07	8.95	19.23	26.92	17.76
	1992	2.93	20.80	8.33	22.83	28.11	17.00
West Germany	1975	2.88	35.40	10.10	4.64(a)	26.28	14.32
	1985	1.80	32.62	9.09	5.66(a)	29.33	14.09
	1993	1.09	27.16	8.32	6.04(a)	35.67	13.68
Italy	1975	7.14	27.43	13.59	5.11(b)	35.48	11.25
	1985	4.55	24.61	11.08	4.79(b)	41.86	13.11
	1994	2.94	20.52	11.16	4.99(b)	46.82	13.57
Japan	1975	5.28	29.05	11.74	12.93	16.73(c)	10.05
	1985	3.06	28.37	10.98	14.78	20.22(c)	9.74
	1994	2.05	23.49	13.25	17.17	22.21(c)	9.64
Netherl.	1975	4.72	22.69	13.38	13.73	31.08	14.40
	1985	4.15	18.64	15.50	18.29	31.20	12.22
	1994	3.52	18.63	9.64	24.10	33.37	10.74
Norway	1975	5.01	21.81	12.21	14.32	30.99	15.66
	1985	3.30	13.69	27.35	15.22	25.45	14.99
	1991	3.14	12.14	20.49	18.23	28.74	17.26
Sweden	1975	4.84	28.02	10.25	14.40	21.37	21.12
	1985	3.59	23.66	9.81	17.58	21.21	24.15
	1994	2.16	21.44	8.56	23.33	21.53	22.98
United Kingdom	1975	2.58	28.21	11.33	15.71	24.73	17.44
	1985	1.90	23.92	15.36	18.80	24.24	15.78
	1993	1.88	19.94	9.76	24.54	28.69	15.19
United States	1975	3.46	22.28	10.07	18.21	31.68	14.30
	1985	2.07	19.47	10.78	23.08	31.85	12.75
	1993	1.65	17.39	8.08	26.74	33.05	13.0

Notes: "Government and Other Producers" (ISIC 70) is the excluded industry in the econometric analysis that follows. (a) Figures are for the sub-sector "Financial Institutions and Insurance". (ISIC 82) and the numbers, therefore, sum to less than 100%. (b) Figures are for the sub-sector "Financial Institutions and Insurance " (ISIC 82). (c) Figures for "Other Services" exclude the sub-sector "Wholesale and Retail Trade, Restaurants and Hotels" (ISIC 60) and, therefore, sum to less than 100%. Source: OECD International Sectoral Database (ISDB

of individuals (men plus women) with higher education. There are notable differences in patterns of educational attainment. Educational attainment in Germany and Norway is disproportionately concentrated, relative to other OECD countries, in the medium education group. In the United Kingdom in 1975, over 50% of the male population and over 60% of the female population were in the low education group, compared with less than 30% of the male

There have been marked changes in female labour participation

population and less than 25% of the female population in the United States.

The share of the male population with higher education typically exceeds the share of the female population. However, this is not always so – in France, Italy, and Sweden in 1985 the share the female population with higher education exceeded that of the male population. There are large changes in the relative educational levels of men and women over time and the rate of change varies substantially. In Canada in 1975 and Australia in 1982 the

proportion of women with higher education was just over half that for men. However, by 1993 in Australia and by 1994 in Canada the share of women with higher education was over 75% that for men. In contrast, in Japan, the share of women with higher education in 1994 remained about 30% that for men.

Multiplying the percentage shares in Table 3 by the male and female population levels shown in Table 4, we obtain our preferred measure of countries' endowments of men and women with each education level. There is much

Table 3: Education attainment as a percentage of the male and female working age populations

Country	Year	Men			Women		
		Low	Med	High	Low	Med	High
Australia	1982	.484	.438	.078	.623	.333	.044
	1985	.462	.448	.091	.592	.353	.055
	1993	.341	.542	.117	.441	.469	.090
Belgium	1975	-	-	-	-	-	-
	1986	.349	.600	.051	.457	.523	.021
	1994	.277	.649	.073	.350	.614	.035
Canada	1975	.272	.639	.089	.264	.687	.049
	1985	.198	.682	.120	.189	.727	.084
	1994	.127	.696	.147	.133	.723	.118
Denmark	1983	.337	.611	.053	.452	.531	.017
	1985	.240	.707	.053	.386	.595	.019
	1994	.190	.751	.055	.302	.665	.028
Finland	1984	.526	.387	.086	.562	.359	.079
	1985	.512	.399	.089	.547	.370	.082
	1994	.438	.440	.121	.440	.435	.125
France	1982	.469	.421	.109	.466	.405	.129
	1985	.425	.449	.125	.418	.436	.146
	1994	.307	.511	.181	.308	.485	.207
West Germany	1984	.148	.783	.109	.315	.647	.051
	1985	.143	.774	.121	.311	.644	.057
	1994	.132	.758	.140	.252	.681	.083
Italy	1979	.529	.426	.044	.474	.477	.049
	1985	.392	.550	.058	.330	.607	.063
	1994	.217	.715	.083	.172	.744	.094
Japan	1975	.433	.425	.142	.484	.487	.029
	1985	.306	.501	.193	.336	.619	.045
	1994	.228	.534	.238	.226	.703	.071
Netherlands	1975	.371	.526	.103	.490	.460	.050
	1985	.216	.630	.153	.278	.621	.100
	1994	.146	.648	.206	.169	.671	.160
Norway	1976	.023	.862	.114	.018	.915	.067
	1985	.030	.822	.147	.025	.869	.106
	1994	.029	.775	.195	.028	.803	.169
Sweden	1975	.553	.323	.123	.596	.301	.103
	1985	.410	.413	.177	.420	.398	.181
	1994	.293	.430	.203	.262	.443	.227
UK	1975	.514	.438	.048	.634	.352	.015
	1985	.375	.528	.097	.447	.508	.046
	1994	.258	.618	.124	.314	.613	.073
United States	1975	.274	.549	.177	.229	.625	.146
	1985	.166	.598	.237	.122	.672	.206
	1994	.117	.605	.270	.083	.659	.257

Notes: Educational attainment data are from individual-level information in country labour force surveys. Low = no education or primary education; Medium = secondary and/or vocational qualifications; High = college degree or equivalent.

variation between countries in their relative levels of educational endowment and in the extent to which our five chosen industries employ men and women of a given educational level.

In 1975, for example, the ratio of arable land to physical capital in the United States was approximately 10 times that in the Netherlands. Countries also display very different rates of physical capital accumulation, with the physical capital stock rising between 1975 and 1992 by 113% in Japan, compared with a rise of 34% in Denmark.

An account of our economic estimation is given in our Discussion Paper, "Educational Attainment, Labour Market Institutions and the Structure of Production". We considered the static long-run relationships between the share of a sector in GDP, relative prices, technology and factor endowments. Economic theory leads us to expect that the more productive an industry, or the higher the price received by firms in that industry, the greater the amount of output that will be produced. With the exception of "Other Services", where the measurement of technology and prices is particularly difficult, we find exactly this pattern of estimated coeffecients.

Our measures of factor endowments have a statistically significant effect on patterns of production. The coefficients on individual endowments vary substantially between industries. For example, while endowments of low education men have a positive and statistically significant effect on the share of agriculture and other services, the effect in manufacturing and business services is negative (with the coefficient for manufacturing significant at the 12% level). Male and female educational endowments have very different implications for patterns of production. For example, while endowments of medium education men have a negative and statistically significant effect on the share of business services in GDP, the effect of endowments of medium education women is positive and statistically significant. These empirical results provide statistical support for the idea that men and women of the same educational level have (or are perceived to have) different vectors of other characteristics or dimension of skills. They are consistent with the large labour market literature that finds substantial differences between men and women in terms of labour market outcomes.

In practice, it is likely to take time for factors of production to be reallocated from declining to expanding sectors. The speed at which this happens may depend on labour market policies and institutions – in particular, on employment protection provisions that limit the ability of firms in declining sectors to shed labour or raise the cost to of them of doing so. So we added a lagged dependent variable to our calculations and interacted it with a measure of the extent of employment protection to capture these dynamics.

The estimated coefficients indicate that the employment

Table 4: Endowments of physical capital (US $ bn, 1990 prices); population ('000); arable land area ('000 hectares)

Country	Year	Capital	Males	Females	Arable
Australia	1979	789.80	4777	4651	43932
	1985	971.04	5294	5148	47150
	1993	1226.92	5944	5828	46300
Belgium	1975	385.88	-	-	982
	1986	536.11	3338	3312	765
	1994	671.63	3378	3325	777
Canada	1975	1123.04	7649	7531	44000
	1985	1686.04	8946	8827	45900
	1992	2192.23	9756	9609	45370
Denmark	1983	374.89	1702	1673	2593
	1985	389.32	1716	1683	2601
	1992	441.74	1768	1721	2539
Finland	1984	353.87	1663	1663	2294
	1985	365.18	1672	1667	2276
	1994	457.47	1719	1685	2267
France	1982	2419.60	17674	17611	17651
	1985	2573.97	18181	18224	17923
	1992	3061.88	18797	18839	18046
W Germany	1984	3756.45	21259	21396	11952
	1985	3845.38	21355	21385	11957
	1993	4716.85	28117	27127	11676
Italy	1977	2380.55	17800	18645	9359
	1985	3054.87	19313	19973	9050
	1994	3911.39	19353	19607	8329
Japan	1975	2757.52	37180	38460	4460
	1985	5276.81	40950	41360	4209
	1994	8572.96	43630	43360	3999
Netherlands	1975	583.50	4406	4322	759
	1985	732.83	5023	4899	826
	1994	886.90	5182	5353	885
Norway	1975	203.16	1266	1239	792
	1985	319.33	1355	1314	858
	1991	376.38	1403	1355	892
Sweden	1975	414.12	2660	2599	3006
	1985	532.66	2729	2665	2922
	1994	669.49	2844	2754	2780
United Kingdom	1975	1970.63	17554	17638	6883
	1985	2464.50	18643	18555	7006
	1993	3063.79	19019	18763	6081
United States	1975	13658.82	68335	70560	186472
	1985	18257.51	78450	80067	187765
	1993	22083.93	83768	84837	181950

Notes: Capital is stock of real physical capital from OECD's International Sectoral Database (ISDB). Male and female population data from individual country labour force surveys. Arable land area from United Nations Food and Agricultural Organisation (FAO).

The decline in manufacturing was earlier and more extensive in the UK and the US than in German and Japan

protection interaction was positively signed and statistically significant for the three industries that declined as a share of GDP during our period – agriculture, manufacturing and "other production". This provides evidence that countries with higher levels of employment protection were slower to reallocate resources away from these sectors in response to a change in long-run patterns of specialisation. The employment interaction was positively signed, although not statistically significant, for the two industries that expanded as a share of GDP during the period – "other services" and business services. This is consistent with the idea that the main effect of employment protection is to raise the cost of shedding labour in declining sectors.

We found the effects of employment protection to be not only statistically significant but also quantitatively important. The estimated coefficient for the lagged dependent variable in manufacturing ranged from 0.44 for the United States at one extreme to 0.78 for Italy at the other, a difference of over 75%).

Looking at the general equilibrium effects of changes across different industries, we estimated that moving a man from low to medium education reduces the share of agriculture and "other production" in GDP, but increases the share of manufacturing and "other services". In contrast, the effect of moving a woman from low to medium education is

Table 5 Contribution of Explanatory Variables to Changes in Shares of GDP percentage points.

	(1) Agriculture	(2) Manufact. Production	(3) Other Production Services	(4) Business Services	(5) Other Services
West Germany (1985-93)					
Actual Change in GDP Share	6.34	-0.71	-5.46	-0.78	0.38
Predicted Change in GDP Share	5.25	-0.92	-4.54	-2.26	2.38
Education (Male + Female)	3.25	1.41	-1.10	-1.12	-0.39
Capital	0.14	-0.39	-0.42	0.71	0.61
Arable Land	0.04	-0.17	-0.13	-0.01	0.35
TFP	0.38	1.51	0.31	0.12	-1.01
Prices	-1.33	0.00	-1.32	0.68	1.12
Year Effects	-1.56	-4.39	0.43	1.27	0.94
Japan (1976-93)					
Actual Change in GDP Share	5.43	-3.14	-4.93	1.81	3.43
Predicted Change in GDP Share	4.57	-3.45	-5.47	2.50	3.88
Education (Male + Female)	3.70	1.89	0.38	-3.56	0.95
Capital	0.71	-1.90	-2.07	3.53	3.02
Arable Land	0.15	-0.67	-0.52	-0.03	1.36
TFP	-2.01	2.55	-1.54	-1.01	0.62
Prices	-1.01	-0.51	6.68	-1.15	-1.46
Year Effects	-3.17	-5.33	3.51	1.58	-2.67
United Kingdom (1976-93)					
Actual Change in GDP Share	3.97	-0.92	-7.65	-2.14	8.48
Predicted Change in GDP Share	2.22	-1.30	-9.16	0.09	8.88
Education (Male + Female)	3.56	1.98	1.52	-4.43	1.91
Capital	0.29	-0.78	-0.85	1.45	1.24
Arable Land	0.20	-0.92	-0.72	-0.04	1.87
TFP	0.25	-4.70	3.87	-1.73	-1.43
Prices	-0.86	1.04	-1.29	5.70	-0.36
Year Effects	-3.17	-5.33	3.51	1.58	-2.67
United States (1976-93)					
Actual Change in GDP Share	1.22	-1.39	-5.48	-2.07	8.64
Predicted Change in GDP Share	1.98	-1.89	-6.69	-1.27	8.12
Education (Male + Female)	3.08	1.97	0.89	-2.92	0.32
Capital	0.32	-0.85	-0.93	1.58	1.35
Arable Land	0.04	-0.18	-0.14	-0.01	0.36
TFP	0.86	-0.03	-1.37	0.58	-0.98
Prices	-1.91	-1.20	0.56	4.06	0.83
Year Effects	-3.17	-5.33	3.51	1.58	-2.67

Notes: For an explanation of the methodology used to derive this table, see Table 9 in the CEP's Discussion Paper No. 545, page 26.

to reduce a country's specialisation in manufacturing, but to increase it in business services. Similarly, moving a man from medium to higher education increases specialisation in business services, though moving a woman from medium to higher education has the opposite effect. Thus, production structure responds very differently to the educational attainment of men and women.

Table 5 evaluates the contribution of each of the explanatory variables to observed changes in shares of GDP during our period. For simplicity, we focus on our static specification, excluding the lagged dependent variable and its interaction. In general, the predicted changes in GDP shares for each of the five industries lie close to the actual changes, providing evidence that our model is relatively successful in explaining changes in specialisation over time. The model is least successful for "other production". This is consistent with the existence of unobserved changes in known mineral resources, which are important for this sector. The year effects play a substantial role in all sectors except business services, supporting the idea that de-industrialisation is part of a secular trend and a shared experience across OECD countries.

The table indicates clearly how the timing and magnitude of de-industrialisation varies substantially from country to country. The decline in manufacturing's share of GDP occurred earlier and was more extensive in the United Kingdom and United States than in Germany and Japan. It suggests that this is largely explained by differences in rates of Total Factor Productivity (TFP) growth in the four countries. The effect of TFP growth on changes in manufacturing's share of GDP was negative in the United Kingdom (-4.7 points) and the United States (-0.03 points), but positive in West Germany (1.51 points) and Japan (1.51 points). In Japan, the rapid decline in agriculture's share of GDP (3.14 points) is largely explained by rates of TFP growth (an effect -2.01 points), although the evolution of relative prices across sectors also had an important influence (-1.01 points).

Overall, as the table shows, rising educational attainment made a large negative contribution to the change in the GDP share of "other production" and a large positive contribution to the change in "Other Services". This is consistent with the idea that many service sectors are relatively skill intensive. The table suggests that the more rapid increase in business services' GDP share in the United Kingdom and United States, relative to West Germany and Japan, was largely due to country-specific changes in relative prices (which, for example, made a contribution of 5.7 points in the United Kingdom and -1.15 points in Japan). Physical capital also made a positive contribution to the expansion of business services and "Other Services", which is consistent with the high values of the real estate involved in these sectors.

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