LABOR REALLOCATION IN TRANSITIONAL ECONOMIES - TWENTY YEARS LATER[1]

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Abstract

The paper investigates labor reallocation across main economic sectors between 1989 and 2007 in the CEE[2] countries, now all members of the EU, using a methodology presented in Jackman and Păuna (1997). Defining a series of indices aimed at capturing the speed, magnitude and efficiency of employment reallocation, the work assesses the extent to which these countries have succeeded in converging towards distributions of sectoral employment similar to those in the old EU members.

The work shows that, overall, the CEE countries have made progress towards reallocating jobs from the oversized labor intensive sectors, characteristic of the early years of transition, such as agriculture and heavy industries, towards the services sector. However, convergence has been relatively slow and its pace has been different from country to country. Bulgaria emerges as the country where the fastest restructuring has taken place, and in the right direction. Romania, in particular, appears to have made least progress, although it is also moving in the right direction. The still large agricultural sector, which continued to hire around 30% of the occupied population in 2007, remains an area which will require further and massive restructuring. As of 2007, in the case of Romania, around 40% of the jobs expected to be created in the growing sectors, computed by benchmarking actual job destruction and job creation against the comparator economy, have occurred. The figure increases to over 50%, when the distortive effect of agriculture is removed. At the same time, over 90% of the job destruction and creation took place in the appropriate direction, towards the comparator EU employment distribution.

Keywords: labor reallocation, labor market convergence, job creation, job destruction

JEL Classification: J21

Introduction

Labor reallocation across economic sectors in the countries of Central and Eastern Europe (CEE) has received significant attention in the literature during the transition period. Spurred by the gradual liberalization of the trade and financial channels with the EU, by the inflows of FDI in search of higher returns in a relatively safe environment, and by the process of European integration, associated with important transfers of resources, expectations were that CEEs would steadily and relatively rapidly converge in living standards and productivity with old Europe. The process of convergence, in turn, would require a massive reallocation of jobs across economic sectors, away from the traditional, labor-intensive areas which characterized the former socialist economies, such as agriculture and heavy industries, towards the higher value-added sectors, such as services and capital and technologically intense industries. Thus, to a first approximation, the structure of employment in the CEE countries should in the long run become more or less comparable to that of the neighboring market economies, where the contribution of services, for example, to output formation and employment gravitates around 70%.

The differences in the inherited employment structure of the CEE economies as compared to a neighboring market economy could be attributed to distortions caused by the planned economy, reflecting the material bias of production, obsolete technology, inappropriate relative factor prices and extensive use of labor resources. As these features are gradually removed, the employment structure in the CEE countries should come to resemble that of Western European countries. Yet, nobody expected that the CEE countries will or must have identical economic structures to the ones of the EU economies, as there are differences between the market economies themselves, but that gradually, over a sufficiently long period of time, these countries will converge towards such structures. How fast, or slow, this occurrence would have depended on a variety of factors, not least on the speed of reforms in the transitional countries or the willingness of the EU to integrate them.

Numerous endeavors have been made in the transition literature to characterize the process of reallocation in terms of speed, magnitude, efficiency, etc[3]. In one of the early papers, Jackman and Păuna[4] (1997) introduced a series of indicators attempting to attach quantitative answers to questions of the following kind: How much restructuring was required in a transitional economy? How much restructuring took place since the beginning of the reforms? To what extent was restructuring successful in reducing the initial structural imbalance (i.e., was in the right direction)? Was the pace of restructuring in Romania fast or slow in comparison to the pace of employment reallocation in other transitional economies? Was high unemployment correlated with faster, or better directed, restructuring? Or was it necessary?

By asking these questions, mostly related to the labor markets, the work built on the belief that any fluctuations and changes in the structure of an economy, and

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[3] See, for example, Blanchard (1991) or Aghion and Blanchard (1994).
[4] Jackman R., and Păuna C. (1997) -"Labour Market Policy and the Reallocation of Labour across Sectors", in Salvatore Zecchini (ed.), Lessons from the Economic Transition, Kluwer, Dordrecht, pp. 373-392.

preponderantly structural adjustments, have a reflection in changes in the labor market. Output swings, aggregate or sectoral, might be determined in the short run by price distortions, exchange rate variations, soft budget constraints as direct or indirect government interventions such as subsidies to state enterprises, all present in a transitional economy. It was, therefore, difficult to isolate temporary output volatility from structural, irreversible modifications in production structures as a result to reform. These changes were more visible, in the opinion of the authors, by looking at fluctuations in the labor market.

Jackman and Păuna began by comparing employment distribution by broad economic sectors[5] in CEEs and well established market economies at the starting point of the transition, in 1989 (Table 1). The table captured well the differences between the Western European employment structures and those in the CEES, but also between the former socialist countries themselves. Thus, for example, while in the Czech Republic employment in agriculture was 11.7% of the total occupied population, while the figure for Romania was 27.9%. The figure for Northern EU was only 4.1%. Similarly, employment in community services was 15.3% in Romania, 23.5% in the Czech Republic, and 28.7% in Northern Europe. The fact that there were visible differences in the economic structures of the EU countries themselves prompted the authors to separately group these countries as well, the main distinctions being in agriculture and manufacturing.

Table 1

Employment structure (%) in 1989

Sector	Bulgaria	The Czech Republic	Hungary	Poland	Romania	Slovakia	EU South	EU North
Agriculture	19.0	11.7	16.6	26.8	27.9	13.8	10.7	4.1
Mining	2.6	3.6	2.0	3.4	2.3	1.0	0.4	1.0
Manufacturing	34.9	34.0	28.6	24.5	33.0	32.1	22.0	26.3
Electricity, gas, water	0.8	1.4	2.6	1.1	1.2	1.6	0.9	1.1
Construction	7.8	7.3	7.0	7.8	7.0	11.6	8.1	6.4
Trade	9.2	11.5	11.3	8.9	5.9	11.1	19.3	17.4
Transport	6.8	6.5	7.7	7.2	6.9	6.4	6.0	6.0
Financing	0.6	0.5	0.8	1.0	0.3	0.4	6.1	8.6
Community servicies	18.4	23.5	23.4	19.3	15.3	22.0	26.5	28.7
RI-South[6]*	24.2	17.2	16.5	23.0	31.3	18.4	-	10.0
RI-North*	27.3	19.6	19.6	27.7	33.4	21.6	10.0	-

Note: The South Europe countries are: Greece, Italy, Portugal and Spain. The North Europe countries are: Denmark, Germany, the Great Britain and the Netherlands.
Source: OECD – Labour Force Statistics (1998) for the EU countries and the authos' computations for East European countries.

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[5] One digit industries.

[6] RI is the restructuring coefficient defined as the diference in employment in sectors in which employment is larger than the coresponding employment in the comparator country (EU South, respectively EU North)
RI.

Measuring the restructuring

To capture the initial differences in the sectoral distribution of employment in a concise yet comprehensive way, Jackman introduced a restructuring index. The index measured the proportion of the workforce in each country that would need to change sector to enable the country to attain the same structure of employment as that of a comparable Western European economy in 1989. To an approximation, the index of restructuring measures the inherited "distortion" of former centrally planned economies at the beginning of the reform, in the sense of departures from the average Western European economy; the larger the index, the higher the "distortion", and most likely the required adjustment and restructuring costs.

For each of the countries investigated, the restructuring index was computed relative to both North and South Europe, which means that we compared its employment structure to an average employment structure of North and South European countries. The table showed important differences in terms of magnitude of the reallocation across sectors required in order to achieve a distribution similar to that of the EU countries. Thus, while 19.6 workers in one hundred would have needed to change their sector in Hungary to reach a North European structure, the figure would be 33.4 in the case of Romania. In other words, to achieve a sectoral distribution comparable to that of the industrialized EU members, one in three workers in Romania would have had to change their sector in 1989. The index computed relative to North EU was always higher than that computed against South EU, indicated that the former socialist countries had, in 1989, employment distributions closer to that of South European economies.

But, what actually happened during the period of transition with the distance between the employment structures in the CEEs and the old EU market economies? Have the CEEs indeed converged to the average EU structures? In other words, have the restructuring indices come down from their 1989 figures? To answer these questions, we reproduce below Jackman's 1989 table for the latest available year, 2007.

Table 2

Employment structure (%) in 2007

Sector	Bulgaria	The Czech Republic	Hungary	Poland	Romania	Slovakia	EU South	EU North
Agriculture	7.5	3.6	4.7	14.7	29.5	4.2	5.6	2.0
Mining	1.1	1.1	0.4	1.6	1.2	0.7	0.3	0.3
Manufacturing	23.6	28.6	22.2	20.7	21.1	26.9	17.8	17.4
Electricity, gas, water	1.9	1.5	1.6	1.4	1.9	1.7	0.6	0.8
Construction	9.0	9.1	8.4	6.9	7.3	10.1	10.5	7.2
Trade	21.0	16.1	19.0	16.8	13.8	17.1	21.5	18.2
Transport	6.8	7.4	7.7	6.4	5.2	7.0	5.5	6.1
Financing	6.4	9.2	9.3	8.6	4.1	8.2	12.3	14.8
Community servicies	22.9	23.4	26.6	22.7	16.0	24.2	26.0	33.3
RI-Sud	11.1	14.4	8.4	15.2	29.4	12.2		10.6
RI-Nord	18.8	17.4	12.1	18.3	33.2	16.8	10.6	

Source: Eurostat, ILO and author's computations.

The table shows an overall reduction in the restructuring indices for all CEE economies relative to 1898, suggesting that some degree of convergence in terms of employment structures has indeed occurred. Indices illustrate at the same time that the speed of the catching up process has been slow, given that twenty years have passed and all the CEEs are now EU members, and that it has varied substantially across countries. Bulgaria appears to have made the most progress with reallocation, as its indices declined from 24.2 to 11.1 relative to the South, and from 27.3 to 18.8 relative to the North. Hungary seems to be closest to the Southern EU members, with a coefficient of 8.4.

Moreover, the distance between the North EU and South EU countries does not appear to have declined. This, of course, reflects the fact that the North EU economies themselves have undergone a further and relative rapid process of restructuring, with the share of services in total employment continuing to increase, while employment in agriculture and manufacturing kept falling. Employment in agriculture, for example, has declined from around 4.1% of the total occupied population in 1898 to only 2% in 2007. Somewhat surprisingly, employment in manufacturing in North EU is now below that in South EU, as percentage in total employment, reflecting probably a de-location of industries towards countries with cheaper yet skilled labor in Europe.

In the case of Romania, the distance with both South and North EU has been reduced, but progress has been slow. Its restructuring indices remain the highest by far, almost double than the second next among the CEEs. This reflects primarily the yet very high share of employment in agriculture. In 2007, around 29.5% of the occupied population in Romania still worked in agriculture indicated that a further massive reallocation of workforce away from this sector is likely to happen. It also points to the low internal mobility of labor, with most of job creation taking place in the urban areas in the last decade, in conditions where almost half of the population lives in the rural.

To gain additional insight in the process of labor reallocation, in particular regarding the speed and the efficiency of the restructuring process, we introduce a series of further indicators, following Jackman. The comparison of employment shares across sectors is useful, but does not offer a comprehensive picture. It does not say, for example, anything about the role of unemployment in the reallocation process, nor about the overall magnitude of job creation and restructuring. The increase in the share of a particular sector could simply occur because other sectors decline faster, for example, without any changes in the level of employment in that sector.

Following Jackman, we resort to notion of comparators economies. We proceed by taking the allocation of the labor force in the comparator country, including the unemployment rate, as a standard against which labor reallocation is measured. Therefore, we calculate for each CEE country, given the size of its 2007 labor force, how many people would be employed in each sector and how many would be unemployed if the structure of employment and the unemployment rate are the same as the ones in the comparator Western European economy. This provides a basis for comparing the actual changes in employment, measured in terms of overall sectoral declines or increases, with those which would be required for the structure of employment to adjust to that of the comparator market economy. The required

change in employment is the difference between the ideal employment structure (ideal in the sens that it would be similar to the comparator countries) and the one at the start of the analysis. The data and calculations for each of the CEE countries are presented in the tables in the Appendix.

The first three columns set out the data on actual employment and unemployment in 1989 and 2007 and the employment structure based on the comparator market economy. In other words, the "comparator country" column shows the long term equilibrium employment and unemployment a CEE country should achieve in absolute numbers, in order to match identically a Western European structure. The next two columns contrast the changes in employment which have occurred between 1989 and 2007 with those which would have been required in order to replicate the employment structure of the comparator economy. Actual employment changes can then be divided into two types: those moving the economy towards the target employment structure and those moving the economy away from it. In the tables, the first type is called convergent, in the sense that it occurs in the "right" direction, towards an EU configuration, and the second is named "non-convergent" related to the changes, which depart from the desired structure.

For example, in the case of Romania (Table A.5 in the Appendix), an employment distribution similar to that of an West-European economy (column 3) would recommend an overall equilibrium employment in agriculture of 517 thousand people, as opposed to the 2007 level of around 2.75 million. Between 1989 and 2007, the occupied population in agriculture declined by around 300 thousand people (column 4), while, in order to achieve the comparator level, over 2.5 million (column 5) workers should be pushed out of the sector. The downsizing occurred in the right direction, hence the adjustment has been convergent towards the EU comparator structure (column 6).

Table 3

Restructuring indices, 1989-2007

	Speed		Efficiency		New job creation (%)
Bulgaria	75.9	71.3[*]	94.2	91.9[*]	63.8
The Czech Republic	51.7	44.9[*]	91.2	88.2[*]	45.6
Hungary	70.2	64.2[*]	93.4	90.4[*]	56.4
Poland	58.2	55.9[*]	95.4	92.9[*]	50.4
Romania	39.3	51.1[*]	91.0	90.1[*]	29.1
Slovakia	49.3	41.8[*]	99.5	99.2[*]	41.1
Greece	56.6	60.3[*]	74.3	67.6[*]	60.3
Portugal	47.2	52.9[*]	82.3	79.2[*]	50.5
Spain	68.8	70.2[*]	78.5	76.8[*]	70.2

Note: [*] Indices in the second column exclude agriculture.
Source: Author's computation based on the tables in the Appendix.

On the basis of the above definitions we construct, following Jackman, a measure which takes into account not only the totality of sectoral employment changes but also the direction of such changes. The warranted change in employment (column 5) can

then be compared with the actual change in employment between 1989 and 2007 (column 4). Where the two figures have the same sign, either positive or negative, it means that restructuring did occur and we can measure the amount of restructuring achieved by the smaller of the two. Where the actual and warranted changes have opposite signs, no restructuring is deemed to have taken place, and the move that occurred so far may be attributable to short-term, unsustainable economic policies, that should be corrected either through policies or by the market forces themselves. Hence, for each economy we can compute the total extent of labor reallocation in the appropriate direction, as achieved restructuring (column 6), compared to labor reallocation going in the "wrong" direction or overshooting the required adjustment (column 7); usually happening when employment contraction is larger than necessary, mostly due to a severe adverse sectoral shock.

These calculations allow us to introduce a number of measures on the success of labor reallocation. First, we can ask what proportion of restructuring has occurred between 1989 and 2007, to obtain a measure of the speed of restructuring. This index is the sum of the absolute values of all employment changes consistent with restructuring as a proportion of required employment changes (the total in column 6 relative to the total in column 5). The results of these calculations are presented in Table 3 above, which suggests that between 40% and 75% of the employment changes which may be needed in the CEE countries had already taken place by 2007, with the highest degree in Bulgaria (76%), and the lowest in Romania (39.3%). In other words, between 1989 and 2007 around 39% of the jobs expected to be reallocated have been restructured in Romania. The figure shoots up to 51% if we exclude agriculture from the computations[7], as a special case, showing that when concerning the reform of the non-agricultural sector, Romania scores better than Slovakia in terms of the speed of adjustment.

It is also possible to derive a measure of the efficiency of labor market reallocation, or the proportion of employment change that has assisted rather than moved against the medium term reallocation. This is measured by the absolute sum of the numbers in column 6 as a proportion of the absolute sum of those in column 6 and column 7. In other words, we measure what percentage of employment movements occurred has taken place in the "right" direction. If labor reallocation is costly, it is important to avoid unnecessary structural change, and one may wish to balance these costs against the costs of slower adjustment. Put it differently, it might be less costly to restructure gradually, but in the right direction, than to change fast, but actually away from the long run required equilibrium.

The table shows that, remarkably, in all CEE countries over 90% of employment changes have been consistent with restructuring, with Slovakia and Poland achieving over 95% on this criterion. Romania seems again to score lowest, although not far behind the others, with 91% of adjustment moving in the correct direction. Turning back to the table for Romania in the Appendix, it is easy to identify the sectors where restructuring happened in the right direction, by our definitions, and these are, primarily, in terms of magnitudes, manufacturing, trade, financial services and

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[7] Here we simply ignore the movements of labor to and from agriculture.

transportation. By similar measures, community services are the under-performers with perverse short run movement, away from convergence.

The measures of restructuring we have adopted comprise two qualitatively different activities: job losses in sectors with excess employment and job creation in sectors with the potential for employment growth. But clearly, destroying redundant jobs, for all the social costs involved remains an economically easier task than creating new jobs. To complete this idea, in the final column of Table 3, we have calculated a new job creation index, which is the number of new jobs created by 2007 in the sectors with growth potential as a proportion of total required new job creation (the sum of job creation in column 6 relative to the sum of required job creation in column 5). On this measure, Bulgaria is the most successful of the transition economies, with 63.8% of new job creation already achieved, followed by Hungary, with 56.4%, and Poland, with 50.4%. Romania is again trailing behind; with only 29.1% of new job creation in the sectors with growth potential occurred so far.

The idea to measure the "correct" restructuring in terms of de-industrialization and convergence towards the EU economic sectors came from looking at the evolution of the late entrants in the European Community. By way of comparison therefore, we have made similar calculations for three relatively non-industrialized market economies in Southern Europe, Greece (joined in 1981), Portugal and Spain (both in 1986) for the same period. Table 3 shows that the performance of the South European group is not better than that of the CEEs in terms of sectoral employment restructuring. The three countries post comparable figures in terms of the speed of restructuring and new job creation, while displaying inferior results in the efficiency of restructuring. One should note, however, that Southern Europe underwent a process of restructuring prior to and in the first decades after their accession into the EU.

Conclusions

The paper investigates labor reallocation across economic sectors between 1989 and 2007 in the CEE countries, now all members of the EU, using a methodology presented in Jackman and Păuna(1997). Defining a series of indices aimed at capturing the speed, magnitude and efficiency of employment reallocation, the work assesses the extent to which these countries have succeeded in converging towards distributions of sectoral employment similar to those in the old EU members.

The figures presented suggest that, overall, the CEE countries have made progress towards reallocating jobs from the oversized labor intensive sectors, characteristic of the early years of transition, such as agriculture and heavy industries, towards the services sector. However, convergence has been relatively slow and different from country to country. Bulgaria, somewhat surprisingly, emerges as the country where the fastest restructuring has taken place, and in the right direction. Romania, in particular, appears to have made least progress, although it is also moving in the right direction. The still large agricultural sector, which continued to hire around 30% of the occupied population in 2007, remains an area which will require further and massive restructuring. As of 2007, in the case of Romania, around 40% of the jobs expected to be created in the growing sectors, benchmarking actual job destruction and job

creation against the comparator economy, have occurred. The figure increases to over 50%, when the distortive effect of agriculture is removed. At the same time, over 90% of the job destruction and creation took place in the appropriate direction, towards the comparator EU employment distribution.

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Appendix

Table A1. Bulgaria, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	814.0	245.4	180.7	-568.6	-633.3	-568.6	
Mining	114.0	35.5	8.3	-78.5	-105.7	-78.5	
Manufacturing	1496.0	766.5	575.9	-729.5	-920.1	-729.5	
Electricity	36.0	60.4	19.8	24.4	-16.2		24.4
Construction	333.0	292.3	341.5	-40.7	8.5		-40.7
Trade	395.0	682.2	694.9	287.2	299.9	287.2	
Transport	290.0	220	177.8	-70.0	-112.2	-70.0	
Finance	26.0	206.9	398.4	180.9	372.4	180.9	
Community services	788.0	743.4	841.0	-44.6	53.0		53
Unemployed	0.0	240.2	254.5	240.2			
Total	4292.0	3492.8	3492.8	-799.2	I2521.3I	I1914.7I	I118.1I

Source: ILO and author's commputations.

Table A2. Czech Republic, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	631.0	176.0	98.8	-455.0	-532.2	-455.0	
Mining	197.0	54.0	15.7	-143.0	-181.3	-143.0	
Manufacturing	1839.0	1406.0	842.0	-433.0	-997.0	-433.0	
Electricity	78.0	73.0	37.5	-5.0	-40.5	-5.0	
Construction	392.0	447.0	347.3	55.0	-44.7		55.0
Trade	620.0	794.0	881.3	174.0	261.3	174.0	
Transport	351.0	364.0	296.1	13.0	-54.9		13.0
Finance	25.0	455.0	716.3	430.0	691.3	430.0	
Community services	1243.0	1153.0	1613.6	-90.0	370.6		-90.0
Unemployed	0.0	276.0	349.2	276.0			
Total	5376.0	5198.0	5198.0	-178.0	I3173.7I	I1640.0I	I158.0I

Source: ILO and author's commputations.

Table A3. Hungary, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	820.0	182.9	80.6	-637.1	-739.4	-637.1	
Mining	100.0	14.6	12.8	-85.4	-87.2	-85.4	
Manufacturing	1408.0	872	686.5	-536.0	-721.5	-536.0	
Electricity	130.0	64.2	30.5	-65.8	-99.5	-65.8	
Construction	345.0	330.5	283.2	-14.5	-61.8	-14.5	
Trade	555.0	747.6	718.6	192.6	163.6	163.6	29.0
Transport	380.0	301.7	241.5	-78.3	-138.5	-78.3	
Finance	38.0	366.7	584.0	328.7	546.0	328.7	
Community services	1152.0	1046	1315.6	-106.0	163.6		-106.0
Unemployed	24.0	311.9	284.7	287.9			
Total	4952.0	4238.1	4238.1	-713.9	I2721.1I	I1909.4I	I135.0I

Source: ILO and author's commputations.

Table A4. Poland, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	4557.0	2247.0	872.1	-2310.0	-3684.9	-2310.0	
Mining	578.0	248.0	40.0	-330.0	-538.0	-330.0	
Manufacturing	4173.0	3162.0	2778.9	-1011.0	-1394.1	-1011.0	
Electricity	182.0	218.0	95.4	36.0	-86.6		36.0
Construction	1321.0	1054.0	1648.0	-267.0	327.0		-267.0
Trade	1515.0	2555.0	3353.5	1040.0	1838.5	1040.0	
Transport	1222.0	973.0	858.2	-249.0	-363.8	-249.0	
Finance	172.0	1316.0	1922.3	1144.0	1750.3	1144.0	
Community services	3282.0	3463.0	4058.3	181.0	776.3	181.0	
Unemployed	0.0	1619.0	1228.2	1619.0			
Total	17002.0	16855.0	16855.0	-147.0	I10759.6I	I6265.0I	I303.0I

Source: ILO and author's commputations.

Table A5. Romania, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	3056.0	2756.7	516.9	-299.3	-2539.1	-299.3	
Mining	259.0	109.2	23.7	-149.8	-235.3	-149.8	
Manufacturing	3613.0	1973.8	1646.9	-1639.2	-1966.1	-1639.2	
Electricity	133.0	175.9	56.5	42.9	-76.5		42.9
Construction	767.0	678.6	976.7	-88.4	209.7		-88.4
Trade	649.0	1288	1987.5	639.0	1338.5	639.0	
Transport	757.0	488.7	508.6	-268.3	-248.4	-248.4	-19.9
Finance	35.0	379.2	1139.2	344.2	1104.2	344.2	
Community services	1677.0	1497.9	2405.1	-179.1	728.1		-179.1
Unemployed	0.0	641	727.9	641.0			
Total	10946.0	9989.0	9989.0	-957.0	I8445.9I	I3319.9I	I330.3I

Source: ILO and author's commputations.

Table A6. Slovakia, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	345.0	99.3	50.4	-245.7	-294.6	-245.7	
Mining	25.0	16.4	8.0	-8.6	-17.0	-8.6	
Manufacturing	801.0	634.2	429.2	-166.8	-371.8	-166.8	
Electricity	41.0	40.3	19.1	-0.7	-21.9	-0.7	
Construction	289.0	237.1	177.0	-51.9	-112.0	-51.9	
Trade	278.0	402	449.2	124.0	171.2	124.0	
Transport	161.0	165.3	150.9	4.3	-10.1		4.3
Finance	9.0	193.3	365.1	184.3	356.1	184.3	
Community services	549.0	569.5	822.4	20.5	273.4	20.5	
Unemployed	0.0	291.9	178.0	291.9			
Total	2498.0	2649.3	2649.3	151.3	I1628.1I	I802.5I	I4.3I

Source: ILO and author's commputations.

Table A7. Greece, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	930.0	522.4	93.5	-407.6	-836.5	-407.6	
Mining	21.0	18.1	14.9	-2.9	-6.1	-2.9	
Manufacturing	715.0	558.9	796.6	-156.1	81.6		-156.1
Electricity	36.0	40	35.4	4.0	-0.6		4.0
Construction	239.0	394.4	328.6	155.4	89.6	89.6	65.8
Trade	624.0	1118.5	833.8	494.5	209.8	209.8	284.7
Transport	241.0	267.6	280.2	26.6	39.2	26.6	
Finance	169.0	407.5	677.7	238.5	508.7	238.5	
Community services	695.0	1192.5	1526.7	497.5	831.7	497.5	
Unemployed	290.0	398	330.4	108.0			
Total	3961.0	4917.9	4917.9	956.9	I2603.8I	I1472.5I	I510.6I

Source: ILO and author's commputations.

Table A8. Portugal, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	829.0	601.4	106.8	-227.6	-722.2	-227.6	
Mining	20.0	19.3	17.0	-0.7	-3.0	-0.7	
Manufacturing	1107.0	954	910.1	-153.0	-196.9	-153.0	
Electricity	38.0	33.7	40.5	-4.3	2.5		-4.3
Construction	384.0	570.8	375.4	186.8	-8.6		186.8
Trade	655.0	1039	952.6	384.0	297.6	297.6	86.4
Transport	180.0	223.7	320.1	43.7	140.1	43.7	
Finance	154.0	421.1	774.2	267.1	620.2	267.1	
Community services	1009.0	1306.6	1744.0	297.6	735.0	297.6	
Unemployed	300.0	448.6	377.5	148.6			
Total	4677.0	5618.2	5618.2	941.2	I2726.1I	I1287.3I	I277.5I

Source: ILO and author's commputations.

Table A9. Spain, 1989-2007

	Labour Force			Change in employment 1989-2007 (2)-(1)	Recquired change 1989 (3)-(1)	Convergence	Non-convergence
	Level 1989	Comparator country	Level 2007				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	1598.0	925.5	421.9	-672.5	-1176.1	-672.5	
Mining	77.0	60.1	67.2	-16.9	-9.8	-9.8	-7.1
Manufacturing	2738.0	3089.8	3594.5	351.8	856.5	351.8	
Electricity	85.0	111.9	159.9	26.9	74.9	26.9	
Construction	1135.0	2697.3	1482.7	1562.3	347.7	347.7	1214.6
Trade	2467.0	4579.1	3762.3	2112.1	1295.3	1295.3	816.8
Transport	711.0	1177.1	1264.2	466.1	553.2	466.1	
Finance	640.0	2517.1	3058.0	1877.1	2418.0	1877.1	
Community services	2809.0	5198.2	6888.4	2389.2	4079.4	2389.2	
Unemployed	2900.0	1833.9	1490.9	-1066.1			
Total	15160.0	22190.0	22190.0	7030.0	I10810.9I	I7436.4I	I2038.5I

Source: ILO and author's commputations.