

# Wage Restraint and European Monetary Union: The Impact of Currency Regimes on Sectoral Wage Divergence<sup>1</sup>

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## Abstract:

In this paper, the rising divergence in sectoral wage moderation within European Monetary Union (EMU) member states since the introduction of the Euro is examined. During the 1980s and 1990s, wage restraint cycles between exposed, manufacturing sectors, and sheltered, private services sectors within EMU candidate-countries were highly synchronous, and differences in wage inflation between sectors within countries was low. After 1996, significant divergence in sectoral wage inflation emerged, and synchronicity of wage restraint cycles between sectors collapsed after 1999. This paper will address the question of why divergence occurred between sectoral wage restraint within EMU countries after 1996. It will be argued that monetary union's removal of national exchange rate pegs and inflation criteria, and the central banks that enforced them, accentuated wage preference divergence between actors in the exposed and sheltered sectors, enabling unions in sheltered sectors to push for high wage increases while unions in more exposed sectors had to continue with wage moderation due to competitiveness constraints. Unlike some political science literature that assumes powerful, protected sectors produce excessive wage inflation at the expense of the exposed sector, it will be argued that the European Monetary System's fixed exchange rate arrangements, and more importantly the Maastricht inflation criteria, provided an effective monetary constraint on sheltered sector wage growth, keeping sheltered sector wage moderation in line with wage restraint developments in the exposed sector in the 1980s and early 1990s.

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<sup>1</sup> This is a rough, first draft of a thesis chapter, and includes only descriptive statistics. In the final version I plan on utilising a panel regression approach for 15 countries (10 EMU countries and 5 non-EMU countries), between 1979 and 2005, examining the impact of currency regimes on the difference in wage restraint between the manufacturing and public sector. Any suggestions for time variant proxy variables or categorical variables that embody different currency regimes (i.e. hard peg, soft peg, monetary union, floating exchange rate, inflation targeting, etc.) are most welcome.

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Much attention has been paid to the influence of labour market institutions on macroeconomic performance. Assessed largely along the lines of union centralisation and coordination, wage bargaining institutions' impact on inflation and unemployment has been dissected in great detail by not only economists, but also by political scientists. Economies where unions are highly coordinated or centralised, these scholars claim, should witness a greater exertion of wage restraint by wage setting actors than countries with lower levels of union coordination/centralisation. (Wage restraint is defined here as nominal wage growth minus labour productivity growth; positive values indicate wage excess, and lower or negative values indicate wage restraint<sup>3</sup>). The Olsonian logic behind this argument is that organised interests would internalise their actions once they become so encompassing that the pursuit of their interests would cause major disruptions to the wider economy. Most, if not all, scholars examining labour market institutions' influence on macroeconomic performance, however, assumed similar union preferences – that is, unions in all parts of the economy had the same utility function regarding real wages and unemployment, regardless of their sector or employer.

Yet, in the 1990s, the emergence of sectoral union analysis questioned this assumption of similar preferences across all union actors (see Crouch, 1990 and Garrett and Way, 1999 for a more comprehensive argument). These scholars argued that union preferences were not similarly aligned for all sectors; rather, some sectors would place greater weight on competitive wage developments, and therefore wage restraint, than others. Unions with high membership in sectors exposed to international trade, it was maintained, should have higher wage sensitivity to competitive developments than unions in the public and more sheltered sectors. Firms in industries with high exposure to foreign competition would not have the

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<sup>3</sup> Because wage restraint performance between sectors within countries is compared, it is unimportant if real or nominal wage restraint is used (as all sectors in one country face the same price level).

same manoeuvrability to raise product prices even if labour costs increased. Instead, firms would prefer to fire workers rather than allow prices to rise and risk substantial losses in competitiveness and market share. Thus, unions with high membership in tradable goods sectors should have greater incentive to pursue wage moderation, in order to guarantee higher employment and higher export demand. Such incentives for wage restraint, however, are not shared by unions in sectors that are more sheltered from international competition, which have more secure jobs. In theory, these unions have greater room to push for high wage increases, because their employers are less exposed to competition, and therefore have greater leeway in increasing prices should labour costs increase. These divergent wage preferences could lead to inter-union tensions as well as poor macroeconomic performance, if wage excess in more sheltered sectors was not compensated for by heavy wage restraint in more exposed sectors. Theory on sectoral wage preference shifted the traditional class-conflict analysis in wage bargaining literature away from capital versus labour and towards (exposed) labour versus (sheltered) labour.

Despite the convincing “sectoral divergence” argument put forth by scholars analysing sectoral wage preference, empirical facts do not fit the theory, at least for a high majority of European Monetary Union (EMU) candidate countries. Throughout the 1980s and 1990s, differences in exposed, manufacturing and sheltered, services wage inflation<sup>4</sup>, *within* countries, was actually quite low for the EMU10 (Greece and Luxembourg excluded). Only in the one to two years prior to 1999, did a rise in sectoral wage restraint divergence within these countries begin to emerge. Unlike the 1980s, where differentials in sectoral wage excess within countries were low, under EMU such differentials significantly widened, as the

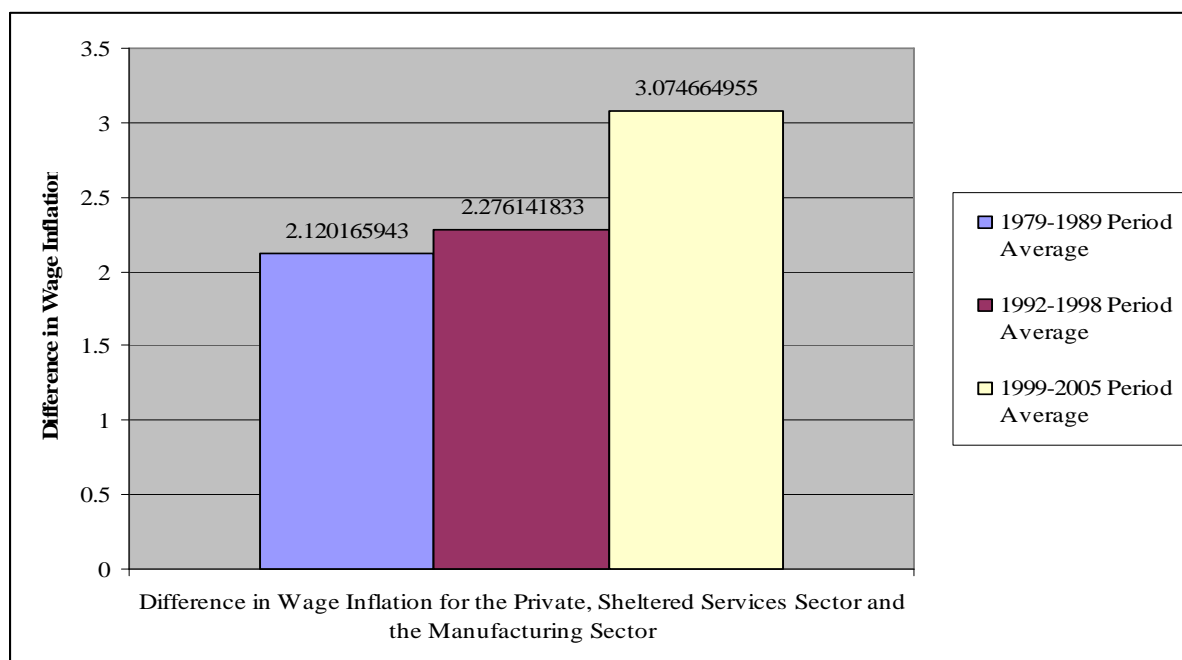
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<sup>4</sup> The words wage excess, wage inflation and wage restraint will be used interchangeable throughout this paper. Wage excess and wage inflation are both defined as the difference in nominal wage growth and labour productivity growth. Though wage restraint is technically the inverse of this measurement, it will be calculated the same way.

manufacturing sector continued to exert significant wage restraint, while private services sectors ceased to improve their wage restraint performance (see Figure 1 and 2).

These empirics present a puzzle. Why do EMU countries not fit the sectoral wage preference divergence theory for the 1980s and early 1990s, when, if anything, sectoral divergence should be most relevant? Before the creation of the Single Market, sheltered sector unions were especially protected from competitive pressures, and had much greater bargaining power than they did in the late 1990s and 2000s. The following puzzle will be addressed in this paper: why did it take until 1996/7 for wage restraint outcomes between the exposed, manufacturing and sheltered, private services sectors within EMU candidate countries to diverge by such a significant degree?

**Figure 1: Difference in Sectoral Wage Inflation (Hourly Wage Growth Minus Productivity Growth) for the EMU10: 1979-1989, 1992-1998, and 1999-2005 Period Averages<sup>5</sup>**



Source Data from EU KLEMS Database

It will be argued that the literature examining sectoral union interests neglects an important “capitalist” actor, which can suppress inter-union wage conflict: non-accommodating central banks. The original capital-labour class conflict must be revisited.

<sup>5</sup> Difference in means tests confirm that the 1999-2005 period average is significantly different from the other two period averages on a 95% confidence interval.

The European Monetary System (EMS), EMU's precursor, established a system of credible exchange rate pegs that suppressed the sheltered sectors' ability to push for excessive wages. With the Bundesbank (a central bank whose prime concern was price stability) as the anchor of the EMS's Exchange Rate Mechanism (ERM), central banks of EU member-states that joined the fixed exchange rate arrangement, de facto adopted a German monetary policy. Once countries entered an exchange rate arrangement with Germany, national central banks had to ensure that national inflation rates were not significantly higher than Germany's, as this would threaten the peg's sustainability. If national wage growth was significantly higher than German wage growth, central banks would have to respond to wage setters via monetary tightening (for a more formal model, see Hochreiter and Winckler, 1995). "Responsible" aggregate wage setting, therefore, could be conducted by wage setters in two ways: 1) wage setters in all sectors could cooperate by exerting wage restraint, or 2) wage setters in one sector (usually the exposed sector) could exert significant wage restraint to offset wage excess in other sectors. In the 1980s, nominal wage inflation in both the exposed, manufacturing and sheltered, private services sectors within EMU member-states was relatively high. That one sector would be able or willing to take on a significant deflationary role rendered the second option above unlikely. Hence, throughout the 1980s, both sectoral wage setters within EMU countries constrained their wages, and *sectoral wage-restraint convergence* resulted.

By the mid-1990s, however, wage growth in both sectors had been reined in to such an extent that the sheltered, private services sectors could afford to halt restraint, as long as the manufacturing sector continued to increase wage moderation, which they more or less did, due to increased globalisation pressures. EMU's removal of national exchange rate pegs and the central banks that enforced them, as well as the strict Maastricht inflation criteria, produced very different incentives for wage actors in the exposed and sheltered sector, leading to the rise in divergence. Pursuit of wage restraint ceased in sheltered sectors with the

removal of Maastricht's inflation criteria and the EMS's exchange rate arrangements. After 1999, these gains in wage restraint were then reversed, quite significantly, by some countries' sheltered sectors (notably in Finland, Ireland, Italy and the Netherlands).

The first section of this paper provides a brief review of the literature. In section II measurements and methodologies are described. In sections III and IV the sectoral divergence puzzle within EMU member-states is explained. In these two sections, sectoral performance within ten EMU candidates and five non-EMU countries (Australia, Japan, Sweden<sup>6</sup>, the UK<sup>7</sup> and the US, hereafter called the non-ERM5) that did not formally participate in the ERM in the 1980s is compared. Section V concludes by with an outline of the consequences of sectoral divergence for the future of EMU and collective bargaining. If sectoral wage preference divergence becomes excessive, to the extent that exposed sector wage setters cannot compensate for high sheltered sector wage excess, aggregate inflation performance could be jeopardised, as was the case for several EMU countries in the early 2000s.

## **I. The Debate on Sectoral Divergence**

Relatively little has been said on sectoral wage restraint performance in the political economy literature, at least until the early 1990s. The primary reason for this is data constraints. Ample study has been performed on *national* corporatist institutions' (specifically levels of centralisation and coordination between unions) contribution to macroeconomic performance (see Crouch, 1985; Bean, Layard, and Nickell, 1986; Calmfors

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<sup>6</sup> Sweden is used as a non-ERM/EMU country because it only formally joined the ERM for 18 months in 1991/2. In 1977, the Swedish krona left the currency snake and was pegged to a basket of currencies where the dollar had double weight in relation to the trade exchange. In 1982, the Swedish Riksbank did plan to peg the krona directly the Deutschmark, but this was postponed indefinitely. Since 1992, the krona has operated under a floating exchange rate and the Riksbank has pursued an inflation targeting policy of 2% per year, with a tolerated deviation of  $\pm 1\%$  (Öberg, 2006).

<sup>7</sup> The UK is also included in the non-ERM/EMU category due to its relatively short exposure to the ERM. Britain joined the ERM and pegged its currency to the Deutschmark in October, 1990, but later abandoned this peg in September, 1992 (McNamara, 1998: 21).

& Driffill, 1988; Soskice, 1990; Wallerstein, 1990 and; Golden, 1993 among many others). However, until the 1990s, most analyses examining macroeconomic performance and wage bargaining were restricted to national level institutions, assuming that the utility functions of all unions, regardless of their sectoral affiliation, are the same.

Several scholars in political economy have broken away from this mould, however, and have discussed the macroeconomic implications of divergent wage preferences for wage setters in different sectors. Crouch (1990), one of the first to examine wage bargaining interests along sectoral lines, hypothesised that wage setters in the exposed sectors are more concerned with problems of international competitiveness than wage setters in the protected sector. As a result, if a trade union movement is dominated by industrial unions in the export sector, “foreign-trade-conscious behaviour” should characterise the movement as a whole (Crouch, 1990; 70). Even though he is one of the first to argue divergent sectoral interests in political economy, his analysis lacks detailed sectoral level data, which limits his ability to test his hypothesis. He concludes that “while the number of cases is too small and the number of independent variables is too large to permit drawing any subtle conclusions, the discussion [of sectoral wage interests] has shown that exposed-sector unionism is a relevant variable, justifying further research” (Crouch, 1990; 83). Crouch establishes a logical theory, but he does not rigorously test it empirically, and rather uses several country case examples to determine whether his argument could be a valid one.

While Crouch provides neither a formal model nor econometric testing of his hypothesis, other scholars have tested his sectoral hypothesis on aggregate macroeconomic indicators. One of the most comprehensive political arguments for sectoral preference divergence is that advocated by Garrett and Way (1999). The authors examine power

dynamics between public sector unions<sup>8</sup> and exposed, private sector unions, and conclude that the growth of public sector unions is one important reason for the apparent economic problems of strong labour regimes. They argue that in countries where public sector unions become extremely strong, as was the case in the Scandinavian countries in the 1990s, powerful labour confederations cannot stop public sector workers from using their organisational power to bid up their wages to levels that have significant repercussions on the exposed sector. Garrett and Way provide an econometric model to test the impact of public sector union strength on aggregate inflation and unemployment, yet their study suffers from a similar caveat as that of Crouch: they lack detailed, sector-level wage and productivity growth data to test their argument. Moreover, the authors control for central bank independence in their analysis, yet they do not adequately take into account central banks' commitments to fixed exchange rate regimes or inflation rules across the countries they study. Only four countries in their OECD13 sample had shadowed the Deutschmark under the ERM.<sup>9</sup>

The recently released EU KLEMS Database provides a rich dataset of worker compensation and productivity by International Standard Industrial Classification. With data from 1970 to 2005, it offers the ability to test the exposed/sheltered sector dynamic with sectoral level data. Interestingly enough, though Crouch's and Garret and Way's argument appears quite sound, it only partially fits the facts. While it provides a good explanation for high sectoral wage restraint divergence in the late 1990s and early 2000s, it does little to

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<sup>8</sup> Though the Garrett and Way examine public sector unions, who in theory should be relatively irresponsible to monetary threats (see Franzese, 2001), rather than sheltered, private sector unions, who are responsive to monetary threats, their exposed/sheltered argument holds similar logic for both sectors.

<sup>9</sup> Garrett and Way rely upon the Cukierman (1992) legal index of central bank independence, yet this index provides a number of problems in terms of assigning proper weights to countries within exchange rate regimes. First of all, the central bank's policy objective is assigned a weight of 15% in the overall index, and this variable is highly focused around price stability rather than fulfilling an exchange rate peg. In the definition of priority assignment to price stability, "first priority assigned to price stability" receives a coding of 1, while "first priority assigned to a fixed exchange rate" receives a coding of 0.66. No detail is given to the anchor currency which the peg revolves around. Thus, if the country in question fixes its exchange rate with the Deutschmark, and thus indirectly adopts a monetary policy which places a high emphasis on price stability via shadowing the Bundesbank, it will be assigned a lower score than a country whose first priority is price stability, albeit to a less extent than the Bundesbank.



explain the ERM period (1979 to the mid-1990s). Put otherwise, divergent wage preferences fit the data well for the EMU10 after 1996/7; it does not fit the data before this period. During the 1980s and early to mid 1990s, wage excess in both the exposed, manufacturing sector as well as the sheltered, private services sector was high, and both sectors complied with increasing wage restraint. Given that the protected sector was arguably more sheltered in the 1980s and early 1990s, it is even more paradoxical that the data suggest that wage restraint differentials between private services and manufacturing was so low for the EMU10 countries during these periods. With the enactment of the Single Market in the 1990s, one would expect that unions within these sectors would come under increasing strain to maintain competitive wages.

Both arguments neglect an important interaction between wage setters and monetary authorities, especially monetary authorities under pressure to uphold fixed exchange rate arrangements. Franzese (2001) provides an analysis of wage-bargaining's interaction with monetary policy, using a similar dual-economy approach. He concludes that, for countries where coordinated bargaining is led by the traded-sector, central bank independence is most effective at reducing wage inflation. Wage growth in the sheltered, private sector can be kept at bay under an independent central bank. He argues that if the non-traded sector pushes for excessive wage increases, the central bank will respond with monetary tightening and increased interest rates. Higher interest rates reduce investment, and so hurt employers and workers in sectors that are highly dependent on domestic demand (private, sheltered sectors, but NOT necessarily public sectors, which may remain unharmed from decreases in private demand). Yet Franzese's analysis assumes the existence of national central banks. Though his analysis does a sufficient job of explaining wage developments in EMU candidate countries prior to EMU, it provides minimal explanation for developments that occurred afterwards.

How then can sectoral divergence in wage restraint under EMU be accounted for? Arguments put forth by Garrett & Way (1999) and Crouch (1990) on the one hand, and Franzese (2001) on the other will be merged in this paper, and the importance of fixed exchange rate regimes, and their dissolution, on sectoral wage-restraint convergence will be discussed. EMU produced a profound shift in the institutional regime that governs wage bargaining, with consequences for its domestic political economies. This led to a wage-setting regime in EMU in which wage restraint within countries was considerably less synchronised than was the case in the institutional design that the 1980s and 1990s offered. Under EMU, individual trade unions *in all sectors* within member-states no longer faced the hard monetary constraint imposed by their national central bank. Yet the subsequent possibility of inflationary wage explosions did not occur, because competitiveness concerns kept wage developments in the exposed sector in check. If wage settlements became too inflationary for employers exposed to international competition, they would be persuaded to shed employment rather than increase prices, which would threaten their market share. While wage pressures from unions in the exposed sector are limited through competitiveness concerns, unions in the private, sheltered sector by definition do not face such constraints. The divergence in wage restraint outcomes that are emerging within EMU member-states between wage-setters in export sectors on the one hand, and labour unions in sheltered private services on the other, is a logical consequence of these different constraints. Countries where the disappearing monetary constraint is not supplanted by hard incentives that tie wage-setting in the sheltered and exposed sectors therefore face sectoral divergence, as Crouch and Garrett and Way theorised.

After discussing the methodology used to assess sectoral divergence, a comparison of the 1980s, Maastricht and EMU periods (1979-1989, 1992-1998 and 1999-present) will be

made to highlight the institutional shift that has taken place. Different incentives for exposed and sheltered sectors will then be examined

## **II. Assessing Sectoral Divergence in Wage Restraint: Measurements and Methodology**

This analysis seeks to conceptualise sectoral divergence between two sectors for 10 ERM/EMU countries (Greece and Luxembourg excluded): manufacturing, and the private services sector. Manufacturing's exposure to international competition is quite clear, yet it is important to emphasise which sectors will be selected for the private, services sector, as private services have variation in "tradability". First off, it is important to pick a sector which does not lay predominantly in the public sphere. Mentioned above, public sector unions should be relatively irresponsive to interest rate changes and monetary tightening, as they are sheltered from its adverse effects on private demand. Thus, non-market services (public administration and defence, education and healthcare) are omitted from this analysis<sup>10</sup>.

Using data on the French economy, Allard-Prigent et al (2000) examine the tradability of French sectors. They use a more loose definition of tradability, and define the tradable sector as an industry whose share of exports and imports in the overall production is above 10% since 1990. In other words, if  $\{ [(exports + imports)/GDP] / 2 * value\ added \}$  is greater than 0.1, they define the sector as "traded". Table 1 shows the sectors which fall under the tradable and non-tradable category:

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<sup>10</sup> In addition to being protected from private demand changes, most services which fall in the public sector do not appear in the consumer price index.

**Table 1: Tradable and Non-Tradable Sectors**

Industry	average level of $[(X+M)/2]/VA$	Type of Industry according to the 10% criterion
	over the period 1990-1997 (in%)	
Agricultural, forestry and fishery products	34.5	T
Agricultural and food industries	81.2	T
Energy	57.1	T
Intermediate goods	115	T
Producer durables	108.1	T
Consumer durables	151.6	T
Automotive vehicles and other land transport equipment	158.7	T
Consumer and non-durables	80	T
Products of building and construction, civil and rural engineering	0	N
Wholesale and retail trade	0	N
Transport and telecommunications services	12.3	T
Market services (business activities and hotels and restaurants)	7.4	N
Insurance services	7.4	N
Services of financial institutions	21.8	T
Non market services	0	N

Source: Allard-Prigent et al. (2000)

The table above offers several possible proxies to use as the private, sheltered sector. For the sake of simplicity, only two of the above sectors will be selected for the sheltered, private-sector composite: wholesale and retail trade and market services. The private, sheltered services sector used for this analysis is a weighted composite of wholesale and retail trade (ISIC tabulation category G), hotels and restaurants (ISIC tabulation category H) and real-estate, renting and business activities (ISIC tabulation category K)<sup>11</sup>. Manufacturing (ISIC tabulation category D) is used as a proxy for the highly exposed sector. Both proxy sectors represent approximately 40% to 50% of total employment for all 15 countries examined.

The calculation of wage restraint used stems from Oliver Blanchard's efficiency wage measurement (Blanchard and Wolfers 2000; Blanchard 2006). Blanchard measures wage restraint as real wage growth minus labour's share in total factor productivity growth. If wage

<sup>11</sup> Weighting is based upon employment share in the total economy.

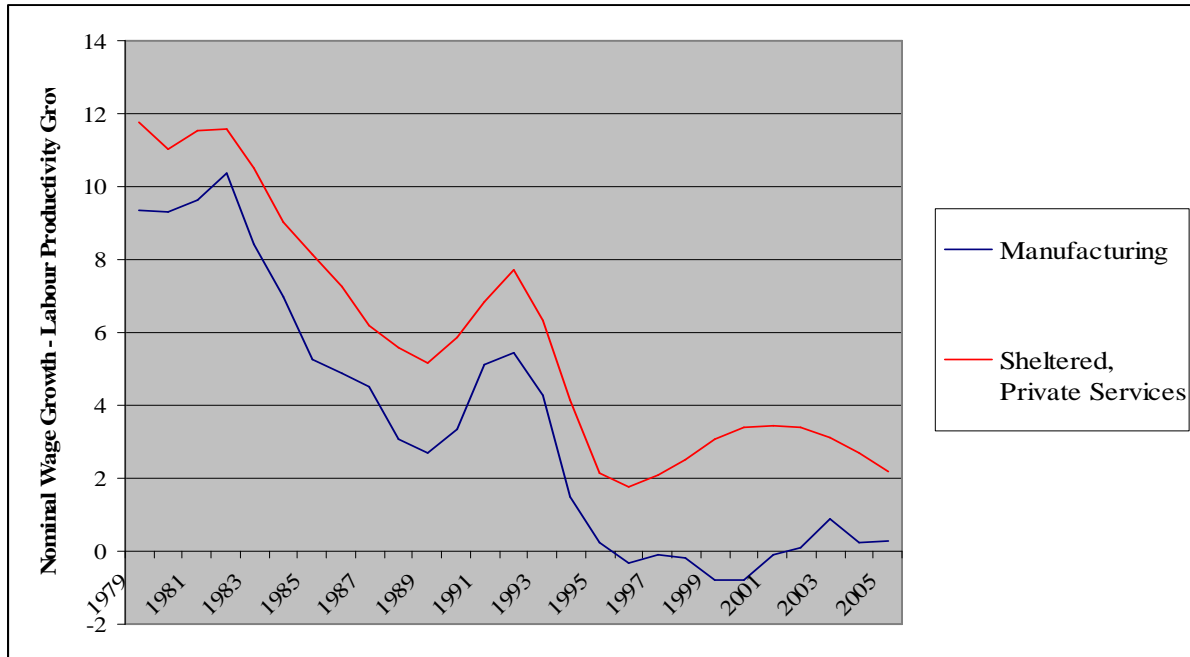
restraint is absent, this value will be highly positive; if it is present, this value will be near zero or negative. Blanchard uses labour's share in total factor productivity (TFP) to capture labour's contribution to productivity increases in an economy. Labour's share in TFP is not available on a sectoral basis. Therefore, this paper will use gross-value added per hour worked for labour productivity. While the lack of availability of such productivity data limited Garrett and Way's analysis, which is why they resorted to inflation rather than sectoral wage restraint, EU KLEMS database provides wage and productivity data by ISIC sector classification. Finally, since bargaining rounds within many of the countries examined straddle years, three year moving averages of sectoral wage restraint, rather than year-on-year changes will be examined.

Because the performance of sectoral wage restraint *within* countries will be compared, using nominal wage growth instead of real wage growth is not important - all four sectors within a country experience the same inflation rate. Nominal wage restraint between sectors within countries will be the main focus of analysis. Nominal wage per hour is calculated by dividing total compensation of employees by total hours worked (COMP/H\_EMPE). Sectoral gross value added per hour worked (LP\_I) is used for labour productivity.

Sigma and beta convergence are the most common approaches in analysing divergence. These approaches are often used to analyse convergence or divergence among many units, yet they also can be used to assess divergence between as few as three or two. Sigma convergence analysis of sectoral wage restraint within EMU countries provides relatively the same picture as the one presented above when only wage inflation differentials were examined. Average standard deviations between 3 year moving averages of wage inflation in the highly exposed, manufacturing and the relatively sheltered, private services sectors were quite low within EMU10 countries during the mid to late-1980s. The early 1990s witnessed an even further decrease in standard deviations of wage restraint between

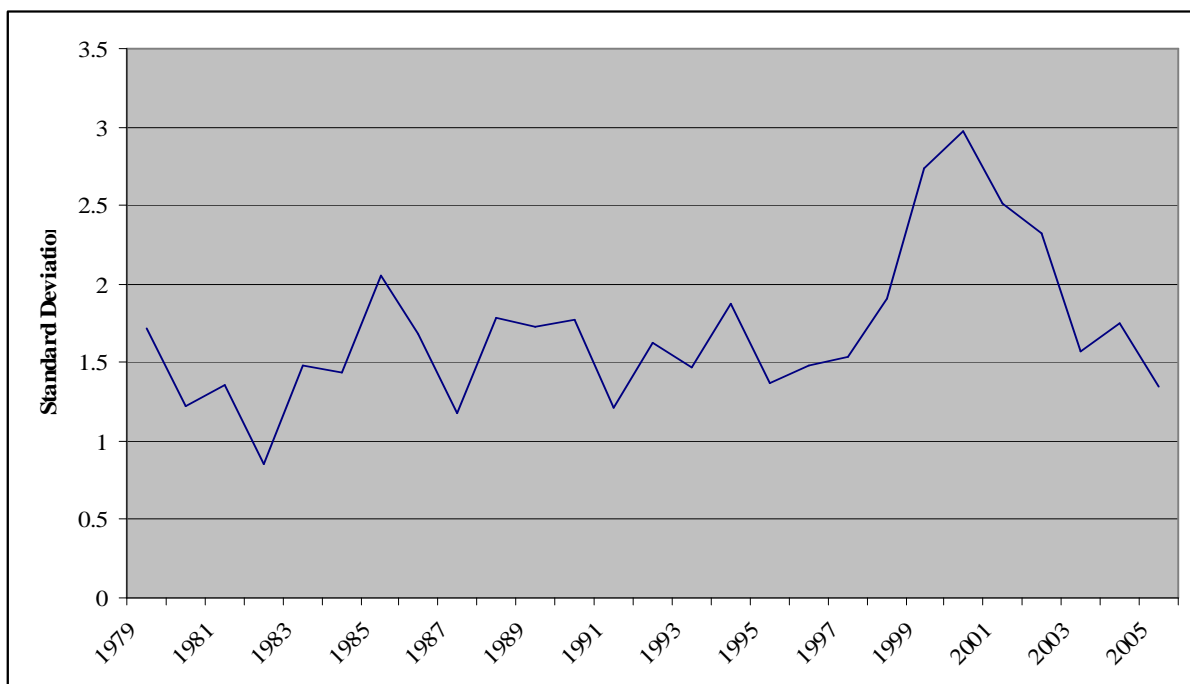
these two sectors within EMU countries, yet around the mid to late 1990s, standard deviations began to climb (see Figures 2 and 3).

**Figure 2: Sectoral Nominal Wage Restraint Performance (Unweighted Average for EMU10)**



Source Data from EU KLEMS Database

**Figure 3: Sigma Convergence in EMU10's Average Nominal Wage Restraint between the Manufacturing and Sheltered, Private Services Sectors**



Source Data from EU KLEMS Database

Sigma convergence is helpful in understanding convergence/divergence over time; it does not, however, indicate whether such convergence or divergence is accompanied by greater coordination of wage restraint, either voluntary or forced, between sectoral wage actors. Combining standard deviation analysis with a methodology that assesses synchronicity of wage restraint cycles between sectors, therefore, is helpful in understanding whether wage restraint between sectors was more or less synchronous under a common external pressure: an exchange-rate-peg-enforcing national central bank. One method that has been used to assess synchronicity is pair-wise correlation analysis. Correlation analysis has been heavily used in business cycle convergence analysis (Bayoumi and Eichengreen, 1992; Artis & Zhang 1997; Artis, 2008) as well as in wage growth cycle analysis (Pichelmann, 2001).

Using cross-correlation analysis for examining wage *restraint* cycles has several advantages. One is that, since it is a measurement of synchronicity between two functions, and not of causation, it does not require control checks, which would be severely limited in this case due to degrees of freedom problems; because sectoral divergence is assessed only within countries, rather than between them, for such short periods of time. Secondly, cross-correlation analysis can be conducted on time series with as few as seven observations.<sup>12</sup> Thirdly, if cross-correlation analysis is conducted for separate time periods, it can be more helpful than a panel regression analysis in locating institutional trend breaks for countries that witness a similar institutional change. Regression analysis is unhelpful when institutional variables take identical, binary values for the majority of the panel across time; the determination of significant results requires some degree of variation. Cross-correlation analysis can be used to side-step this caveat by comparing the synchronisation of variables in one time period where the institutional variable was absent to another time period where the

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<sup>12</sup> I thank Michael Artis for this point.

institutional variable was present. However, one downside to cross-correlation analysis is that it does not prove causation, but rather provides evidence for correlation. Thus, results have to be interpreted carefully.

Pair-wise correlations were calculated for three-year moving averages in wage restraint between the exposed and sheltered sectors within each EMU10, and for each non-EMU5 country for control purposes, for three periods: 1979-1989 (the early ERM period), 1992-1998 (the Maastricht period), and 1999-2005 (the EMU period). For each period, a pair-wise correlation coefficient is calculated between wage restraint cycles for a country's exposed, manufacturing sector and sheltered, private services sector. The coefficients for each country, for all three periods, is reported in Table 2. Given national central banks' commitment to uphold exchange rate peg arrangements in the 1980s and the Maastricht criteria in the 1990s, it is expected that pair-wise coefficients between the private sector and the manufacturing sector would be higher for EMU countries in the 1979-1989 and the 1992-1998 periods than in the EMU period. Moreover, given that central banks in Australia, Japan, the US and to some degree Sweden and the UK, were not under strict obligation to comply with fixed exchange rate arrangements like the EMU10, pair-wise coefficients between the private services sectors and the manufacturing sector should be higher for EMU-countries, compared to the non-EMU5 countries, for the 1992-1998 period, when the most strict monetary constraint was placed on private services via the Maastricht inflation criteria, and possibly the 1979-1989 period.



### III. The 1980s and Maastricht: The Golden Age of Sectoral Wage Coordination

In the 1980s, most EMU candidate countries belonged to the Exchange Rate Mechanism either formally or informally.<sup>13</sup> As a consequence of pegging their currencies to the Deutschmark, shadowing national banks became less accommodating to national wage setters and more concerned with maintaining stable exchange rates. Under the ERM's fixed exchange rate regime, national central banks of EMU candidate countries were forced to shadow the Bundesbank's interest rate policy in order to avoid their currencies sliding against the Deutschmark. If a country's inflation rate was significantly higher than the German inflation rate, threatening the peg, central banks would be forced to intervene via monetary tightening. Though 1979-1983 was a period marked by multiple currency realignments, the frequency of these alignments slowed after this time; between January, 1987 and September, 1992 there were no realignments at all (McNamara, 1998: 159-160).

The ERM's fixed exchange rate regime left wage setters in high-inflation, shadowing countries with two options for avoiding such monetary tightening. One option was that wage setters in all sectors could cooperate in exerting wage restraint, placing downward pressures on labour costs, and ultimately inflation. The second option was that wage setters in one (generally exposed) sector could exert significant wage restraint in order to offset wage excess in other (generally sheltered) sectors. The first option appears to be undertaken by national wage setters within the EMU10 during the 1980s. Nominal wage excess was high in all sectors, and it was unlikely that wage setters in the manufacturing sector would be able or willing to significantly deflate their wages in order to accommodate higher wage increases in

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<sup>13</sup> While Austria and Finland were not formal members of the EU, they had established currency pegs with the Deutschmark during the 1970s and 1980s. Austria established direct a hard currency peg policy with Germany in 1974 (Hochreiter & Winckler, 1995). During the 1980s, Finland had anchored the markka to a basket of (weighted) currencies, which included the Deutschmark, and the currency remained in a strict 4.5% band between 1982 to 1988. The marrka was pegged to the ECU in 1991, but this was abandoned in September, 1992. The marrka rejoined the ERM in 1996 until Euro entry (Honkapohja & Koskela, 1999).

the sheltered, private services sectors. In response to monetary pressures placed upon them under the ERM, wage restraint in all sectors significantly increased (see Figure 2).

During the 1980s, sectoral wage restraint cycles were highly synchronised within EMU countries, due the fact that wage setters in all sectors improved their wage restraint performances. In 1979, nominal wage growth significantly exceeded labour productivity growth for all four sectors in all EMU candidate countries. Strict exchange rate arrangements forced wage setters within these sectors to close the gap between nominal wage and labour productivity growth. Because all wage setters were pursuing similar policies of wage restraint during the 1980s, wage restraint cycles became highly synchronised between the manufacturing and private services sectors (Table 2). Seven of the EMU10 had pair-wise correlation coefficients between wage restraint in the manufacturing and private services sectors that exceeded 0.7 (out of 1), and the EMU10 average for this period was 0.75. The non-EMU5 countries had slightly lower levels of wage restraint synchronisation between the manufacturing and private services sector, yet average pair-wise correlations were 0.64, not significantly different from that of the EMU10.

**Table 2: Sectoral Nominal Wage Restraint Correlations between the Manufacturing and Sheltered, Private Services Sectors**

	<i>1979-1989</i>	<i>1992-1998</i>	<i>1999-2005</i>
<i>Austria</i>	0.37 (0.264)	0.97** (0.000)	-0.77** (0.041)
<i>Belgium</i>	0.40 (0.224)	0.72* (0.070)	0.09 (0.854)
<i>Finland</i>	0.93*** (0.000)	0.19 (0.678)	-0.57 (0.179)
<i>France</i>	0.98*** (0.000)	0.59 (0.163)	0.88*** (0.008)
<i>Germany</i>	0.77*** (0.005)	0.81** (0.028)	0.46 (0.298)
<i>Ireland</i>	0.94*** (0.000)	0.93*** (0.002)	-0.23 (0.627)
<i>Italy</i>	0.97*** (0.000)	0.94*** (0.002)	0.71* (0.073)
<i>Netherlands</i>	0.75*** (0.008)	0.75* (0.051)	0.61 (0.143)
<i>Portugal</i>	0.48 (0.137)	0.97*** (0.000)	0.85** (0.015)
<i>Spain</i>	0.93*** (0.000)	0.98*** (0.000)	-0.45 (0.313)
<b><i>EMU AVERAGE</i></b>	<b>0.75</b>	<b>0.78</b>	<b>0.16</b>
<i>Australia</i>	0.58* (0.063)	-0.19 (0.683)	-0.66 (0.106)
<i>Japan</i>	0.89*** (0.000)	0.65 (0.115)	0.56 (0.187)
<i>Sweden</i>	-0.15 (0.662)	0.92*** (0.003)	0.69* (0.089)
<i>UK</i>	0.89** (0.014)	0.80** (0.033)	0.78** (0.040)
<i>USA</i>	0.97*** (0.000)	-0.58 (0.174)	-0.73* (0.064)
<b><i>NON-EMU AVERAGE</i></b>	<b>0.64</b>	<b>0.32</b>	<b>0.13</b>

Source Data from EU KLEMS Database. The table presents pair-wise correlation coefficients for 3-year moving averages in wage restraint between the manufacturing and sheltered, private services sectors.

P-values in parenthesis. \*, \*\*, and \*\*\* indicate significance on a 90%, 95% and 99% confidence interval.

After the ERM crisis in 1992, the gap between nominal wage and labour productivity growth was significantly lower than the gap that had existed in the 1980s, and sheltered sector wage growth had been reined in substantially. ERM's bands were expanded to  $\pm 15\%$  of the target rate in order to accommodate speculation against currencies, particularly the franc and

the lira. Though this move may have prompted wage setters, especially in sheltered sectors, to relax wage restraint, Maastricht's inflation criteria gave central banks in candidate countries further ability to force wage restraint upon them. In order to qualify for EMU membership, it was established that all candidate countries would not only have to fulfil ERM's looser band requirements, but would also have to maintain an inflation rate that was no higher than 1.5% of the EU's three lowest inflation members (McNamara, 1998: 164). Because Germany's inflation was among the lowest in the EU, the Deutschmark effectively became a second nominal anchor, not only for exchange rates but also for inflation. Through this criterion, central banks maintained their monetary tightness on wage setters and wage restraint in all four sectors continued. As inflation was a direct requirement to enter EMU, wage setters in the sheltered, private services sector had to be particularly cautious in their wage demands.

Compared to the 1980s, the Maastricht period (1992-1998) still boasted a highly synchronous regime for the EMU10; wage restraint cycles between the manufacturing sector and private services sector remained highly synchronous. During the Maastricht period, eight out of ten countries experienced correlation coefficients higher than 0.7. The deterioration of some EMU countries' correlation values, notably Finland's, can be attributed to their more lengthy exit from the ERM during this period. The Finnish markka was pegged to the ECU in 1991, but the ERM crisis, coupled with a deep recession, forced the Finnish central bank to abandon this peg in September of 1992. The markka stayed out of the ERM until 1996, when Finland committed itself to EMU membership.

The experience of the non-EMU5 during the Maastricht period (1992-1998) provides a stark contrast to that of the EMU10. Unlike in the 1980s where average pair-wise correlations between the manufacturing and private services sectors were relatively similar for the two groups of countries, there were significant differences in performance between these

two groups for the Maastricht period. Average pair-wise correlations for the non-EMU5 plummeted to half of its 1980s value, while they slightly increased for the EMU10. Strict inflation criteria, and the central bank's commitment to fulfilling them in order to help their countries obtain EMU entry, was highly conducive to dampening wage excess pressures in the private, sheltered sector. Wage setters in these sectors were heavily constrained in their wage demands, for under Maastricht, inflationary wage settlements would not only threaten an exchange rate peg (whose bands were quite loose) but more importantly would threaten entry into EMU itself.

Yet despite the even more urgent constraints upon sheltered sector wage setters to maintain wage moderation, by 1996 a split emerged between sectoral wage restraint performances across the EMU10. Wage setters in the manufacturing sector continued to rein in wage excess, and wage restraint performance continued to improve. However, wage restraint performance in the sheltered, private sectors stagnated, and after 1999 increased. In the final two years of the ERM, the second option available to national wage setters to avoid monetary tightening – having one sector continue to exert wage restraint in order to accommodate wage excess in others – was taken, setting the stage for sectoral divergence.

#### **IV. EMU and the Rise of Sectoral Divergence**

EMU produced one substantial shift in wage setters; it removed the strict (national) monetary regime that governed wage setting since the 1980s and prompted the heavy exertion of wage restraint by wage setters in all sectors. Indeed, the new monetary regime under EMU was intended to be just as strict as before. The ECB was modelled on the German Bundesbank, and price stability, keeping EMU aggregate inflation around 2%, was the only mandate that it had to fulfil. However, there was one major difference between this new regime and the one in place under the ERM: monetary strictness was no longer imposed upon

wage setters at the national level, but rather was enforced at the supranational level. National central banks no longer had inflation criteria to enforce or exchange rate arrangements to uphold. While these central banks may have cared a great deal if national wage inflation was excessive prior to 1999, the ECB had little concern with wage inflation developments at the national level unless they impacted EMU's aggregate inflation rate.

The shift from national central banks to the ECB led many political science scholars to conclude that EMU would prompt a decline in *aggregate* wage restraint across all member-states (Hall 1994; Hall & Franzese 1998; Iversen & Soskice 1998; Soskice & Iversen 2000; Cukierman and Lippi 2001; Hancké & Soskice, 2003). Contrary to these projections, national wages remained moderate in many EMU countries, and *aggregate* wage excess was by no means high compared to the 1980s period, though there were some national exceptions (notably the Netherlands and Ireland).

Performance at the national level, however, masked developments at the sectoral level. Preferences for wage moderation were very different across sectors and this preference divergence led, in some countries, to significant divergence in sectoral wage inflation outcomes. For wage bargainers in the exposed sector, preferences to exert wage moderation were still high under EMU. Should wage setters in the exposed sector push for excess wage growth, firms in the export sector would either lose competitiveness, if wage increases were passed onto prices, or would cut employment. A strict competitiveness constraint ensured that wage moderation would continue in these sectors, as unions feared that a drop in price competitiveness would be followed by a parallel drop in employment. In all of the EMU10 countries, with the exception of Italy and Portugal, wage restraint in the manufacturing sector continued to increase after 1999.

Preferences for wage moderation due to a competitiveness constraint do not exist for the sheltered sectors. With the removal of the hard, national monetary constraint by

introduction of the ECB in 1999 – and manufacturing’s uptake of a deflationary role in 1996/7 across most countries – unions in sheltered sectors are, in principle, free to press for inflationary wage settlements. This preference divergence, that was allowed to manifest in the absence of hard monetary criteria and exchange rate arrangements in 1999, would translate into a sharp divergence between wage rates in the exposed (manufacturing) and sheltered (private services) sectors. Data in Table 2 provide evidence that supports this. Presenting pair-wise correlation coefficients for an identical length of time to the Maastricht period, 7 years, correlation coefficients between wage restraint cycles in the (exposed) manufacturing and (sheltered) private services sector collapsed for most countries under EMU. Of the ten pair-wise correlations between wage restraint in the manufacturing and private services sector, only three countries (France, Italy, and Portugal) have correlation coefficients higher than 0.7. In the final two cases, the stability of the coefficient in the EMU period can be attributed to the fact that the manufacturing sector, along with the private services sectors, pursued excessive wage increases after 1999.

The experiences of the non-EMU5 provide important benchmarks for EMU performance. Manufacturing and sheltered, private services pair-wise correlation averages for the EMU10 and non-ERM/EMU5 nearly equalised under the EMU period, although it is important to note, that since pair-wise correlation coefficients are so low, difference of means tests yield inconclusive results. Due to the removal of the ERM’s and Maastricht’s intricate exchange rate regime, the EMU10 lost an important disciplining agent – a national central bank – which had the ability to impose wage restraint on sheltered sector wage setters that were large enough to affect the national inflation rate. Under EMU, these wage actors were no longer large enough to attract the attention of the new supranational central bank, and they were granted greater manoeuvring room to implement their wage preferences.

To conclude, divergence in sectoral wage restraint within EMU results from two components: competitiveness-driven restraint in the exposed sector, and wage increases beyond productivity in the sheltered sector. Both of these components become increasingly manifest in the absence of a national monetary authority that prefers to keep either a stable exchange rate or low national inflation. Low levels of wage inflation in the sheltered sector can be relatively easily compensated by productivity gains in the exposed sector, thus re-balancing the aggregate level of wage restraint between these two sectors in an economy. Higher levels of wage inflation are more problematic, as they impose disinflation or a less competitive real exchange rate on the exposed sector. The exact mix between the two sectoral inflation rates is determined by the relative power of wage-setters in the exposed and sheltered sector and by the extent to which the leadership role of the exposed sector is institutionalised in wage bargaining systems.

## **V. Conclusions: Implications of Sectoral divergence for EMU?**

Evidence provided here has challenged previous theory on sectoral wage preference divergence. The correlation results provided in this paper offers some evidence that a national monetarist constraint can suppress inter-sectoral preference divergence within countries, leading to convergence in sectoral wage restraint outcomes. The ERM and EMU regimes present convenient settings to examine the impact of national central banks and exchange rate arrangements on sectoral wage divergence. The pre-EMU regime, defined by fixed exchange rate arrangements with the Deutschmark, imposed hard monetary rules upon all wage setters, forcing unions in both the exposed and sheltered sectors to exert wage restraint. Differences between sectoral wage restraint within countries, therefore, remained very low for the EMU10 in the 1980s and early 1990s. Monetary union's removal of these rules has produced very different outcomes for wage setters within countries. For the exposed sector, monetary union



has not changed much; competitiveness still constrains wage growth via the threat that excessive wage settlements will lead to parallel drops in unemployment. The same cannot be said of sheltered sector wage setters.

The rise in sectoral wage-restraint divergence under EMU lends credence to Crouch's and Garrett and Way's hypotheses. However, since 1999, there has been wide variation in the *level* of divergence between sectors within EMU countries. Private sector wage setters in some countries (Ireland, Italy, the Netherlands and Portugal) have been much more successful in obtaining higher wage increases under EMU than in others (Austria, France, and Germany in particular). Though the degree of variation in sectoral wage-restraint divergence since 1996/7 for the EMU10 is beyond the scope of this paper, it does refer back to the original debate put forth by Crouch and Garrett and Way, who attributed sheltered sector wage excess to larger, more powerful sheltered sector unions. Much has changed since these two analysis. Several countries in both authors' studies (Austria and Germany most notably) witnessed the creation of large, encompassing service sector unions due to union mergers in the early 2000s. Yet for Austria and Germany, public sector wage growth still remains greatly subdued. That these countries continue to have higher rates of wage restraint in their private services sectors than other EMU10 countries with smaller private services sector unions highlights a further puzzle about the *variation* of sectoral divergence across EMU member-states. Further research on institutionalised constraints that bind sheltered sector wage setters (such as bargaining coordination frameworks) is needed to better understand the factors and institutions that contribute to widening sectoral wage-restraint divergence.

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