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LABOR COSTS IN THE EC:  
PROSPECTS FOR SOCIAL DUMPING

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On December 31, 1992, the 12 economies making up the EC will take a major step toward becoming a single market with the initiation of the internal market programme allowing for the free movement of goods, people and money across borders. One major hypothesized effect is that capital will flee from high labor cost countries to those with low labor costs, or that "social dumping" will occur: a lowering of labor standards and social protection in the wealthier countries in response to competition from countries with substantially lower labor standards and costs<sup>1</sup>. One aspect of this issue involves labor protection and social policies, which are expected to be addressed to a greater or lesser extent by the Social Charter and its supporters' goal of long-term upward harmonization of social policies. However, even if standards are equalized, there remains the issue of labor costs. Labor costs can be a key component of competitive strategy, and it seems doubtful that harmonization policies will be able to equalize the currently large differences in manufacturing labor costs across the EC countries. Despite the considerable attention given to harmonization of labor standards, relatively little attention has been paid to the question of the levels of labor costs within the EC.

This paper attempts to assess the importance of labor costs in the social dumping debate by bringing empirical evidence to bear on a series of questions involving the manufacturing labor cost structures in the EC countries: How far apart are compensation costs across these countries? Are they converging? Most relevant to the social dumping debate: Do the differences in compensation costs across the countries reflect differences in labor productivity; that is, are unit labor costs in fact equalized across these countries? How do the industry compensation cost structures compare, and how is this measure relevant to the social dumping debate? We also look at the state of foreign direct investment in the EC now, and supplement our measurements of labor productivity with other measures of development (levels of skill and literacy).

Measuring 1980 unit labor costs at expenditure weighted purchasing power parity exchange rates, and analyzing growth rates and dispersion patterns of compensation costs and growth rates of productivity since then, we find the following: while labor productivity, as measured by output per employee hour, is in fact lower in the less developed EC countries (in particular Portugal, Greece and Ireland), compensation differentials between Portugal and Greece compared to Northern Europe are much larger than productivity differentials, and while Spanish productivity is close to Northern European productivity, its compensation costs are much lower. We do not find any evidence of significant convergence of unit labor costs since 1980. This analysis thus suggests that social dumping may well be a serious concern, in that at least the economic incentive to do it seems to be present for investors from wealthier countries such as Germany, as well as for investors outside the EC.

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<sup>1</sup> For a recent journalistic discussion of the issues, see Edward Balls, "A More Level European Playing Field for Labour Costs," *Financial Times*, 11/11/91.

## THE ISSUE OF SOCIAL DUMPING

As Mosely(1990:160) notes, "social dumping could take place in at least three different ways: a) through the displacement of high cost producers by low cost producers from countries in which wages, social benefits and direct and indirect costs entailed by protective legislation are markedly lower; b) firms in high labor cost countries would be increasingly free to relocate their operations, thereby strengthening their bargaining power vis-a-vis their current workforce to exert downward pressure on wages and working conditions; and c) individual states might be tempted to pursue a low wage and perhaps anti-union labor market strategy as part of their efforts to catch up economically."<sup>2</sup> The general expectation is that the first two types of mechanisms (i.e. displacement or movement from high cost to low cost countries, or the use of the threat of such movement as a means of lowering costs in high cost countries) are the most probable means by which social dumping will occur in the EC.

Such fears have led to support for the introduction of a Social Charter, which has been the subject of intense debate.<sup>3</sup> The final and substantially diluted version of the charter was accepted in principle by 11 of the 12 EC countries in December 1989, with Britain dissenting.

Briefly, the charter covers a range of issues designed to harmonize labor protection and social policies across member states. This is attempted via proposals regarding freedom of movement; employment and (minimum) remuneration; improvements of living and working conditions; social protection; freedom of association and collective bargaining; vocational training; equal treatment for men and women; information, consultation and participation of employees in management; health, protection and safety at the workplace; and protection of children, adolescents, elderly and disabled persons. The draft action program that was intended to be used to actually develop realistic objectives in respect to the matters in the charter contains 47 different proposals, 19 of which have been discussed by the Council of Ministers as of December 1991.

Progress on the social dimension has been mixed. Notable successes include the directive on harmonization of national regulations on collective redundancies (providing for information and consultation with workers' representatives in cases of mass layoffs), the directive covering the rights of workers in cases of mergers and firm insolvency, various directives on gender equality, and a series of directives on health and safety issues. However, there have also been a number of areas in which the EC countries have failed to reach agreement. These include worker rights to information, consultation and

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<sup>2</sup> The term "Social Dumping" is also sometimes used to refer to the movement of workers from low wage countries to high wage countries. For example, Streeck(1991) discusses the possibility of immigration of unskilled workers to Germany with the elimination of barriers on the free movement of people within the EC.

<sup>3</sup> See Addison and Siebert(1991), Silvia(1991) and Turner(1991) for a detailed account of this debate.

participation; parental leave; equality between part time and full time workers; collective bargaining rights; and social protection benefits, including health care.

The various EC actors (governments, employers (UNICE), and unions (ETUC)) have different positions on these issues, and many of the arguments underlying the different positions reflect competitive interests of the actors. We now briefly examine the interests and positions of the various parties to get a sense both of how they regard the role of labor policies in determining their competitiveness, as well as the extent to which these interests are overlapping - and therefore the extent to which standards are likely in fact to be equalized..

All the trade union bodies that make up the ETUC are in general agreement with the Social Charter (although some feel it does not go far enough). Streeck(1991) discusses the uneasy alliance between Northern European unions and Southern European interests which has led to support by the former for the Community's regional aid program which will transfer funds for development to the poorer countries, and support by the latter for the Social dimension which aims to equalize labor costs across the EC. He notes, however, that "whether or not regional assistance and social policies can be properly balanced and finetuned, so that infrastructural investment in the South does not result in job loss in the North, and declining wage differentials under the Social Dimension do not enhance agglomeration [of industrial activities in the North] in spite of improvements in Southern infrastructure, remains an entirely open question." (Streeck 1991:328). Thus, we want to emphasize that although the unions are united behind the Social Charter, this unity is based on a potential unstable balancing of competing interests.

Employers and governments are less united. Employers in high wage countries, notably Germany, Belgium and the Netherlands, are broadly supportive of the Social Charter because it seeks to prevent capital flight from high wage to low wage countries; the governments of these countries fear an erosion of their tax bases as a result of enhanced capital mobility, and they do not want other countries to have the competitive advantage of fewer regulations. In particular, Germany and Denmark are supportive of matters relating to increased worker consultation, information sharing, and participation at the strategic level, because their systems currently include such participative arrangements. Most of the other European countries have some reduced form of participation<sup>4</sup>, and are in general support of consultation rights (Turner 1991). Britain and Ireland, the two countries without any significant form of worker participation, see the introduction of these measures as likely to render the community, and their positions within it, less competitive.

The differential interests of the parties are also manifested in debates over other issues in the charter. For example, Britain argues that proposals to equalize the wage and service conditions of part time workers with full time workers would significantly increase British labor costs. Britain also opposes

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<sup>4</sup> 10 out of the 12 countries have some form of works councils, for example.

the proposals for employer financed health care and parental leave, as well as the proposal to equalize collective bargaining laws, all on the grounds that its competitive position will be hindered.

As a result of this variance in interests regarding the issues in the charter, the mechanisms by which decisions are taken are likely to vary. One indication of this variance in mechanisms came at the Maastricht summit on December 10th and 11th, 1991, when the countries decided that laws on working conditions, information, and worker consultation would be taken by qualified majority voting (the larger countries have more votes than the smaller countries, and a majority is defined as 56 out of 76 votes), while laws on rights of workers who are terminated, social protection, and third country nationals will have to be decided by unanimous vote. Issues of collective bargaining, strikes, and union recognition will be decided based on either subsidiarity (left to individual countries to devise ways to meet EC objectives), or will be left entirely within the purview of individual countries. Moreover, Britain has been given the freedom to "opt out" of the charter for the time being, with the option of "opting in" if they are willing to do so at a later date.

Thus, given that subsidiarity is the principle that is likely to be used for matters on which the parties do not reach agreement, and given the possibility that the idea of "opting out" could gain wider acceptance, it is likely that there will be persistent differences in labor standards across the EC countries that could impact their competitive positions. Furthermore, mandating the equalization of certain high cost benefits (e.g. parental leave and employer funded health care), even if it were politically possible, would almost certainly still not equalize total compensation costs in the community, given the wide variance in wages and other employer payments in the EC today: in 1989, total hourly compensation costs in all of manufacturing ranged from \$17.51 in Germany to \$2.80 in Portugal, in US\$ at current exchange rates.

However, if compensation costs alone determined international competitiveness, there would be very little industry in high wage countries. High wage countries are likely to have compensating advantages, such as a skilled workforce, better infrastructure, modern plant and equipment, and, perhaps, labor productivity that is high enough to offset the disadvantages of higher compensation costs. It is this issue this paper seeks to address: what is the relationship between compensation costs and labor productivity and what does this relationship imply for social dumping? We proceed by calculating unit labor costs (or compensation costs per unit of output) in manufacturing in the twelve EC countries.

#### DATA

Compensation cost data were obtained from an unpublished source from the U.S. Department of Labor, Bureau of Labor Statistics: "Hourly Compensation Costs for Production Workers in Manufacturing, 33 Countries." The BLS defines hourly compensation as "(1) all payments made directly to the worker--pay for time worked (basic time and piece rates plus overtime premiums, shift differentials, other bonuses and premiums paid regularly each pay period, and cost-of-living

adjustments), pay for time not worked (vacations, holidays and other leave), all bonuses and other special payments, and the cost of payments in kind—before payroll deductions of any kind and (2) employer contributions to legally required insurance programs and contractual and private benefit plans. Hourly compensation costs do not include all items of labor costs: the costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. The labor costs not covered account for no more than 4 percent of total labor costs in any country for which the data are available."<sup>5</sup>

These data thus seem to be appropriate to the social dumping question, as they measure labor costs to the employer, not just hourly wages. And this distinction does matter: table 1 gives the percentage differential in 1977 and 1985 between this measure of manufacturing hourly compensation and earnings per hour in manufacturing defined by the ILO as "cash payments received from employers, including remuneration for normal working hours; overtime pay; remuneration for time not worked; bonuses and gratuities; cost of living allowances and special premiums."<sup>6</sup> In 1985, this differential between earnings and total cost to the employer ranged from 13.7% in Denmark to 80.2% in Belgium; note as well that it rose in every country except Italy and Spain between 1977 and 1985.

Our output (or value added) data, used to calculate productivity and unit labor costs, are gross domestic product at market prices from the national accounts of the various countries, as reported in the OECD publication *National Accounts 1977-1989, Detailed Tables Volume II*. We also use an alternative BLS measure of GDP for individual manufacturing industries in Germany and France.

Our data on number of employees are taken from the National Accounts, and in a few cases (noted in the tables) from the ILO *Yearbook of Labour Statistics*. The hours worked per week are from the ILO *Yearbook*, and the weeks of vacation and holidays per year are from the European Trade Union Institute's *Collective Bargaining in Western Europe in 1989*.

The purchasing power parity exchange rates are from the publication *World Comparisons of Purchasing Power and Real Product for 1980* from Phase IV of the United Nations World Comparisons Project. PPP exchange rates for all of GDP are also available from the National Accounts, and exchange rates were obtained from the National Accounts and the BLS.

Finally, we get some of our statistics, such as the index of real output per employee for all of the countries and GDP in manufacturing for Spain from the World Bank *World Tables*; again, these cases are reported in the footnotes to the tables.

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<sup>5</sup> Bureau of Labor Statistics, "Hourly Compensation Costs in Manufacturing ..", Appendix.  
<sup>6</sup> ILO, *Yearbook of Labour Statistics*.

## METHODS

Our primary goal in this project is to address the policy question of whether the economic incentive for social dumping within the EC is strong as we head toward 1992; we do not propose any new methodologies for addressing the thorny and long-debated problem of how to measure productivity across countries. We choose to follow the basic methodology of one of the most recent attempts to tackle this issue - Hooper and Larin (1989), who calculate productivity and unit labor costs for 10 countries including 6 of the wealthier EC countries - and we refer the reader to that paper for a full accounting of the methods.<sup>7</sup>

However, we would like to lay out the basic conceptual issue. "Labor Productivity," defined in this instance as GDP in manufacturing divided by total hours in manufacturing, must be converted to some kind of common currency to allow comparisons across countries. Market exchange rates, however, tend to introduce distortions. The United Nations has been working on this problem over the last few decades with its "International Comparison Project"; the result of this Project has been the calculation of Purchasing Power Parity (PPP) exchange rates, which come closer to allowing a comparison of the "true value" of output across countries. PPP exchange rates are available through the late 1980s for total GDP, but, as Hooper and Larin point out, this total GDP PPP may not be appropriate for manufacturing alone: it is better to weight individual output category PPPs used in manufacturing by their expenditure weights.<sup>8</sup> Following Hooper and Larin, we use the expenditure weights in the following sectors to calculate our expenditure-weighted PPPs: Food, Beverages and Tobacco; Clothing and Footwear; Fuel and Power; House Furnishings; Pharmaceutical-Therapeutical Health Care; Transport/Communications; Recreation Equipment; and Consumer Durables. The measure thus derived is still far from perfect, but gets us closer to a "true" PPP for manufacturing alone.

Table 2 presents labor productivity estimates for 1980 using the three types of conversion factors (market exchange rates, GDP PPPs, and expenditure weighted PPPs). The table shows that there are reasonably large differences, particularly between the measures based on market exchange rates and PPPs. The expenditure weighting also seems to make a difference, particularly in Portugal, Italy, Greece and Ireland, perhaps reflecting differential balances of manufacturing in total GDP. We choose this expenditure-weighted PPP as our conversion factor of choice, although it imposes one major data limitation: the expenditure weights are only available for 1980. Therefore, we will calculate unit labor

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<sup>7</sup> We also refer the reader to that paper's technical references. Two more recent technical contributions are Turvey(1990), which discusses the measurement of labor productivity, and Summers and Heston(1988), which discusses recent developments in the World Comparisons Project.

<sup>8</sup> Of course, output weights would be even better than expenditure weights, but are not available.



costs for 1980 and then examine growth rates of hourly compensation and productivity over the period of the 1980s.<sup>9</sup>

The other component which goes in to the measurement of unit labor costs, hourly compensation, can be more precisely measured and can, in contrast, be meaningfully converted using market exchange rates, because this is a cost concept rather than an output concept. In sum, we calculate Unit Labor Costs (ULC) by converting compensation costs into common currency at market exchange rates (the labor cost to foreign investors of investing in the country) and dividing by manufacturing value added converted at expenditure weighted purchasing power exchange rates (the value of the output that the labor will produce). ULC can then be interpreted as the labor cost per unit of output, or labor costs controlling for labor productivity.

## RESULTS

### HOURLY COMPENSATION, PRODUCTIVITY AND UNIT LABOR COSTS

The first column of Table 3 reports average manufacturing hourly compensation levels in dollars in the twelve countries in 1980 and the ranking of those countries in terms of this measure. In 1980, the five countries with the least expensive compensation costs, in ascending order of cost, were Portugal, Greece, Ireland, Spain and the UK; Germany, Denmark and the BeNeLux countries had the highest compensation costs.

But, obviously, hourly compensation alone is not the whole story: ideally, one wants to control for productivity as well: if the lower hourly compensation costs in the poorer countries reflect productivities which are lower in equal proportion, then the economic incentive for social dumping is not present. To address this issue, we calculate rough measures of unit labor costs (ULC), as described in our methods section.

The second column of table 3 presents our measures of manufacturing labor productivity (output per hour in dollars at expenditure-weighted PPP exchange rates: the final column of table 2), while the final column of table 3 present our estimates of ULCs and the ranking of the countries according to this measure.<sup>10</sup>

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<sup>9</sup> Even for this year, we want to emphasize that this is a crude approach to measuring levels of labor productivity and unit labor costs. It is important to keep in mind that we are measuring average, rather than marginal labor productivity here; ideally, given the right data, we would want to take into account the size and quality of the capital stock as well.

<sup>10</sup> Hooper and Larin(1990) used BLS GDP data which is not available for the other six EC countries; we use National Accounts estimates for all twelve, which differ somewhat from the BLS

Note that the ranking of the countries in terms of hourly compensation does not precisely coincide with the ranking in terms of unit labor costs: for example, Belgium has the highest hourly compensation but only the sixth highest ULC due to high labor productivity, while the UK has the eighth highest hourly compensation but the second highest ULC due to low labor productivity, as measured here. It is clear, then, that average labor productivity is not directly proportional to compensation.

In terms of the comparative magnitudes of the ULCs, the main finding from this table is that labor productivity was slightly more than twice as large in Germany as in Portugal in 1980, while hourly compensation costs were closer to six times larger, yielding unit labor costs 2.5 times larger in Germany than in Portugal. The Greek and Spanish ULCs are also low (about 1/2 of the German ULC).<sup>11</sup>

We do not want to take these exact figures as something written in stone, but lacking a systematic bias leading to gross overestimation of labor productivity in Portugal, Greece and Spain compared to Germany, it does look as though unit labor costs are much lower in those countries than in Germany. In fact, if anything we would expect the bias to go in the opposite direction: marginal labor productivity (or perhaps even "potential productivity") should be underestimated by average productivity in less-developed countries compared to more-developed countries, given the larger and more advanced capital stocks in the wealthier countries.

It is possible that the differences in overall manufacturing ULCs reflect differential industrial mixes across these countries: perhaps an advantage in overall manufacturing ULC does not hold in all industries. We do not have detailed industrial output for the twelve countries, but we do have it for France and Germany. Table 4 presents hourly compensation costs, labor productivity and unit labor costs in total manufacturing and 14 manufacturing sub-industries in 1980 for these two countries. The third and fourth columns indicate that labor productivity is generally higher in France than in Germany, though this is not true in three of the industries: Rubber and Plastics, Leather and Leather Products, and Transportation Equipment. However, columns one and two and five and six indicate that hourly compensation and unit labor costs are higher in Germany in all of the industries. We do not want to push this too far: France and Germany are probably a lot more similar as economies than, say, Germany and Portugal. On the other hand, if the ULC ranking for total manufacturing is the same for all industries in

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estimates. This explains the deviations from the Hooper and Larin estimates reported in the note to the table. Note, however, that deviations of our estimates from the Hooper and Larin estimates are all within 18%.

<sup>11</sup> These differences are less dramatic when GDP is converted at market exchange rates rather than expenditure weighted PPPs: the German ULC is 1.7 times the Portuguese ULC, 1.6 times the Greek ULC, and 1.4 times the Spanish ULC. Yet, note that there is still a substantial gap- for example, using this measure and conversion factor, labor's share of value added is about 74% in Germany, but only 43% in Portugal.

these two countries where hourly compensation costs are relatively close together, we would be surprised if ULCs were higher in Portugal, Greece or Spain than in Germany in many industries.<sup>12</sup>

In sum, our analysis of levels of manufacturing unit labor costs in 1980 indicates that the dramatic compensation differential across the countries is not entirely offset by labor productivity differentials.

## ARE MANUFACTURING COMPENSATION COSTS CONVERGING?

Now that we have some sense of where ULCs were in 1980, our goal in this section and the next is to examine movements of hourly compensation and productivities over the 1980s to get a sense of whether the components of ULC have been converging.

First, we examine the question of whether hourly compensation costs in manufacturing across the twelve countries are converging, which tells us about movements in the numerator of the ULC formula, but is also interesting in itself.<sup>13</sup> Table 5 shows annual growth rates of real manufacturing compensation costs over the 1980s in the twelve countries at own-country prices (column one) and at common currency and prices in German Deutschmarks (column two). Note that exchange rates introduce distortions: from the perspective of the German investor, the growth rate of compensation costs at German prices and market exchange rates is relevant to the question of whether he should invest, while from the perspective of the Portuguese worker, the growth rate in his own currency at Portuguese prices is relevant to his personal well-being. For the social dumping question, we must focus on the perspective of the German investor (or, from the perspective of any outside investor; we choose Germany for obvious reasons).

At first blush, the table does seem to indicate some degree of convergence: if we divide the twelve countries into quartiles based on their hourly compensation costs in 1980 (see the ranking in table 3), the average growth rate of hourly compensation in the top quartile was 0.45, in the second quartile 0.54, in the third quartile 2.67 and in the fourth quartile 2.18.<sup>14</sup> Yet, when the overall level of dispersion of compensation in the community is considered, there is no evidence of convergence. Specifically, figures one and two show the variance of log manufacturing compensation costs across the twelve countries, at current exchange rates, over the period 1975-1988.<sup>15</sup> Figure one indicates that this

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<sup>12</sup> We acknowledge the potential importance of market exchange rate fluctuations in determining the compensation differences, however.

<sup>13</sup> Leamer(1991) uses a different data set to examine convergence of industrial wages in the EC, among other groups of world countries. He concludes that "A considerable amount of wage equalization occurred between 1978 and 1989 (within the EC)." (p. 9).

<sup>14</sup> Note, however, that if the BeNeLux countries are excluded, the average growth rate of the other three countries in the top two quartiles, Germany, Denmark and France, is 1.52.

<sup>15</sup> Keep in mind that Greece entered the community in 1981 and Spain and Portugal in 1986.

measure of the dispersion of compensation costs within the community rose from 1977-1979, fell precipitously until 1982, and has risen overall since then to a level in 1988 above the level in 1975. In 1988, the value of this measure was essentially the same as in 1980 (.56 in 1980, .55 in 1988). Figure 2 excludes Portugal, which is somewhat of an "outlier", from the analysis. Again, there is a big drop in the early 1980s, but an overall rise since 1982 so that the dispersion of compensation levels across these 11 community countries was around the 1980-1981 level in 1988. These figures do not strongly indicate convergence; if anything, they seem to indicate divergence in the later 1980s.<sup>16</sup>

### TRENDS IN PRODUCTIVITY AND UNIT LABOR COSTS

Now consider Table 6, which shows the growth rate of manufacturing productivity (both in terms of output per employee and output per hour) over the 1980s in the twelve countries; in conjunction with the estimates of levels of unit labor costs in table 3 and the analysis of growth rates of compensation costs in figures one and two and table 5, this should give us some sense as to whether unit labor costs converged during the 1980s.

The first column of Table 6 indicates that productivity growth (measured in terms of real output per employee) from 1980 to 1987 was three times higher in Portugal and Spain than in Germany, and also somewhat higher in Greece. The results for the growth rate of output per hour are more mixed, although we draw the reader's attention to the differences in periods imposed by data limitations, explained in the note to table 6. This seems to indicate (in conjunction with the compensation growth rates reported in Table 5) that from the perspective of a German investor, unit labor costs are not significantly converging. Note in particular from Table 5 that the growth rate of hourly compensation in German currency over the period 1980-1989 was actually less for Portugal than Germany and higher, but not dramatically higher than the output-per-employee growth rate differential, in Greece and Spain than in Germany. As for the other high-cost countries, convergence of ULCs looks most credible in the BeNeLux countries (because of low compensation cost growth) and in the UK (because of high productivity growth), but not in Denmark. In sum, it does not look as though the wealthy and poor countries (or, at least Germany and Denmark compared to Spain and Portugal) are significantly converging in terms of ULCs as we reach 1992.

Even if our measures of productivity growth are suspect (given our data limitations on output per hour), keep in mind that the hourly compensation growth rate numbers are more consistent, and that we may be able to draw inferences about the growth of ULCs from those numbers alone. That is, if one

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<sup>16</sup> In a related study, Mitchell(1983) found convergence of European wages with American wages through 1980, but not over the first few years of the 1980s. He attributed this finding to dollar appreciation.

expects that convergence of productivity is occurring in the classical sense (less developed countries catching up with more developed)<sup>17</sup>, then the fact that hourly compensation is not growing much faster in the less developed countries (particularly Portugal and Greece) would indicate that ULCs may be growing farther apart.

## INDUSTRY COMPENSATION STRUCTURES

We now address the question of the degree of variation in manufacturing compensation costs within the twelve countries over the last fifteen years. This issue is important because it gives us a further sense of whether the economies are moving in the same direction as we approach 1992 (and so might smoothly integrate into one economy), and also because it provides clues about whether social dumping is likely to occur evenly across manufacturing sub-sectors.

Table 7 presents indexes for 1980 and 1989 and levels for 1989 of the dispersion of compensation costs, as measured by the standard deviation of log hourly compensation multiplied by 100, across sixteen manufacturing industries in 11 of the countries, excluding Luxembourg. This measure has been computed previously for different mixes of countries and industries by Krueger and Summers(1987), who interpreted it as an indicator of development <sup>18</sup>, and Freeman(1988) , who interpreted it as an indicator of labor market structure.

We do not directly address these interpretations, but instead ask how these structures have evolved over the period 1975-1989 and what effect this may have for cross-country investment and adjustment to the single market. In all of the countries except France, Italy, the Netherlands and the UK, this measure increased between 1975 and 1980, but it increased between 1980 and 1989 in five of the countries: Germany, Ireland, Italy, Portugal and the UK, while falling in the other six.<sup>19</sup> The industry dispersion was higher in 1989 than in 1975 in six of the eleven countries. This all suggests that these countries are not "moving in the same direction" as we approach 1992 and the single market, which raises doubts about how smooth the transition is likely to be.

As for levels of dispersion in 1989, Portugal, Ireland, the UK and Spain have the highest levels of industry compensation inequality, while the Netherlands, Denmark and Italy have the lowest. The

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<sup>17</sup> For a recent test of this convergence hypothesis, which finds convergence among the world's most industrialized countries as well as countries with above-average literacy rates, see Zagardo(1991).

<sup>18</sup> Krueger and Summers note that "in general, developed capitalist countries tend to have greater dispersion in wages across industries than underdeveloped, socialist or communist countries. This may reflect the greater level of human capital attainment in the more developed capitalist countries." (p. 27).

<sup>19</sup> The fact that within-country inequality, as measured by industry compensation dispersion, increased in only 5 of the 11 countries between 1980 and 1989 is interesting in itself, given the consensus in the literature that wage inequality is increasing, or labor market structure is decreasing, throughout the advanced capitalist world.

lessons for the question of social dumping? First, these results suggest that the labor-cost incentive for investment is uneven across industries: for example, Portuguese hourly compensation in 1987 in lumber, wood products and furniture were 11.7% of German costs, while the ratio in electric and electronic equipment was 22.2%. Second, the fact that the degree of dispersion is growing at unequal rates and in different directions across the countries suggests that these differential incentives (at the industry level), masked in the analysis of overall manufacturing ULCs, may be shifting over time.

Taken together, this analysis of the compensation and productivity structures of the EC countries suggest a few basic points. First, productivity differences do not appear to account for all of the big compensation differentials between the richer and poorer EC countries; the economic incentive for moving production to lower-cost countries does seem to be present. Second, in terms of ULCs and dispersion of compensation costs, the countries are not "converging" as we approach 1992. Finally, compensation dispersion tends to be higher in some of the less developed countries, suggesting that the incentive for social dumping may well exist differentially across industries.

#### EVIDENCE ON FOREIGN DIRECT INVESTMENT IN THE EC

The question at hand is whether, with the removal of most barriers to trade within the EC, producers in high-cost countries will move their operations to low cost regions. Of course, we do not have any direct evidence on what will happen once the barriers are removed, but we do have evidence on foreign direct investment in the EC countries in the 1980s. While these figures are revealing, it is important to keep in mind at least three caveats: (1) investment before 1992 reflects whatever is happening because of (or in spite of) existing barriers which will be removed for intra-EC transactions after 1992, (2) considerable uncertainty exists over state of the Social Charter and so the cost of investing in the poorer countries after 1992, and (3) Non-European countries may be investing heavily in certain EC countries now in order to gain a foothold before 1992.<sup>20</sup>

Table 8 shows the share of average annual foreign direct investment inflows in gross domestic capital formation for the twelve EC countries in 1980-82 and 1985-87 (columns one and two), as well as the growth rate of U.S. foreign direct investment in each of the twelve countries over the period 1984-89 (column 3). Note from the first two columns that foreign direct investment as a percentage of gross domestic capital formation rose from the earlier period to the later period in all the countries but

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<sup>20</sup> Within the EC, both national and cross-border mergers and acquisitions made by Europe's leading 100 firms have been increasing dramatically, from 303 mergers and acquisitions in 1987 to 622 in 1990. The number of new companies from outside the EC establishing a foothold in the EC via mergers and/or acquisitions increased from about 30 in 1987 to about 125 in 1990. (data from the *Economist*, 12/7-13/91).

Belgium-Luxembourg, Denmark and Ireland. This share was highest in 1985-87 in the UK, the Netherlands, Greece and Spain, and nearly doubled from 1980-82 to 1985-87 in Portugal, Spain, and Italy, three of the countries to which "social dumping" might be expected to occur (it also doubled in Germany, but this starting from a much lower level). U.S. direct investment grew by more than 150% in Italy and Portugal, but also more than doubled in Luxembourg, France, the Netherlands, Ireland and Spain. As for the comparative magnitude of U.S. investments in these countries, by 1989 U.S. companies had 28% of their EC foreign direct investment in the UK, 21% in Germany, 13% in France, and 10% in Italy, but only 4% in Spain, 0.3% in Portugal, and 0.2% in Greece.

These numbers probably raise as many questions as they answer, most of them beyond the scope of this paper. For example, a thorough analysis of these growth rates of foreign direct investment over the course of the 1980s would require a model of the initial levels and why the shares are shifting. However, for our purposes, we note that foreign direct investment has been growing fastest in some of the poorer countries, which is consistent with fears regarding social dumping and with the proposition that ULCs are not converging: if they were converging, we would not expect to see such growth in investment in the poorer countries, but probably the opposite; on the other hand, we also note that these investment flows to the poorer countries are not massively larger than the flows to the wealthier countries.

## CONCLUSIONS

We have analyzed data on ULC levels in 1980 and growth rates of compensation costs and productivity since then, concluding that there is a gap in unit labor costs within the EC that is not narrowing significantly as we approach 1992. Analysis of the manufacturing industry compensation structures indicates that the countries are not all moving in the same direction in terms of this measure of internal equality, and also suggests that social dumping may occur unevenly across sectors within manufacturing. Existing patterns of investment in the EC are consistent with the view that ULCs are not converging and that the incentive for social dumping is present.

One major question this analysis raises is why we have not yet seen massive foreign investment in the poorer countries, given the dramatic differences in labor costs. One possibility, discussed in the previous section, is that the level of uncertainty regarding the final terms of the Social Charter is sufficiently high to induce investors to wait until the issues are settled. Another possibility is that the producers in the high cost countries prefer to use the threat of social dumping as a bargaining chip with the unions in their home countries, rather than actually moving production. A third possibility is suggested by Streeck(1991), who discusses the transformation of the German economy toward a high-wage, high-skill, and high-value-added production system where employers abandon the low-wage, low-

quality model; under this type of system, employers in the high wage countries might not consider labor costs as a important component of their competitiveness.

Finally, even if employers in the wealthier countries are interested in pursuing low-wage, low-skill mass production in the poorer countries, we do not claim to have adequately addressed the question of whether the level of development in the poorer countries, ranging from infrastructure and communications to education, is high enough to allow for any significant amount of foreign direct investment- whether these countries have the capacity to increase their productivity dramatically. For example, Table 9 gives the percentage of skilled and unskilled workers in industry in 10 of the EC countries, as reported by employers in a survey. Not surprisingly, the percentage of skilled workers is lowest in Portugal and Spain, but, surprisingly, not Greece. In 1981, the illiteracy rate among those 15 year and older was 7.1 % in Spain, 9.5 % in Greece and 20.6 % in Portugal.<sup>21</sup> We conclude by acknowledging that, although our analysis suggests that the unit labor cost incentive for social dumping is present, these skill and illiteracy levels suggest that the level of development in the poorer countries may be low enough so as to dictate the nature of the foreign direct investment which actually occurs, at least until the Community's regional aid program begins to have a substantial effect. Future research may wish to examine these issues in more detail.

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<sup>21</sup> Source: United Nations *Statistical Yearbook*; 1981 is the last year for which this measure is available.



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TABLE 1  
PERCENTAGE DIFFERENTIAL OF MANUFACTURING COMPENSATION COSTS  
OVER WAGES, 1977 AND 1985

country	1977	1985
Belgium	70.1	80.2
Denmark	6.9	13.7
France	64.0	78.9
Germany	63.8	73.6
Greece	56.3	60.9
Ireland	20.1	29.5
Italy	68.4	47.9
Luxembourg	39.3	43.1
Netherlands	66.4	78.3
Portugal	26.3	31.9
Spain	58.3	44.4
UK	15.5	20.2

Source: U.S. BLS and ILO *Yearbook of Labor Statistics*

TABLE 2  
OUTPUT PER HOUR IN MANUFACTURING, 1980

country	output/hour US\$, market ex. rates	output/hour US\$, PPP ex rates	output/hour US\$, expend. weight PPP
Belgium	22.94	15.49	15.94
Denmark	16.65	10.80	9.96
France	17.36	12.23	11.46
Germany	16.65	11.13	11.00
Greece	7.88	8.57	6.33
Ireland	8.35	7.35	6.07
Italy	14.23	14.14	11.85
Luxembourg	17.30	12.49	12.20
Netherlands	17.05	12.28	12.19
Portugal	4.78	7.58	5.05
Spain	11.59	11.66	11.12
UK	9.64	7.94	6.65

Notes: Ireland 1979

Sources: GDP in manufacturing and number of employees from OECD National Accounts, Main Aggregates (except for Spain: GDP from World Bank World Tables); Hours per week in manufacturing from ILO *Yearbook of Labour Statistics*; Vacation and holiday weeks per year from European Trade Union Institute.

TABLE 3  
HOURLY COMPENSATION AND UNIT LABOR COSTS IN MANUFACTURING, 1980

country	mfg comp level 1980, current US\$		output/hour US\$, exp. weight PPP	unit labor costs US\$, weighted PPP	
		rank			rank
Belgium	13.11	1	15.94	82.25	6
Denmark	10.95	5	9.96	109.94	3
France	8.94	6	11.46	78.01	8
Germany	12.33	2	11.00	112.09	1
Greece	3.73	11	6.33	58.93	10
Ireland	4.81	10	6.07	79.24	7
Italy	8.00	7	11.85	67.51	9
Luxembourg	11.98	4	12.20	98.20	5
Netherlands	12.06	3	12.19	98.93	4
Portugal	2.06	12	5.05	40.79	12
Spain	5.96	9	11.12	53.60	11
UK	7.43	8	6.65	111.73	2

Notes: Ireland 1979. The estimates of unit labor costs by Hooper and Larin(1990) for the countries that overlap are: Belgium, 97; France, 76.4; Germany, 101.1; Italy, 59; Netherlands, 87; and UK, 107.4. Sources: GDP in manufacturing and number of employees from OECD National Accounts, Main Aggregates (except for Spain: GDP from World Bank World Tables); Hours per week in manufacturing from ILO *Yearbook of Labour Statistics*; Vacation and holiday weeks per year from European Trade Union Institute; Hourly Compensation from U.S. BLS

TABLE 4  
HOURLY COMPENSATION, PRODUCTIVITY AND UNIT LABOR COSTS IN  
MANUFACTURING INDUSTRIES, FRANCE(FR) AND GERMANY(GE), 1980

INDUSTRY	COMP		PROD		ULC	
	FR	GE	FR	GE	FR	GE
all manufacturing	8.94	12.33	12.57	11.85	71.10	104.07
food, beverages, tobacco	8.98	10.62	16.42	13.69	54.70	77.60
textiles and apparel	6.84	9.96	8.17	7.75	83.71	116.88
paper	9.91	11.41	12.03	10.50	82.37	108.62
printing and publishing	10.32	13.17	12.86	10.50	80.25	125.47
chemicals	10.63	13.56	15.89	14.60	66.91	92.89
rubber and plastics	8.64	11.29	9.96	10.72	86.78	105.35
leather and leather products	7.16	8.83	8.12	8.16	88.14	108.19
stone, clay and glass	9.72	11.73	13.57	11.65	71.62	100.66
primary metals	10.24	13.68	13.09	10.84	78.21	126.21
fabricated metal products	8.76	11.81	10.69	10.48	81.94	112.73
machinery and instruments	8.88	11.93	11.79	11.05	75.29	108.00
electrical machinery	8.82	11.73	12.14	11.30	72.67	103.83
transportation equipment	10.16	15.27	10.17	12.22	99.88	124.99
lumber, wood and furniture	7.67	11.52	9.88	8.94	77.61	128.90

Source: U.S. BLS

**TABLE 5**  
**GROWTH RATE OF REAL MANUFACTURING HOURLY COMPENSATION IN EC, 1980-1989**

country	annualized real comp growth 80-89, own country currency, prices	annualized real comp growth 80-89, real DM, current ex. rates
Belgium	.57	- .66
Denmark	.50	1.34
France	2.03	1.56
Germany	1.65	1.65
Greece	2.88	2.13
Ireland	1.94	3.30
Italy	.75	3.79
Luxembourg	.07	-1.27
Netherlands	1.30	.36
Portugal	- .61	1.11
Spain	1.33	2.72
UK	1.68	1.50

Note: Luxembourg 1988.

Sources: Hourly Compensation from U.S. BLS; price indexes and exchange rates from OECD: National Accounts, Main Aggregates Vol.1 1960-1989.

**TABLE 6**  
**GROWTH RATE OF MANUFACTURING PRODUCTIVITY IN EC IN 1980s**

country	annualized growth of real output/employee 1980-1987	annualized growth of real output/hour 1980-1989
Belgium	4.01	6.17
Denmark	.22	.40
France	2.57	3.83
Germany	1.07	1.94
Greece	1.21	- .30
Ireland	...	...
Italy	4.96	5.41
Luxembourg	2.96	5.48
Netherlands	4.60	4.36
Portugal	4.09	1.68
Spain	3.36	3.17
UK	5.54	6.37

Notes: Years for growth rate of output/hours: Belgium 80-88, Greece 81-88, Luxembourg 80-88, Netherlands 80-87, Portugal 80-86, Spain 86-89, UK 80-86.

Sources: Output/Employee index from World Bank World Tables; GDP, price indexes, employees from OECD National Accounts, Main Aggregates (except Greece Employment from ILO *Yearbook of Labour Statistics*); Hours per week in manufacturing from ILO *Yearbook of Labour Statistics*; Vacation and holiday weeks per year from European Trade Union Institute.

TABLE 7

DISPERSION OF MANUFACTURING INDUSTRY HOURLY COMPENSATION  
WITHIN EC COUNTRIES: 1980 and 1989

(dispersion == the standard deviation of logarithm of hourly compensation, 16 manufacturing industries, multiplied by 100)

country	1980 (index 75=100)	1989 (index 75=100)	1989 level
Belgium	106.6	100.1	15.90
Denmark	115.6	99.1	10.73
France	94.0	90.8	13.64
Germany	101.9	110.1	15.74
Greece	123.1	84.2	15.10
Ireland	102.5	114.4	21.62
Italy	73.6	76.0	12.29
Luxembourg	...	...	...
Netherlands	98.5	81.3	10.37
Portugal	102.8	116.2	26.96
Spain	111.6	104.5	17.47
UK	94.7	119.7	19.38

Note: Netherlands 75-87, Portugal 75-87, Spain 77-88; 14 industries in Greece, Netherlands and Spain.

Source: U.S. BLS

TABLE 8

## FOREIGN DIRECT INVESTMENT IN THE EC

country	share of annual foreign-direct-investment inflows in gross domestic capital formation (percentage)		overall growth rate of U.S. direct investment from 1984 to 1989
	1980-82	1985-87	
Belgium	7.6	6.6	50.3
Denmark	1.1	0.8	52.4
France	1.8	2.7	119.5
Germany	0.3	0.6	58.8
Greece	6.3	7.4	65.2
Ireland	4.4	1.8	108.9
Italy	0.8	1.3	154.0
Luxembourg	7.6	6.6	125.3
Netherlands	5.8	8.4	116.4
Portugal	2.1	4.1	150.6
Spain	4.1	7.3	106.9
UK	8.2	8.8	90.1

Notes: Belgium and Luxembourg are combined in the first two columns

Sources: Share of inflows in capital formation from United Nations, *World Investment Report 1991: The Triad in Foreign Direct Investment*, Table 2, p. 7; growth of U.S. direct investment from U.S. Dept. of Commerce, *Survey of Current Business*, various issues.

**TABLE 9**  
**PERCENTAGE OF SKILLED AND UNSKILLED WORKERS IN INDUSTRY IN THE EC**  
**(based on employer surveys)**

country	Percentage of employees designated as:	
	skilled	unskilled
Belgium	60	40
Denmark	...	...
France	77	23
Germany	61	39
Greece	72	28
Ireland	61	39
Italy	91	9
Luxembourg	...	...
Netherlands	77	23
Portugal	52	48
Spain	54	46
UK	64	36

Source: EC ad hoc labour market survey, as reported in "Developments on the Labour Market in the Community," *European Economy*, no. 47, p. 65.

FIGURE ONE: DISPERSION OF MFG COMPENSATION ACROSS EC COUNTRIES

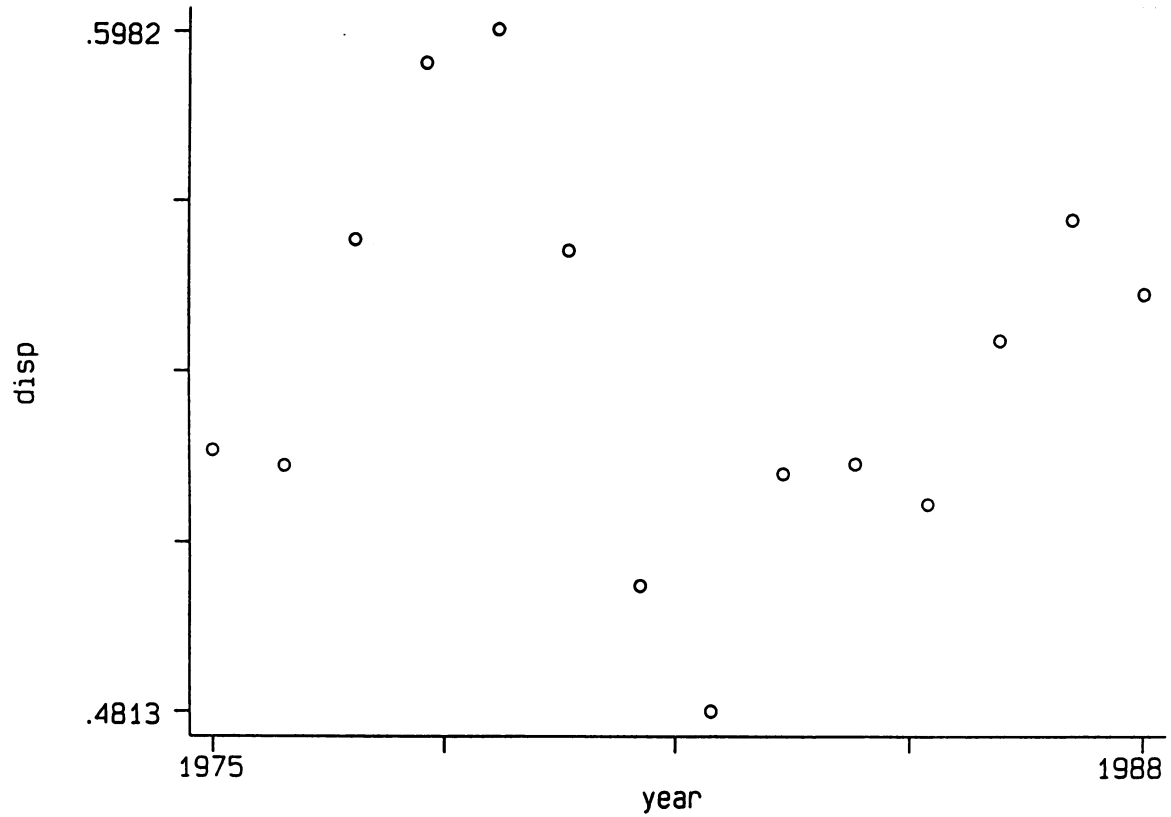


FIGURE TWO: DISPERSION OF MFG COMPENSATION ACROSS 11 EC COUNTRIES (excluding Portugal)

