The High Road and the Low Road to International Competitiveness

William Milberg and Ellen Houston*

Paper prepared for Globalization and Social Policy, edited by Lance Taylor

* Milberg is Associate Professor, New School University and Faculty Research Fellow, Center for Economic Policy Analysis, New York. Houston is Economist, Economic Policy Institute, Washington, D.C. Thanks to Dongyi Liu and Mahindra Maharaj for excellent research assistance. We are grateful to Philip Arestis, Sandy Baum, Wendy Carlin, Margaret Duncan, Gary Dymski, John Eatwell, Bruce Elmslie, Gerry Epstein, Jan Fagerberg, Peter Gray, Ben Harrison, Jason Hecht, David Howell, Tim Koechlin, Dave Kucera, Bob Pollin, Nina Shapiro, Lance Taylor and conference participants at UC-Riverside and the New School for comments on an earlier draft. This paper is a revised version of Milberg (1997). The research was supported by a grant from the John D. and Catherine T. MacArthur Foundation. We alone are responsible for remaining errors and misinterpretations.

The High Road and the Low Road to International Competitiveness

1. Introduction

The increase in the international mobility of capital over the past twenty years has called into question the ability of any individual nation to support a distinct set of social policies. Nations with high-cost social policies, the argument goes, have no choice but to cut back on social programs because they raise the cost of doing business, leading to a decline in international competitiveness and, in turn, domestic growth and employment. Commenting on the election of a Social Democratic government in Germany, Deutsche Bank Group chief economist Norbert Walter wrote in The New York Times:

> When push comes to shove, one can ultimately count on the new Chancellor to be a pragmatist. His government will eventually come around to discovering what virtually everybody else, including Britain's reformed Labor Party, has already learned. In the long run, the only way to solve the scourge of unemployment is to bring wage costs in line with international levels. As long as German industrial workers, with their generous benefits, cost up to 80 percent more than their American counterparts, unemployment will not decline dramatically.

Even the famed Swedish system of social protection and cooperative labor relations has been unsustainable, in part because of the forces of globalization. According to Rudolf Meidner, one of the architects of the Swedish system, globalization, and especially international financial market liberalization, rendered the Swedish model ineffective:

> Internationalization limited the applicability of the Swedish model. The model was designed for a national economy under conditions that made it possible for the national government to make final decisions about stabilization and distributional policies. We are now part of an international economy. We are a small country of 9 million people. Everything we do is immediately followed by a reaction in the financial markets. We no longer determine our own interest rates and currency rates. So, internationalization, with or without EU membership, is enough to make the Swedish model a little antiquated.[1]

Recent experiences in Germany, France, Sweden, Canada, the United States and other industrialized countries testify to the slow erosion of the social safety net, in part a response to the real or perceived pressures of globalization. This view is supported by the apparent "Americanization" of industrial relations in the industrialized world, as seen, for example, in the use of more part-time workers in France, cuts in health benefits in Germany, the reduction in Canadian unemployment benefits to U.S. levels, the decentralization of wage bargaining in Italy, Spain and Sweden, and the tightening of limits for unemployment benefits in the U.K. and the Netherlands.[2]

Is there an alternative to wage- and benefit-cutting in the face of the heightened competitive pressure created by globalization? In this paper we explore the possibility that even in a more globalized economy, there may be alternative paths to successful performance in the international economy--a "low road" that emphasizes cost-cutting, conflictual labor relations and a narrow set of social programs, and a "high road" that requires rapid productivity growth and

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[1] Meidner (1998, pp. 83-83).

[2] See Blank (1994a) and Stanford (1995).

innovation based on cooperative labor relations and generally stronger and more centralized labor unions, high quality production and higher wages, as well as greater state-supported social protection.[3]

A recent survey of industrial relations in industrialized countries describes the alternatives at the level of the firm:

> In some firms the new competitive strategies build on a variety of industrial relations and human resource practices that enhance the skill base and flexibility of the workplace and promote greater communication, trust, and coordination among the firm's stakeholders. Yet other firms have sought to adjust to increased competition by subcontracting work to lower-wage workers and firms, downsizing, and seeking to compete on the traditional bases of cost and price competition. (Locke and Kochan, 1995, p. 359)

Is the firm-level dichotomy relevant at the national level? In other words, do more generous social spending programs and more cooperative labor relations lead to better or worse international performance? As with many issues of public policy, economic theories can be used to support both sides. On the one hand, higher taxes on employers can be expected to push up costs and prices, reducing exports and making inward foreign direct investment less attractive and outward foreign direct investment more attractive. On the other hand, higher wages, coordinated wage bargaining and more cooperative production relations can result in lower unit costs through

[3] The high road/low road terminology is borrowed from Gordon (1996), but the distinction is common in the industrial relations literature. Soskice (1990) distinguishes the strategies of "cost cutting" and "value added", Visser (1996) contrasts the "quality scenario" and the "efficiency scenario", and Harrison (1994) refers to the low road as the "low-level equilibrium trap."

productivity gains, as emphasized in the literature on social corporatism and efficiency wages.4

There are surprisingly few cross-country empirical studies available to support either theoretical position. And there is anecdotal evidence to support both sides. Norbert Walter (cited above) notwithstanding, the export success of Germany continued well into the 1990's despite a strong adverse shift in its relative costs and weak investment. German success has been attributed instead to human capital, that is the accumulated stock of skills of the labor force.[5] There are a number of other examples of countries with high unit labor costs and strong labor unions who have also performed well internationally. On the surface at least, it appears that there is no simple relation between domestic policies and institutions on the one hand, and international competitiveness on the other. Figure 1, showing various measures of economic performance, institutional structure and international competitiveness for 21 OECD countries for the period 1973-1995, suggests that relative unit costs may be only a part of the international competition puzzle.

--Figure 1 About Here--

In addition to the mixed picture presented in Figure 1, there are reasons to question the view that successful performance in the global economy requires private and social cost cutting. Fagerberg's (1996) survey reveals an array of evidence of a role for non-price factors in the determination of export market shares. These factors include innovativeness, product quality, flexibility of production and design, speed in adjustment of output and inventory, marketing and servicing. While different institutional arrangements may give different wage costs, they may also

4 For a review, see Blinder (1990).

5 See Carlin and Soskice (1997).

generate different patterns of productivity (and thus unit labor costs) as well as differences in non-price dimensions that are nonetheless economically significant. Innovative effort, captured by such measures as the ratio of R&D expenditures to GDP, is inadequate to capture the institutional differences between high- and low-road paths to international competition.

In this paper we explicitly introduce industrial relations and government spending on social protection into the discussion and offer some preliminary empirical evidence on the relation between international differences in innovation, industrial relations and social policies on the one hand, and international performance on the other. The study covers a set of countries who had historically generated relatively high per capita income levels but with a variety of institutional and government arrangements. In pooled, times series regressions using aggregate data for 23 OECD countries for 1973-1995, we find that a broad set of policy and industrial relations variables, including government spending on social protection, union density, strike activity, and income security in the labor market (the "cost of job loss") are statistically significantly related to changes in international competitiveness.6 These institutional variables are more often significant than relative unit labor costs. That is, we find that among OECD countries *technological* competition is more often significant than wage costs in explaining variations in international competitiveness over time. Competitive success in this Schumpeterian environment is as likely to be associated with high wage/high productivity systems with cooperative labor relations as it is with cost-competing, wage-cutting, adversarial regimes. More generous social spending and more cooperative labor relations are not particularly associated with poor national performance in the

6 The sample for the present study is for the period 1973-1995, for the following 23 countries: Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Korea, Mexico, Netherlands, Norway, Sweden, U.K. and the U.S. this is the

international economy, and may be associated with successful performance.

We use a variety of measures to capture international competitiveness, including goods and manufacturers export share, import penetration, current account balance, and net foreign direct investment. We find these measures correlated with a low-road profile in some countries and a high-road profile in others--but not always the countries we typically associate with those institutions. The low-road--characterized by declining union density, and falling government spending on social protection--seems to best characterize export market share dynamics, although the cost of job loss is negatively associated with better export performance. Greater economic integration has led to a flattening out of the relation between wage bargain centralization and economic performance.7

2. Globalization and Convergence

The premise of this study is that there is a persistent heterogeneity of economic institutions across countries and that this heterogeneity can partly explain national performance in international goods, services and capital markets. If economic integration has brought a harmonization--downward or upward--of growth rates, factor prices, wage bargaining structures and social policies, then the pattern of trade and investment will depend on other variables.

The relation between domestic institutions and international competition is usually approached by assuming the endogeneity of the former in response to the latter: Trade theorists posit factor price convergence in response to trade liberalization; growth theorists posit income and growth convergence as a result of “common forces”, “contagion”, “social capacities” or even trade openness; political economists consider the political responses to international competitive

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largest set of countries for which all variables were available for all years.

pressure as molding the size of the welfare state.[8] In spite of well-documented globalization trends--record levels of trade openness and gross capital flows, and a surging share of world output and employment accounted for by transnational corporations--there remains a marked international diversity of economic institutions.[9] This diversity covers not only social policies, but also systems of industrial relations and the corporate strategies of individual firms. When large groups of countries are considered (e.g. the Summers and Heston (1991) sample of over 100 countries), there is scant support for any of the economic convergence theories, especially since 1973. For smaller, more homogeneous and integrated groups of economies, evidence of convergence is stronger. For example, per capita GDP and real wages have converged among OECD countries since 1950. Within the EU, some of the convergence trends are even stronger. Even in these smaller samples, however, data on productivity and income distribution, for example, do not show convergence after 1973.[10] With respect to important economic institutions, the cross-country pattern is even less clear. There appear to be a variety of ways in which national systems of innovation, industrial relations and social spending have evolved over the period.

There is no precise analogue to the factor price equalization theorem for factor

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7 This is the hypothesis of Calmfors (1993a) and Danthine and Hunt (1994).

8 On factor price convergence, see Leamer and Levinsohn (1995). On growth rate convergence, see Elmslie and Milberg (1996). On the role of trade openness in growth convergence, see Slaughter (1997). On the issue of the welfare state, see Garrett (1995) and Rodrik (1997).

9 For an overview of these globalization trends, see Milberg (1998).

10 On sample selection bias in growth rate convergence studies, See Baumol and Wolff (1986), Sala-i-Martin (1996), and Verspehagen (1993). On productivity divergence, see Dollar et al. (1988), and Elmslie and Milberg (1992). On income distribution, see Green et al. (1994).

"standards"--that is, the set of regulations on labor markets and capital including environmental regulations--although with increased international capital mobility, capital would be expected to locate where standards are lowest, *ceteris paribus*.[11] But there remains considerable debate over whether such a "race to the bottom" will in fact occur.[12] Robert Boyer sums up the skeptical view of the link between globalization and convergence:

> This syllogism that equates globalization with convergence is logically flawed , and its premises may not correspond to the current state of the world economy...Wage levels and hierarchies are still shaped by national institutional forms, skill formation and social values. Thus, the choice in organization and technologies will continue to depend on national legacies... Note that, very different institutional arrangements can be imagined to solve the same economic challenge. (Boyer, 1996, pp. 50, 58)

Under the simplest measure of convergence (standard deviation and dispersion), the sample of 23 countries exhibits convergence of basic economic variables such as per capita GNP,

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[11] As Ray Marshall (1994) writes, "a basic principle of highly competitive markets is that bad standards tend to drive out the good." Labor standards refer to regulations governing working conditions (representation rights, working time, employment stability, minimum wages, health and safety rules, etc.). Environmental standards would be part of the array of non-labor market regulations on firms. For a discussion of the debate surrounding labor standards and trade liberalization, see Milberg and Elmslie (1997). Regarding the full regulatory burden on firms and its relation to U.S. trade, see Nivola (1997).

[12] See Krueger (1996), Freeman (1994) and Ehrenberg (1994) for expressions of doubt. Some of these rely on the history of the integration of the U.S. states as evidence against downward harmonization. Elmslie and Milberg (1996) find that in this case the causality may be reversed, that is, the establishment of national standards (for example, with respect to child labor) itself promoted free interstate commerce. Crotty, Epstein and Kelly (1997) argue that the likelihood that liberalization brings downward harmonization depends on the level of aggregate demand and the relative bargaining power of labor. Nivola (1997, p. 36) even cites a few cases of upward harmonization due to regulation.

unit labor costs, capital-labor ratios and even R&D expenditure as a share of GNP, but divergence in a number of measures of industrial relations and the social policy stance of the state.[13] In this paper we don't attempt to explain these varied trends, but simply to indicate that persistent institutional differences are possible in a period of broad economic convergence. Figures 2 and 3 show the convergence for per capita GDP and capital-labor ratios, respectively. For the other variables, we turn to a brief discussion of national systems of innovation, industrial relations and the welfare state.

-- Figures 2, 3 About Here--

National Innovation Systems

The variety of institutional arrangements that promote technological change and its diffusion has been described as the "national innovation system."[14] Countries differ in terms of the education system, the approach to skill formation, the relative emphasis on basic versus applied research, and the extent of public sector involvement in research and development. While the Swedish and Japanese manufacturing sectors have become relatively more R&D intensive over the past twenty-five years, there has in fact been a convergence among OECD countries in terms of R&D intensity since 1970 (see Figure 4).

--Figure 4 About Here--

With respect to skills formation however, there remain major differences, for example, among Japan, Germany and the United States. Germany has extensive on-the-job training, with the aim of providing each employee broad skills. In Japan, training also takes place in the

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[13] Note that "downward harmonization" is then defined as a falling mean and dispersion.

[14] See Nelson (1992) and Lundvall et al. (1992).

workplace, but with an emphasis on skills specific to the company. These are gained by rotating workers among a variety of different tasks in the firm. In the U.S., relatively more training is done outside of the firm, as the higher rates of turnover compared to Japan and Germany make it more likely for training to be done through the general education system or specialized private training schools or even by the government, through such programs as the Job Training Partnership Act and the military.[15]

Government Spending on Social Protection

Research on the relation between economic globalization and the role of the state has focused on how increased international competition and greater international capital mobility have created domestic pressures for political change. The dismantling of the welfare state, which began in the U.S. and U.K. for political reasons in the early 1980s, continued in continental Europe in the 1980s with calls for greater labor market flexibility. Governments in the U.K., Sweden, the Netherlands and Germany all tightened their eligibility criteria for unemployment benefits, for example.[16] With the linkage between high unemployment and labor market regulations now put into doubt,[17] the trend continues in the 1990s under the banner of international competitive pressure. Moreover, with EU countries moving to satisfy the fiscal policy criteria of the Maastricht Treaty, the broader and deeper social safety net in these countries compared to the U.S. is said to be shrinking, part of the alleged downward harmonization of the

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[15] See Dore (1990) and Lynch (1994).

[16] See Blank (1994a), Table 5.1

[17] See, for example, Howell, Duncan and Harrison (1998), and Blank (1994b).

welfare state programs among industrialized countries.[18]

An alternative to the downward harmonization hypothesis is the view that increased economic openness is associated with greater demands on the state for social protection. Garret (1995) labels these two views the "efficiency" and "compensation" hypotheses, respectively.[19] According to the efficiency hypothesis, globalization leads to the reduction in state spending on social protection and deregulation as nations are pressured to reduce standards and cut back on burdensome taxes and regulations in order for domestic capital to retain its competitiveness internationally.[20] Downward harmonization is a special case of the efficiency response in which nations' social standards and capital taxation levels settle at a common level. According to the compensation hypothesis, globalization leads to an increase in the role of the state, as more openness creates both winners and losers domestically and an increase in the demand for social spending on social programs to protect injured groups.[21] Using total government spending and budget deficits in 15 industrialized countries from 1967-1990, Garrett (1995) rejects the

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[18] Regarding the pressures of Maastricht, see Pitruzzello (1997).

[19] Bowles and Wagman (1997) consider a third possibility: that globalization is simply irrelevant for the structure and size of the welfare state. Grunberg (1998) looks also at the revenue side and finds that global pressures create a "fiscal squeeze" of greater demand for expenditure and a smaller tax base.

[20] See, for example, Gray (1997), Eatwell (1996) and Julius (1990). This view is closely connected to the view that Keynesian macro policy is no longer effective as a result of globalization. Crotty (1989), for example, writes: "Prospects for the effective use of macro policy in pursuit of traditional domestic objectives in the coming decade are so dim as to be almost invisible. The Keynesian regulatory mechanism is feeble, constrained by numerous developments, many of which have their origin in the globalization of the economy."

[21] See Rodrik (1996, 1997) and Garrett (1995). Interestingly, Garrett (1995, fn 26) refers to endogenous growth theory as providing the theoretical support for the hypothesis that the increased economic openness requires a larger role for the state.

convergence thesis. He finds instead a mixed picture, with some countries responding along efficiency lines and others according to the compensation view. The reason for this positive correlation between government spending and internationalization in some countries is unclear:

> without further analysis it is impossible to tell whether this has been the result of increased political incentives to ameliorate market dislocations or because certain types of government spending increased competitiveness (as new growth theorists claim). Either way, this finding stands in stark contrast to the received wisdom. (Garrett, 1995, p. 682)

Figures on spending on social protection as a percentage of GDP for our sample of OECD countries support neither the efficiency nor the compensation view. The mean across countries rose steadily from 1973-1995, and the standard deviation has also risen, giving rise to a volatile but untrended dispersion. The picture is different if we focus on particular categories of spending, although data broken out this way are available only beginning in 1980. While there was convergence of public spending on health, there was a divergence in spending on labor market adjustment (active and passive labor market programs) and on family cash benefits. This divergence was due to a general fall in spending in these areas and a distinct increase in Denmark, Finland and Sweden (see Figures 5, 6).[22]

--Figures 5, 6 About Here (5=SPTOT, 6=labor mkt. or family cash benefits)--

Industrial Relations

[22] This confirms the results of Bowles and Wagman (1997), who find slight divergence in per capital spending on social protection among eight OECD countries from the early 1970s to the late 1980s. They find that the "corporatist" and "non-corporatist" countries respond differently to the same international pressures, with convergence among four corporatist countries and divergence for the others. Corporatist countries are defined as those with a Crouch index above 2--Austria, Denmark, Germany, and Norway. The corporatist/non-corporatist distinction is discussed more fully below.

Like innovation systems and social protection programs, industrial relations are national in scope. Corporatist industrial relations--alternatively termed “cooperative”, “flexibly coordinated” or “collectivist” are typically characterized by strong labor unions, more centralized wage bargaining, more economy-wide coordination, a more participatory work environment, and a greater social safety net in the event of job loss. Sweden, Norway, Austria and Germany would exemplify this system. Non-corporatist systems have lower unionization rates, more decentralized wage bargaining and more Fordist production methods. The U.S. and U.K. are examples of such a system. Obviously these are crude characterizations, and one can find cooperative elements or firms within the U.S. economy and conflictual elements in the Japanese system. Moreover, there are potentially important distinctions within each category. Rowthorn (1992a), for example, distinguishes between corporatist systems which tolerate open social conflict (e.g., the labor or women's movements in Sweden and Germany) and those systems which are largely "consensual", with rigidly defined social relations (e.g. Japan or Austria). The former, he proposes, “have an inherent dynamic toward equality, whereas those based on consensus are more conservative and tend to preserve the power relationships and inequalities in existence at the time these orders were established.” (Rowthorn, 1992a, p. 125)

There is some debate over precisely how to characterize countries according to the degree of corporatism.[23] Figure 7 presents five different rankings of industrialized countries. The rankings are fairly consistent, with the exception of the placement of Japan. Calmfors and Driffill

[23] Pekkarinen et al. (1992) quip that “the concept [of corporatism] has become a bit like God: many people believe it is an important phenomenon, but nobody really knows what it looks like. Walsh (1995) points out a number of basic inconsistencies across the rankings. For example, she notes that “German trade unions are categorized as strong (Soskice, 1990) and weak (Layard, 1990) at the plant level.” See Walsh (1995, p. 175).

(1988) rank Japan twelfth based on the degree of centralization of the wage bargain. Soskice (1990), Buchele and Christiansen (1992) and Gordon (1996) rank them first on the basis of broader indicators of cooperation or coordination. Soskice considers coordination among employers as well as between labor and management, and moves Japan to the top of the list accordingly. Note also that the ranking of Italy above Germany by Buchele and Christiansen is at odds with all the other rankings reviewed here.

--Figure 7 About Here--

As with the studies of the role of the state in social protection, studies of the evolution of industrial relations focus on factors generating cross-country convergence. In the 1970's and 1980's, this was the result of a nexus of new technological and competitive demands, bound to the requirements of flexible specialization. Most recently, the convergence tendency is said to result from the common pressures of international competition, owing to the liberalization of goods and capital markets and the growing role of transnational corporations and international outsourcing. Korkman (1992) points out that financial liberalization has severely limited the ability of the Nordic countries to use currency devaluation to sustain corporatist social relations. The internationalization of production not only increases management bargaining power vis-a-vis any particular national labor movement, but it also reduces the incentive for employer coordination at the national level. Large transnational corporations in Sweden (Volvo, Saab, Electrolux), Germany (IBM Deutsch, Hewlett-Packard, and Daimler-Benz) and the Netherlands have aggressively pursued more decentralized bargaining systems.[24]

Has there been a convergence of systems of industrial relations? The evidence is mixed.

Efforts to raise the flexibility of labor markets in Europe have led to similar changes across European countries, including a decentralization of wage bargaining in Sweden, France, the Netherlands, Spain and the U.K., a tightening of limits on, or requirements for, the receipt of unemployment benefits in Germany, the Netherlands, Sweden, the U.K., a weakening of dismissal laws in Belgium, France, Germany, and the U.K., and an end to wage indexation in Italy.[25] On the other hand there are persistent differences across developed countries in terms of labor market regulation (occupational safety and health standards, minimum wage, and severance practices and pay), unemployment benefits and pensions, and outcomes (e.g. hours of work and the degree of worker participation).[26] While not addressing the question of convergence directly, Richard Freeman writes:

> People do indeed work under different rules, with different modes of compensation, forms of representation, and levels of job security. The Working Under Different Rules project highlighted the great variation in institutions that govern the labor market in otherwise comparable advanced economies. "[27]

In our sample of countries for the 1973-1995 period, there is clear evidence of downward harmonization of strike activity, as seen by the standard deviation of workers involved in strikes and strike frequency (Figures 8, 9). However, union density rates diverged over the sample

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[24] See Walsh (1995, pp. 182-184).

[25] See Blank (1994b), Locke et al. (1995, pp. 361-362), Freeman (1994c, pp. 18-20) and Walsh (1995).

[26] See Ehrenberg (1994).

[27] Freeman (1994c, p. 227).

period (Figure 10) as did the cost of job loss, which measures the income loss from losing one's job as a share of the current real wage (Figure 11). This variable is largely driven by differences in the unemployment rate, but we use it here because it also captures institutional differences related to the replacement ratio and unemployment benefits.[28]

–Figures 8-11 About Here—

It is useful to compare the clear divergence in the cost of job loss variable with, for example, the pattern of R&D expenditures (Figures 12, 13). If institutional differences matter for international competitiveness, the focus on labor markets and social policy may be increasingly important.

--Figures 12, 13 About Here--

3. Domestic Institutions and International Competitiveness: What Theory?

Traditional trade and labor market theories

What is the theoretical link between a nation's institutional structure and its performance in the international economy? Traditional theories of international trade provide a general equilibrium framework, but international differences in social standards are seldom discussed. It is difficult to introduce international differences in labor standards into the Heckscher-Ohlin model because of the problems associated with modeling public good consumption within individual

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[28] Following Gordon (1994), cost of job loss is defined as follows:

CJL = [RW - ((RW*NEWEARN*1-UN)+((REPL*RW)*(UN)))]/RW

where RW=real wage; NEWEARN=ratio of new earnings from new job to old; UN=unemployment rate; REPL=gross unemployment replacement ratio.

preferences.[29] From the perspective of a simple comparative cost model, institutional differences are assumed to be reflected in productivity or labor compensation. As such, it is only to the extent that they change the intersectoral ratio of productivity or unit costs that they will influence the commodity composition of trade.[30] They will never influence the balance of trade, which, according to the principle of comparative advantage, can only temporarily deviate from zero. Only relative costs matter: A nation that has lower productivity in all sectors compared to its trading rivals will still achieve balanced trade because of the automatic adjustment of relative prices from changes in wages or exchange rates. Absolute disadvantages in productivity or technology—and thus costs--across all sectors do not translate into higher absolute money prices in all sectors because, according to Paul Krugman:

> There are strong equilibrating forces that normally ensure that any country remains able to sell a range of goods in world markets, and to balance its trade on average over the long run, *even if its productivity, technology, and product quality are inferior to those of other nations*. (Krugman, 1991, pp. 811, emphasis added)

The partial equilibrium approach--more popular among labor economists--focuses on the direct effect of labor standards on the cost of production and, in turn, international competitiveness. The analysis hinges on the incidence of the burden of the higher standard, that is the extent to which the cost of higher standards are offset by lower wages or generate increased wage costs that lead to higher product prices and reduced international competitiveness. According to Ehrenberg (1994, pp. 7-8), "Insofar as higher labor costs lead employers to increase their product

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[29] See OECD (1996, Analytical Appendix), and Brown, Deardorff and Stern (1996).

[30] See Krueger (1997, p. 66).

prices, domestic consumers will be worse off. Furthermore, the nation's products will become less competitive on the world market and exports will be reduced." The result depends on the elasticities of labor demand and supply.[31]

Figure 14 depicts a simple example. Suppose that higher labor standards are introduced with a tax of $T per worker, causing a shift in labor demand. If supply is completely inelastic, then the full cost is borne by workers in the form of lower wages. Labor costs, and thus international competitiveness, are left unchanged. If supply is upsloping, then the incidence and competitiveness effects will depend on the extent to which workers value the benefits of the higher standards, that is the labor supply reaction. A full shift will lead to a complete pass-through to worker wages and no competitiveness effect, as indicated in the shift from S_0 to S_1. A partial shift will leave the burden divided, raising the cost of labor and creating the likelihood of a price increase by the amount of the labor cost increase, as in the case of the shift from S_0 to S_2. The incidence of the burden of adjustment between employers and employees will depend on the degree of international capital mobility, since this affects the elasticity of labor demand. Greater international capital mobility implies more elastic labor demand in a given country and thus a greater burden of adjustment borne by that country's workers.[32]

--Figure 14 About Here--

Two objections can be raised against the simple tax incidence model. First, the analysis fails to seriously consider the role of flexible exchange rates in the adjustment to international

[31] Freeman (1994a, pp. 29-30) gives a succinct statement of the possible outcomes. Also see Ehrenberg (1994, pp. 7-12). Nivola (1997) assumes that in general such standards raise costs and reduce exports.

[32] Rodrik (1997, chapter 2).

differences in standards.[33] This is the general equilibrium adjustment process mentioned above, which implies that a country can run any standards it pleases with no consequence for the trade balance over the long run. If currency depreciation offsets the higher cost of production incurred by raising social standards, then their effect is nil. According to Freeman:

> There is another route by which economies can adjust to different standards: through changes in exchange rates. If Canadians want to spend more on occupational health and safety standards than Americans, and if the cost of such is not shifted back to Canadian workers, Canadian firms will be at a competitive disadvantage at a particular exchange rate. But then the Canadian dollar will depreciate versus the U.S. dollar, and all Canadians will bear the cost of the higher health and safety standards through the higher cost of imported goods from the United States. (Freeman, 1994b, p. 109).

Thus, Freeman (1994a, p. 30) writes, "any country that wants higher labor standards for itself can have such--if it is willing to pay."[34] This objection is based, however, on the purchasing power

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[33] See Krueger (1997), Krueger (1996), and Freeman (1994a, 1994b) . Ehrenberg (1994, pp. 10-12) discusses the case of flexible exchange rates and concludes that they do not change the basic result that links the competitiveness effects of higher labor standards to the degree of pass-through to wages. They do, he admits, imply a more broad distribution of the costs of the higher standard--in the form of higher import prices for all domestic consumers.

[34] Note that a third mechanism suggested to "pay for" higher standards is higher taxes. The problem here, like the case of the full pass-through to wages, is distributional, the difficulty being the taxing an internationally mobile factor. This point was emphasized in the OECD Jobs Study:

> Increased global interdependence implies greater geographic mobility of economic activity and hence of the base for taxes on income and wealth. Companies and workers are, therefore, more sensitive to the levels of taxes in different countries, and this creates a danger of tax competition: countries lowering their tax rates to attract a larger share of the global tax base. It also limits each country's room for maneuver in shifting taxes away from non-mobile factors of production, in particular labor.

parity model of exchange rate determination, with an increase in the cost of production assumed to bring a higher domestic price level and an offsetting depreciation. Freeman places excessive faith in the efficiency of the flexible exchange rate system. The purchasing power parity theory has not been a successful predictor of real exchange rates even over the long run, and certainly not over periods of less than five years.[35] Moreover, the growth of international capital flows has delinked the exchange rate from the trade balance.[36] A country running a trade deficit as the result of high labor standards and costs, for example, cannot expect a market-driven depreciation in the medium-run.[37]

Financial liberalization has also limited the ability of governments to intervene to reduce the currency's value in two ways. For one, the required lowering of interest rates may be at odds with other monetary policy objectives (Korkman, 1992 and Eatwell, 1996). Second, the growth of the volume of transactions in the foreign exchange market has diminished the effectiveness of direct market intervention. Finally, a number of studies have found that currency depreciation does not always have a positive effect on the balance of trade.[38] In sum, international financial

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> International cooperation is essential to avoid friction among governments, to permit continued effective taxation of capital income, and to ensure that taxation policy does not unduly distort the international allocation of resources (OECD, 1994, p. 40)

[35] See Froot and Rogoff (1995).

[36] See Krugman (1989) and Harvey (1995).

[37] There may be long-run costs of persistent currency overvaluation. If innovation at the firm level depends on net cash flow, then persistent overvaluation may weaken the firm's ability to innovate precisely at a time when a firm operating in a nation with an undervalued currency is experiencing an increase in its cash flow eligible for expenditure on innovation. See Milberg and Gray (1992) and Gray (1996).

[38] See Rose (1991) on the Marshall-Lerner conditions and the vast literature on exchange rate

integration may render international institutional heterogeneity more, not less, important today than during the Bretton Woods era, for example, because the exchange rate no longer provides a straightforward adjustment mechanism to payments imbalances.

In addition to the growing divide between the determination of the exchange rate and the balance of trade, two other considerations point to the diminishing relevance of comparative advantage in the determination of trends in trade. First, with international mobility of capital, the location of production and thus the direction of trade are driven more by firm location criteria than by comparative advantage. (Brewer, 1985, Caves, 1982, Jones, 1980). Second, when trade is not balanced at the outset, then comparative advantage operates only in the special case of homothetic preferences (Deardorff, 1994). Milberg (1997) shows that the internationalization of production and finance has intensified the importance of each of these features. The increased mobility of capital is well documented. Sometimes forgotten is that in addition to portfolio capital flows, foreign direct investment has also grown rapidly since 1980. Regarding balanced trade, since 1980 OECD countries have experienced larger and more persistent trade imbalances than earlier in the post-War era (see Figure 15).

--Figure 15 about here--

Outside the world of comparative advantage, the productivity and non-price effects of domestic institutional and policy differences can have an impact even on a nation's balance of trade, as well as its current and capital account balances. But the simple tax incidence model fails to consider these effects. Richard Freeman writes:

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pass through, reviewed in Arestis and Milberg (1993-94).

> Transforming different work rules into different costs is a difficult business. It is neither conceptually nor empirically clear that higher labor standards mean higher labor costs. According to the Coase theorem, a rule that alters the property rights to employment between workers and employers may redistribute income without affecting its level. Some rules may reduce costs or raise productivity: health and safety regulations that save lives, for instance, or regulations that establish work councils. There are moral hazard and selectivity reasons for mandating some labor rules. Some rules may also increase costs or lower productivity. The same rule may add to efficiency in one setting but not in another, or have a big effect, positive or negative, in one setting but not in another. (Freeman 1994b, p. 108)

In addition to the potential productivity effects of particular institutional arrangements and policies, there are thus non-price effects related to innovativeness, product quality and production flexibility. There is now considerable evidence that cost of production alone is not an adequate guide to patterns of international competition and that cost adjustments (e.g. through exchange rates) are subordinate to other factors. That is, there appears to be a growing role for technological differences and non-price factors associated with innovation and product quality in the determination of trade.

How do we explain the relative unimportance of price competition in international trade? A common explanation is the importance of product and process innovation in trade, not always reflected in prices. This may be due to the steady growth in high-tech trade as a share of total trade as well as the high share of intra-firm trade, each reflecting an increase in product

differentiation.[39] For a trade theory foundation, we must move away from the familiar confines of comparative advantage. Instead, we look to the Schumpeterian tradition, which emphasizes precisely these non-price features of competition.

The Technology-Gap Approach

The importance of technological competition was dramatically expressed by Joseph Schumpeter in his book Capitalism, Socialism, Democracy:

> [I]n capitalist reality as distinguished from its textbook picture is not [static] competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization...competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives.[40]

While there have been neoclassical and neo-Schumpeterian technology-gap models[41], almost all

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[39] See Milberg (1997) for an overview. One argument is that price elasticities are lower for non-arm's length transactions than arm's length transactions. This has been the subject of some debate. See Rangan (1994).

[40] Schumpeter (1942, p.84). Posner and Steer (1979, p. 159) write that "Historically there is no doubt that non-price influences have dominated. The proportion of total change they 'explain' is on an order of magnitude greater than the explanatory power of price competitiveness."

[41] Neoclassical models include Grossman and Helpman (1990, 1991) and Rivera-Batiz and Romer (1991). Neo-Schumpeterian versions include Soete (1981, 1987) Dosi and Soete (1983), Silverberg et al. (1988), Fagerberg (1988), Greenhalgh (1990), Milberg (1991), Amendola, Dosi and Papagni (1993), Magnier and Toujas-Bernate (1994) Amable and Verspagen (1995), Wolff (1995), Carlin, Glynn and Van Reenen (1998), and Verspehagen and Wakefield (1997). Dosi, Pavitt and Soete (1990) brings together their pioneering work from the 1980s. Fagerberg (1996) provides an excellent review of the literature. Earlier studies emphasizing non-price effects in international trade are Barker (1977) and Geraci and Prewo (1982).

are based on Posner's (1961) simple insight that international differences in process technology, product design, or innovation in a given sector can be the source of international trade, even when they are not reflected in prices. Technological innovation is the central focus, leaving cost and price adjustments as secondary.[42]

A technology gap is the difference between the technology or innovativeness of a given sector (or country) and that used in the lead technology sector (or country). The gap is reflected in a different level of productivity, of mechanization, and of innovation, as captured by innovative effort (e.g. R&D expenditures, number of engineers employed) or innovative output (e.g. productivity, patents, scholarly engineering journal articles). Technology gaps are observed to be persistent, largely because of scale economies or learning effects. A number of studies have shown that productivity differences across sectors within countries are smaller than productivity differences across countries within sectors. This can be seen in Figure 16, showing the high correlation among sectoral and aggregate productivity among G-7 countries.[43]

--Figure 16 About Here--

In technology-gap models, cost-based adjustments are assumed subordinate to the adjustments from persistent technology gaps. Technological change affects export market share. Market share adjustments lead to income changes, which dominate any cost-based changes--such as exchange rate adjustments. The income adjustments affect economic growth more directly

[42] See especially Bowen, Leamer and Sveikauskas (1987) and Trefler (1995).

[43] See also Brailovsky, Eatwell and Ros (1982), Dollar, Baumol and Wolff (1988), Dosi et al. (1990). See Milberg (1994) for an overview of the concept of technology gaps.

than they do the trade balance.[44] By subordinating the role of price competition, technology gap models leave open the possibility that countries can run persistent trade imbalances over the long run, an impossibility in a world of comparative advantage. According to Dosi, Pavitt and Soete (1990, p. 151):

> Our hypothesis is thus that absolute advantages dominate over comparative advantages as determinants of trade flows. Their dominance means that they account for most of the composition of trade flows by country and by commodity at each point in time and explain the evolution of such trade flows over time. This dominance takes two forms. First, absolute advantages/disadvantages are the fundamental factors which explain sectoral and average competitiveness, and, thus, market shares. Second, they also define the boundaries of the universe within which cost-related adjustments take place.

The technology-gap approach has generated a vast empirical literature, much of which confirms a positive relation between innovative effort and export performance in a large number of industries in industrialized countries. In his review of the empirical literature, Fagerberg (1996) concludes that while the technology gap variables are significant in most industries, price variables are often not. Amable and Verspagen (1997) find price variables significant in only one-third of the sectors analyzed. Thirlwall and McCombie (1994) show the insignificance of relative costs for exports at the aggregate level for a sample of 15 countries, from 1972-1990.

A weakness of the technology-gap approach is that the focus on technological innovation has been to the exclusion of any discussion of the labor process, the industrial relations and the social

[44] Thus the close link of this literature to Thirlwall's (1979) balance of payments constrained growth rate based on the income elasticities of demand for imports and exports.

policy environment that makes innovativeness possible. R&D spending alone is of little importance if production is not organized in a way that allows for the efficient introduction of resulting product and process innovations. Further, the nature of the innovations themselves will depend on workplace organization and the incentives for innovation. The degree of flexibility of the production process will influence the nature, degree and impact of innovations. In sum, the technology gap approach ignores potentially important institutional variables, such as industrial relations, labor standards and the role of the state. Below we test for the importance of these social institutions in determining international economic performance by extending the technology-gap model to include variables on industrial relations and social policies.

4. A High-Road to International Competitiveness?

The absence of a consideration of institutional determinants of productivity, innovation, product quality and production flexibility in the technology gap approach is surprising given the literature on corporatism, linking industrial relations and economic performance.[45] In corporatist systems, economic performance is typically related positively with the degree of centralization of the wage bargain, higher union density and more participatory work environments and a macroeconomic and policy environment of more job security. Non-corporatist systems are often understood to be characterized by a negative relation between economic performance and such indicators as labor union strength and government spending on social protection.

The incentives for productivity improvement are different in the two systems. Social

[45] An exception is Carlin et al. (1998), who find that in addition to costs and embodied technology, "'deep' structural features of economies, such as human capital investment and national ownership patterns" are significant in the explanation of trends in export market shares." Useful overviews can be found in Brunetta and Dell'Aringa (1990), Pekkarinen, Phjola and Rowthorn (1992), Adams (1995), Gordon (1996), Van Ruysseveldt and Visser (1996).

corporatist systems rely on a high degree of job security to encourage workers to be open to the introduction of new innovations, techniques, products, and designs. According to Gordon (1996, p. 149):

> In cooperative [social-corporatist] systems, productivity-enhancing automation is presumably suspected and resisted less by workers, and perhaps even jointly planned by them, because their employment security tends to reduce their fear of technological layoffs.

Non-corporatist systems presumably rely more on the "stick" than the "carrot" in the achievement of productivity gains. Thus, for example, higher unemployment that raises the cost of job loss would be expected to increase work intensity in a deregulated system, while in a cooperative system the same increase in the unemployment rate would be expected to lower work intensity as job security falls. Weisskopf (1987), for example, studying the role of the unemployment rate in the determination of productivity, finds that "unemployment is most significant where industrial conflict is greatest."[46]

Building on the early corporatist literature, Calmfors and Driffill (1988) proposed that better economic performance (more wage restraint, lower unemployment and inflation) would come from either highly decentralized or highly centralized wage bargaining systems. In highly centralized bargaining arrangements, unions internalize the negative effects of large wage increases and show wage restraint. In highly decentralized systems, unions are simply too weak to achieve gains that might raise unemployment or lower international competitiveness. Bargaining systems located in the middle of this spectrum would lack the positive features of

[46] See also Green and Weisskopf (1990) and Buchele and Christiansen (1992).

either of these extreme cases, and be likely to have the worst economic performance.[47]

These various perspectives on the relation between the degree of cooperation and economic performance are summarized in Figure 17. The social-corporatist view shows a positive relation and the liberal-pluralist view a negative relation. The Calmfors-Driffill "hump-shape" (here inverted) is a combination of the two views, with the social-corporatist hypothesis operative in one range and the liberal-pluralist one in another, as depicted by the solid lines in Figure 17. This hybrid version captures the Calmfors-Driffill view on extreme versus intermediate arrangements, as well as the more important property that the effect of an increase in the degree of cooperativeness will depend on whether the system is already in the more or less cooperative range. Thus, for example, moves to more cooperation may be successful in Norway but not England. According to Paloheimo (1990, p. 135):

> Mainly it is countries with medium levels of industrial relations that should think about either a decentralisation of their industrial relations on the one hand, and either a liberalisation or a corporatisation of their economic policies on the other.

--Figure 17 About Here--

While the industrial relations dichotomy between corporatism and non-corporatism is seldom applied to the question of international competition, its relevance is clear. The incentive structures in the two systems imply that increased international competition is more likely to lead to efforts in corporatist countries to improve product quality and to retrain existing workers rather than hire new workers from the outside, while non-corporatist systems would more likely look to weaken labor union strength and reduce wages, benefits and standards. That is, firms in

[47] For a succinct restatement, see Calmfors (1993b, p. 165).

corporatist systems are in theory more likely to seek a value added approach to international competition, while non-corporatist would be expected to seek cost-cutting. Moreover, corporatist systems are said to be better equipped to respond to shocks. This would be a key feature of successful international competition in an environment of unprecedented volatility in financial and foreign exchange markets.[48]

Differences in systems of industrial relations may be particularly relevant in an environment in which innovativeness and flexibility is an important dimension of international competition, that is when non-price competition has become so important. According to Soskice (1990), "with computerization of design and production, firms in most industries engage in new products or the modification/customization of existing ones." Similarly, Verma et al. (1995, p. 1) state:

> Much of what is required today of firms to compete successfully in international markets--the development of new products or the introduction of new process technologies, the reconfiguring of subcontracting relations or rationalization of internal managerial hierarchies, or simply enhancing the efficiency and quality of workplace operations and relationships--depends upon corresponding shifts in industrial relations and human resource practices.

Lazonick and Sullivan (1997) argue that with increased economic integration, even firms in traditionally non-corporatist countries may be forced to adopt a high-road strategy:

> the challenge to high value-added industry in the United States has come from enterprises

[48] Bruno and Sachs (1985) stressed this responsiveness in explaining the relative success of corporatist countries.

> that have gained competitive advantage not by paying lower wages than American companies pay, but by developing and utilizing broader and deeper skill bases than American companies do.[49]

The importance of industrial relations for international trade cannot be captured by looking only at the firm or even the private market. Soskice (1990) emphasizes that flexibly coordinated systems are characterized by long-term and high-trust relations within and between institutions at the micro *and* macro level. Dore (1990) associates "micro corporatism" at the level of the firm with "collectivism" at the level of the state. In contrast, a "deregulated system" is based on shorter-term and lower-trust institutions, for example a greater reliance on arms'-length contracts. Either way, the state plays a key role, both in molding the regulatory environment and providing tax incentives for certain types of firm behavior, and by providing a social safety net that complements the private system of industrial relations.

5. Statistical Evidence

There is surprisingly little empirical work on the relation between social institutions and social policy on the one hand and international trade or foreign direct investment on the other. One study finds that OECD countries with relatively lower labor standards performed no better in overall trade, but did increase their share of employment and net exports in some sectors such as textiles and apparel. The low-standards countries also were more successful in attracting foreign direct investment:

> foreign direct investment is sensitive to various dimensions of labour standards. For example, for a similar total labor cost, employers may prefer to invest in countries where

[49] See also Lazonick (1997) and Best (1990).

> regulatory constraints (employment protection regulations, working-time provisions, stringency of workers' participation rights, minimum wages) are lax.[50]

Nivola (1997) focuses not on labor standards but on the regulatory framework generally. He provides an array of examples of how the burdensome regulatory structure ("high" standards for capital) in the U.S. reduces U.S. international competitiveness. Ironically, most studies of standards and trade focus on developing countries, since they are the perceived source of "social dumping" and developing country governments are often opponents of the inclusion of labor and environmental standards in trade agreements. A recent OECD study concluded that "there is no evidence that low-standards countries enjoy better global export performance than high-standards countries." (OECD 1996, p.5). Another OECD study finds a similar lack of a clear positive correlation between low labor standards and inward foreign direct investment (OECD, 1993-1994, Chart 4.5). Looking at sectoral import penetration in the U.S. by ten major developing countries in 1994, another study concludes that "Countries with lower standards do not exhibit higher rates of import penetration than countries with relatively high standards."[51] Stern (1997, pp. 129-130), concludes a survey of empirical evidence in similar fashion, that there is little compelling evidence suggesting that low labor standards have an impact on trade. Rodrik (1996), on the other hand, found that raising labor standards can raise labor costs considerably. The adoption of child labor laws, he estimated, raised labor costs by almost 80%. For a group of developing countries, higher labor standards was associated with reduced international competitiveness in textile and clothing exports. Wheeler and Mody (1992) find that tax breaks

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[50] OECD (1993-94), pp. 160-161.

[51] Aggarwal (1995) p. 24.

and other incentives are not a significan factor in the location decisions of U.S. transnationals. Koechlin (1994) finds more broadly that average production costs are not a significant factor in U.S. TNC sourcing decisions.

A few studies of U.S. sectoral-level trade have included a variable on unionization. Blecker and Feinberg (1995) found union coverage to be insignificant in relation to export shares, while Karier (1990) found a positive association between unionization and exports at the 4-digit industrial level for the U.S. This reversed the finding of Hilke and Nelson (1987) which found union strength positively related to imports and negatively to exports. Greenhalgh (1990) includes the number of strikes in a time series analysis of U.K. trade at the two-digit level and finds that they are negatively associated with net exports in most manufacturing sectors, but not outside manufacturing. Moreover, in several industries the relation is positive, that is, "industrial unrest increases in successful periods." (Greenhalgh, 1990, p. 115).

We considered changes in goods export market share, import penetration, net foreign direct investment and the ratio of exports to import propensity in comparison to changes in a set of economic and institutional variables. Scatter plots (Figure 18) weakly support the liberal-pluralist view of international competitiveness. Relatively rapidly growing (or slowly shrinking) union density, social spending and unit labor costs are all associated with relatively slower growth in competitiveness variables. More rapid R&D growth is also associated with increased international trade competitiveness. Note that the relation between the growth in relative unit labor costs and the growth of export market share is positive, confirming the Kaldor (1978) paradox. These plots indicate that changes in institutions may matter for changes in international competitiveness, but for reasons other than pure cost competitiveness.

--Figure 18 About Here--

Regression analysis give a similar picture. We regressed measures of international competitiveness against measures of relative unit labor costs, innovative effort, industrial relations and government spending on social protection, using annual data for 23 OECD countries for the period 1973-1995. The dynamics of technology gaps--and this argument would also hold for the "social gaps" that are the focus here--are expected to influence trade only over a longer period of time. Knowledge, be it about technology, firm organization or state intervention, is cumulative and its influence can potentially be best captured over a relatively long time series. We estimated the following three equations52:

Comparative cost model:

$$X_{it} = \quad _0 + \quad _1 ULC_{it} + \quad _{it} \qquad\qquad _1 < 0$$

Technology-gap model:

$$X_{it} = \quad _0 + \quad _1 ULC_{it} + \quad _2 KL_{it} + \quad _3 RD_{it} + \quad _{it} \qquad _1, \quad _2, \quad _3 > 0$$

Social-gap model:

$$X_{it} = \quad _0 + \quad _1 ULC_{it} + \quad _2 KL_{it} + \quad _3 RD_{it} + \quad _4 UD_{it} + \quad _5 SDUR_{it}$$

$$+ \quad _6 CJL + \quad _7 SPPH_{it} + \quad _8 SPLAB_{it} + \quad _{it}$$

Liberal-pluralist: $_1, \quad _4, \quad _7, \quad _8 < 0 \qquad _2, \quad _3, \quad _5, \quad _6 > 0$,

Social-corporatist: $_1, \quad _2, \quad _3, \quad _4, \quad _7, \quad _8 > 0 \qquad _5, \quad _6 < 0$

where i and t subscripts refer to country and year, respectively, and
X = variable on international competitiveness
ULC = unit labor costs

52. All independent variables are defined as gap variables, that is, normalized by a weighted average of the values in the other 22 countries using 1980 trade weights.[52] The data appendix provides a complete definition of variables and data sources.

KL = capital labor ratio
RD = R&D expenditure as a % of GDP
UD = union density
SDUR = strike duration
CJL = cost of job loss
SPTOT = total social expenditure as a % of GDP
SPPH = social expenditure on public health as a % of GDP
SPLAB = other social expenditure as % of GDP, including on pensions and labor market adjustment
is an error term assumed to have a normal distribution

The comparative cost model represents the classical case of trade shares driven strictly by relative unit costs. The technology gap model is a standard (if bare-bones) specification, that includes a variable for technology (R&D), capital intensity (KL) and costs (ULC). The third model is dubbed a "social-gap" model since it includes the industrial relations variables on union density (UD), strike duration (SDUR) and the cost of job loss (CJL) as well as the measure of state expenditure on social protection (SPTOT).[53] In some runs the social expenditure variable was broken out between expenditure on public health (SPPH) and other (SPLAB), which includes active and passive labor market expenditures. Note that by using the ratio of spending to GDP we are capturing the size of the public sector, but not the state's capacity for deficit spending. The size of the public sector could be increased with no increase in the fiscal deficit.54

The classical trade model predicts that export market share will vary inversely with ULC, that is $_1 <0$. A positive value for $_1$ would provide support for Kaldor's paradox. Technology gap theory predicts a positive sign on the R&D and KL variables ($_2$, $_3 > 0$), and these same signs would be expected in the social-gap model. The expected signs on the industrial relations

[53] Bargaining coverage is a better measure of union power than union density, but the data were unavailable over the desired time period.

54 Glyn (1998) emphasizes the importance of this difference.

and state spending variables differ according to the expected effects of more coordinated, social-corporatism. The social-corporatist view predicts a positive sign on ULC, UD and the social expenditure variables ($_1$, $_2$, $_3$, $_4$, $_7$, $_8$ >0) , and a negative sign on the conflict variables, CJL and SDUR ($_5$, $_6$ < 0). Higher UD will promote coordination. Higher social expenditure and lower CJL are associated with greater income security in the labor maket which is expected to spur innovativeness and organizational flexibility--and thus non-price competitiveness. The liberal-pluralist view would predict a positive sign on the conflict variables CJL and SDUR ($_2$, $_3$, $_5$, $_6$ > 0), and a negative sign on UD and social expenditure, as work intensity and organizational flexibility are expected to increase when unions are weaker and job and income security is lower. The liberal-pluralist view would also predict a negative sign on ULC, the most clear reflection of this as representative of the low-road to export market share growth ($_1$, $_4$, $_7$, $_8$ <0).

Regression results

The estimation results are presented in Tables 19-21. In many cases the industrial relations and social policy variables are statistically significant, and their inclusion in the social-gap model raises the adjusted R-squared over that given by the comparative cost and technology gap models. Also, in a number of cases, the R&D variable is significant only in the social-gap model, indicating some interactive effects that should perhaps be modeled explicitly. Kaldor's paradox is supported in many cases, with market share rising with relative unit labor costs.

The pooled sample estimates also give mixed results, but in general provides more support for the liberal-pluralist view than the social-corporatist one. The "short-run" model (not reported here) includes simple autoregressive lag structure. For the full sample, ULC is insignificant and

UD is positive. Other variables are often significant only with a 3 or 4 year lag, and there is a switching of signs on consecutive lags. This is to be expected in such a model, and indicates the importance of estimating directly the long-run elasticities.

The long-run model results for the full sample are contained in Figure 20. The asterisk indicates the long-run elasticity. The ULC coefficient has positive sign and the R&D a negative sign, although both are insignificant. The negative sign on the CJL coefficient supports the social-corporatist hypothesis, but both social spending categories enter with a negative and significant sign. The positive sign on the SDUR variable is expected in the liberal-pluralist case in which industrial conflict does not hurt performance, but is difficult to interpret, as it could also reflect, like UD, labor union strength.

--Figure 20 About Here --

Figures 21 and 22 contain the estimates for the pooled sub-samples of "liberal-pluralist" and "social-corporatist" countries, respectively. For liberal-pluralist countries, the long-run elasticities for ULC and R&D are positive and insignificant. The long-run coefficients on the UD and CJL variables are not significant, but go exactly in the opposite direction than expected. Only SPTOT gives the expected negative sign. For the social-corporatist countries (Figure 21), ULC and RD are positive and significant. Only CJL gives the expected sign, as UD and SPLAB support the liberal-pluralist hypothesis.

--Figures 21 and 22 About Here--

6. **Conclusion**

Globalization is often conceived as a "force" which puts "pressure" on national economies, resulting in some tendency toward harmonization of social structures and regulations

and reducing national sovereignty. In this paper we sought to go beyond the anecdotal evidence of downward harmonization or "Americanization" to look at labor market institutions and state social spending patterns across a group of 23 OECD countries over the period 1973-1995. Moreover, we approached the issue by reversing the usual conception of the causal relation between globalization and domestic policies and institutions by asking if particular policies and institutions are associated with better international performance as measured by trade and foreign investment. Our sample exhibits persistent institutional heterogeneity across countries and a notable lack of a clear negative relation between unit labor costs and international competitiveness. While the Calmfors-Driffill hump shape relation does not appear particularly strong for national performance variables related to the international economy-- there is a uniform pattern across the two sub-samples defined by ranking in total social spending as a percentage of GDP—nor does the liberal-pluralist view hold sway. Some important exceptions to the liberal – pluralist perspective were found in both the scatterplots and the pooled regressions.

Simply put, more generous social spending and more cooperative labor relations are not uniformly associated with poor national performance in the international economy. State spending on social protection as a share of GDP is generally negatively associated with export market share growth, supporting the "efficiency" as opposed to the "compensation" hypothesis. [However, the cost of job loss is positively associated with export market share growth. Stronger unions and more cooperative labor relations are associated with …]

Our results should certainly give pause to those who argue that globalization requires the abandonment of progressive welfare state policies and cooperative industrial relations. We agree with Glyn (1998) that international factors may be serving as a smokescreen for domestic

(especially political) constraints on the continued implementation of egalitarian policies. Discussing the contractionary stance of the new European Central Bank, Glyn writes:

> the new European Central Bank is likely to try and establish its credentials as a worthy successor to the Bundesbank by staming on the least threat of inflationary expansions…Excessive Euro-caution does not stem from fear of the international impacts of expansionary policies, be it on imports, FDI flows, or financial capital. The explanation is the same as that for the Bundesbank's present stance, namely, fear that expansion would founder on the fundamental domestic constraints, above all distributional conflict. (Glyn, 1998, pp. 406-407)

At the same time there are also clear points of trade-off between these institutional protections and international performance…

One explanation for the lack of a distinct Calmfors-Driffill v-shape with respect to national measures of international economic performance is that production processes are increasingly multinational. Accordingly, most of the global increase in trade has been in intermediate goods, such as automotive components, or machinery parts. For almost all industrialized countries (Japan being an important exception) there has been a marked increase in the share of imported to total intermediate inputs used in production. This rise is the result of increased foreign outsourcing of the production of inputs to production. Thus there has been a dramatic increase in the ratio of merchandise trade to *value added in industry* (as opposed to GDP) among OECD countries compared to 1960 and even compared to 1913, the end of the last great wave of globalization. As shown in Figure 23, the rise in trade as a share of value added is more rapid and to a much higher level than trade as a share of GDP.

The rise in foreign outsourcing reflects the increasing ability of firms to profitably break up the production process and locate different parts of the process in different countries. To the extent that production processes are "globalized", it is possible that firms are moving to a similar set of globally organized, flexible production processes, but that this convergence of firm-level organizational forms is not captured at the national level. Harrison (1994) refers to this as the "emerging system of globally networked production".[55] Rival firms' production processes may be similar on the whole, but different nations may participate in that internationally integrated structure in very different ways. This has been a cause for much concern for developing countries, in which an excess supply of unskilled labor has created a competition for foreign firm outsourcing of low-skill intensive aspects of the production process.56 The implications for the developed countries has been less well studied. Economists have focused mainly on the biased impact on labor demand resulting from the rising import penetration by low-skill abundant countries into industrialized ones. But the rise in foreign outsourcing further reduces labor's bargaining power. As a result, it becomes more costly for workers to attain improved benefits and working conditions as they now must pay a higher share of such costs themselves. Harrison (1994) argues that the emerging system of globally networked production, with its concomitant increase in foreign outsourcing, reaffirms the dualism of labor markets, increases the demand for contingent work, and raises the inequality of wages and benefits in industrialized countries. With

[55] A number of others have identified the same phenomenon. Gereffi and Korzeniewicz (1994) refer to "global commodity chains", Zysman et al. (1997) speak of the importance of "cross-national production networks", Krugman (1995) refers to firms' ability to "slice up the value chain", and Feenstra (1998) describes the "disintegration of production". See also United Nations (1994) and Dicken (1992).

56 Stopford and Strange (1991).

an established network of foreign affiliates and outsourcing channels, labor markets have become "contestable" in the same way that Baumol (1990) described product markets. Indeed, Calmfors and Driffill themselves have attributed the lack of a hump-shape relation to the loss of monopoly power by centralized unions.[57] Thus despite the evidence of persistent institutional differences across countries, there remains the possibility that systems of industrial relations have converged, but not in a manner which can easily be captured by cross-national studies of labor market institutions and regulations. The implication of this development is that the nation-state becomes less useful as a unit of analysis for international trade and research will have to move to the level of the firm, and its global pattern of production, innovation and work organization.

Finally, one aim of this paper has been methodological. We have argued that social institutions, social policy and disequilibrium should be integral to any model of international competitiveness. Trade models that assume automatic adjustment in the balance of payments are unrealistic and those that allow for persistent imbalances but focus strictly on their technological determinants are too narrowly construed. We have proposed an extension of the technology gap approach to a consideration of "social gaps" that include industrial relations and social policy. Gordon (1991) estimated that "social" factors such as labor relations are ten times more important than "technological" factors in the determination of U.S. productivity growth, profitability and investment.[58] In this paper, we made a similar comparison for the question of international

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[57] See Driffill and Van der Ploeg (1993), Danthine and Hunt (1993) and Calmfors (1993a). Note that Brainard and Rike (1998) shows that U.S. direct investment abroad has not generally substituted cheap for less-cheap low-skill labor.

[58] David Gordon was fond of telling the following parable: If a car swerves off the road and smashes into a tree, should the investigators of the accident look under the hood for mechanical failure or question the ability of the driver? David thought that economists too often just look

competitiveness and found that in a statistical sense at least, social relations including the degree of labor-management conflict and the social protection provided by the state play as important a role as technological factors and unit labor costs.

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under the hood, that is focus only on technology.

Appendix 1

Variable Descriptions and Data Sources

Full Sample: 14 Countries

Australia, Canada, Denmark, Finland, France, West Germany, Ireland, Italy, Japan, Netherlands, Norway, Sweden, United Kingdom, United States

Variable Definitions: All of the variables listed below are in *GAP* form, measured with respect to the weighted average of the other countries in the sample, using trade weights from 1980.

Dependent Variables:

GXSHR - Goods export value share, 1973-93. Source: *OECD Economic Outlook*, 60, 1996.

MXSHR - Manufacturing export value share, 1973-93. Source: *OECD Economic Outlook*, 60, 1996.

NFDI - Net foreign direct investment as a percentage of GDP. Note: data on foreign direct investment is not available for Ireland, and data for Japan does not begin until 1977. Source for FDI: *IMF Yearbook of Financial Statistics*, 1997. Source for GDP: *OECD Economic Outlook*, 60, 1996.

Independent Variables:

RULC - Relative unit labour costs, 1973-93. Source: *OECD Economic Outlook*, 60, 1996.

KL - Non-residential capital stock per worker, 1973-93.
Source: *PENN World Tables*, 1996.

IRD - Total industries expenditure on R&D as a percentage of GDP, 1973-93.
Source: R&D expenditure figures are from *OECD ANBERD* (Analytical Business Enterprise Research and Development) database, 1996; GDP figures are from the *OECD Economic Outlook*, 60, 1996.

MRD - Manufacturing industries expenditure on R&D as a percentage of GDP, 1973-93.
Source: R&D expenditure figures are from *OECD ANBERD* (Analytical Business Enterprise Research and Development) database, 1996; GDP figures are from the *OECD Economic Outlook*, 60, 1996.

UD - Union density, 1973-93.
Source: *OECD Employment Outlook*, July, 1991, Table 4.1; *OECD Employment Outlook*, July, 1994, Table 5.7; *OECD Employment Outlook*, July, 1997, Chart 3.1.

WISN - Number of workers involved in strikes (in thousands) as a percentage of total employment (in thousands). Source for workers involved in strikes is, *ILO Yearbook of Labour Statistics*, 1973-1993. Source for total employment is *OECD Economic Outlook*, 60, 1996.

SDUR - Duration of strikes, 1973-93, measured as the number of days lost to strikes per number of workers involved in strikes. Definition is from P.K. Edwards and Richard Hyman, "Strikes and Industrial Conflict: Peace in Europe?" in eds. R. Humna and Anthony Feurer, New Frontiers in European Industrial Relations, Cambridge, MA: Basil Blackwell, 1994, p.254. Data Source: ILO Yearbook of Labour Statistics, various years.

CJL - Cost of job loss, 1973-93, is the ratio of expected wage loss to current real wage.
Calculation follows Gordon (1994):

CJL = [RW - ((RW*NEWEARN*1-UN)))+(REPL*RW)*(UN)))]/RW

where, RW=real wage; NEWEARN=ratio of new earnings from new job to old;
UN=unemployment rate; REPL=gross unemployment replacement ratio.

Sources: *OECD Economic Outlook*, 60, 1996; Blondal, Sveinbjorn and Pearson, "Unemployment and other non-employment benefits," *Oxford Review of Economic Policy*, 11:1; pp. 136-169; Table 2.

SPTOT - Total social expenditure as a percentage of GDP, 1973-1993.
Sources: For data from 1970 to 1980 see, "New Orientations for Social Policy," OECD: Paris. For data from 1980 to 1993 see, "Social Expenditure Statistics of OECD Members," in Labour Market and Social Policy Occasional Papers, No. 17; OECD: Paris (1996).

SPLAB - Social expenditure on non-public health catagories as a percentage of GDP, 1973-93. These include expenditures on old age and disability cash benefits, occupational safety and health, parental and family leave benefits, child and family assistance, sickness benefits, unemployment insurance, active labour market programmes (training, job services, etc.), housing, and family and disability services. Source: Same as SPTOT

SPPH - Social expenditure on public health as a percentage of GDP, 1973-93. Source: Same as for SPTOT.

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