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Economic insecurity in the new wave of globalization: offshoring and the labor share under varieties of capitalism

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Countries subject to the same degree of exposure to globalization may experience very different levels of economic insecurity depending on social support or employment protections provided by the state or even due to insurance obtained by households. We identify five varieties of industrialized countries, characterized by national levels of ‘labor support’ and ‘strictness of employment protection,’ and analyze the importance of the role of the state in mediating the impact of globalization on economic security by estimating the relation between offshoring and the labor share of income across the OECD. We find that the effect of offshoring varies across countries depending on their regulatory structure and in particular on the degree of labor market support provided by governments. Regression analysis shows that for the countries providing ‘more support’, offshoring has a less unfavorable or more favorable effect on the labor share of national income.

Keywords: outsourcing, functional income distribution; economic security; varieties of capitalism

JEL Classifications: D33, F16, E25

1. Introduction

The ‘great’ recession that began in 2008 and the associated collapse in the value of wealth and especially of retirement portfolios, has placed financial fragility and asset price deflation once again at the center of the discussion of economic insecurity in the industrialized countries. But the heightening of economic insecurity in these countries – whether measured by greater volatility of household incomes, a slowdown in wage growth, rising income inequality, a decline in labor’s share of national income, a rise in the incidence of long-term unemployment or involuntary part-time employment – was a visible trend in the US well before the financial crash of 2008 drove the global economy into collapse.¹ Some have argued that the rise in inequality and the expansion of corporate profits foreshadowed the crisis itself, by encouraging excessive financial speculation among higher earners and unsustainable borrowing by those at the lower end of the income distribution.²

The period since 1980 has often been referred to as the era of globalization, with goods and services trade, foreign direct investment and financial flows rising to unprecedented levels in relation to economic activity. International trade and

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investment increasingly occur within global supply chains, which have reached a level sufficient to constitute a new wave of globalization in which the creation of value and geographical location are delinked.³ The new wave of globalization has created new sources of gains from trade and new channels for the transmission of trade and investment to economic insecurity.

In this paper, we consider the effects of globalization on economic insecurity. There is overwhelming evidence that offshoring has for decades had an adverse impact on low-skill workers in industrialized countries, both in terms of pay and employment, in both absolute and relative terms. Recent papers now find a negative impact of offshoring on high-skill workers too.⁴ This has especially been associated with the expansion of services offshoring. As supply chains extend to high-tech goods and higher-skill services, there are massive possibilities for the expansion of offshoring in the future.⁵

Our analysis is premised on a distinction between economic exposure and economic insecurity. *Economic exposure* is the risk of a negative shock to household income or of losing a job. *Economic insecurity* is the result of this risk, mitigated by any buffer or insurance enjoyed by households, either privately on their own behalf or from public programs, including labor market support and health insurance. From this perspective, countries subject to the same degree of exposure to globalization, may experience very different levels of economic insecurity depending on social support or employment protections provided by the state or even due to insurance obtained by households.

We identify five varieties of industrialized countries, characterized by national levels of ‘labor support’ (a combination of active labor market expenditures and unemployment benefits) and ‘strictness of employment protection’ (the degree of strictness of regulation on hiring and firing): an Anglo-Saxon group of countries with low employment protection and low labor support; an East Asian model of low labor support and an average level of employment protection; a Mediterranean model of high employment protection and low labor support; a Rhineland model of countries with high scores on both characteristics; and finally a ‘flexicurity’ model of countries with high labor support and average to low levels of employment protection.

We analyze the importance of the role of the state in mediating the impact of globalization on economic security by assessing the impact of offshoring on the labor share of income across the OECD. We find that the impact of the globalization of production varies across countries depending on their regulatory structure and, in particular, on the degree of labor market support provided by governments. We break our sample of data on 22 countries over the period 1991–2006 into two groups – one with a state providing ‘more labor support’, and a group of countries with countries providing ‘less labor support.’

Regression analysis shows that for the countries providing ‘more support,’ offshoring has a less unfavorable or more favorable effect on the labor share of national income. At the extremes of our measure of support in the regressions are the US, which provides little support, and Denmark, which is highly supportive. It should be noted that labor market flexibility in Denmark is very similar to that in the US, a reminder that the difference between the ‘American model’ and Denmark’s ‘flexicurity’ system resides in the active role of the state in supporting dislocated workers. Despite the measurable differences in these systems and their different performance with respect to economic insecurity, our analysis indicates that any new regulation of advanced capitalism that seeks to increase economic security must look beyond the

financial sector, which currently garners the attention of policymakers, and to the array of labor market and social protections that have proven to enhance economic security without diminishing globalization and the gains that it can bring.

This paper has five sections. In section 2 we present indicators of economic insecurity and how insecurity has risen since the 1980s in six major industrialized countries. Section 3 considers the role that regulation can play in mediating the effect of markets on incomes and shifting the burden of risk from rapid income decline. Here we present our grouping of five varieties of regulation in the OECD countries. In Section 4 we describe the ‘new wave’ of globalization, and in Section 5 we assess how offshoring has contributed to rising economic insecurity, including regression analysis of the labor share. In Section 6 we place our analysis in the context of the policy shift occurring in response to the recent economic slump and briefly discuss how economic security in a globalized economy can be sustained.

2. Economic insecurity

The period 1950–73 is widely referred to as the ‘Golden Age’ of capitalism, but it might be better termed the period of rising economic security for people in the industrialized countries. Not only did the OECD countries experience rapid growth in real GDP, but this was reflected in rising median wages, even more rapid improvements in median family income, relatively low rates of unemployment, falling inequality, and improvements in the post-Great Depression system of social protection in most countries.

Since 1973, the major industrialized economies have grown more slowly, as productivity growth has diminished. Over the entire OECD, total factor productivity growth fell to 1.5% per annum on average after 1985, from rates more than twice that during the 20 years before 1973.⁶ As seen in Table 1, six major OECD countries had a higher compound annual growth rate (CAGR) of GDP for the period 1950–73 than they did over the period 1980–2007. These countries represent a broad spectrum of the advanced industrialized world, and although all have expanded their exposure to international trade and investment they have not all experienced the same degree of increased economic insecurity. In some cases (Japan, Germany and France) the CAGR fell by more than half. Labor productivity growth follows a similar pattern.

Table 1. Economic performance, golden age versus post-golden age, selected countries.

	Denmark	France	Germany	Japan	United Kingdom	United States
Gross Domestic Product* (CAGR)						
1950–1973	3.8%	5.0%	6.0%	9.3%	2.9%	3.9%
1980–2007	2.1%	2.0%	2.2%	2.3%	2.5%	3.0%
GDP per Person Employed* (CAGR)						
1950–1973	2.9%	4.7%	4.7%	7.5%	2.4%	2.3%
1980–2007	1.7%	1.5%	0.8%	1.8%	2.1%	1.6%
Average Unemployment Rate (Percent of Labor Force)						
1956–1973	1.1%**	1.9%	1.3%	1.5%	1.8%	5.0%
1980–2006	7.2%	10.1%	7.6%	3.3%	7.9%	6.2%

Source: Own illustration. Data: The Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2008. OECD Labor Force Statistics. *Converted at Geary Khamis PPPs. **Average based on 1960, 1965, 1967, 1969–73.

The productivity growth slowdown occurred as the process of deindustrialization continued in all six of these countries in our sample except Germany, and in many cases the rate of deindustrialization accelerated.

The post-1973 period has seen a significant increase in economic insecurity in many industrialized countries. The average rate of unemployment (on a standardized basis) has been significantly higher in the post-Golden Age era compared with the 1956–73 period, ranging from slightly higher in the US to more than five times higher in France, Germany and Denmark (see Table 1). The incidence of long-term unemployment (greater than one year) also rose over the post-Golden Age in many industrialized countries. France, Germany, Japan and the US all saw long-term unemployment higher in 2006 compared with 1991, while Denmark and the UK saw a decline.⁷ Germany and Japan saw an increase from less than 1% to over 4% of total employment in involuntary part-time jobs between 1991 and 2006, while France and the UK saw a small increase and in Denmark the share remained effectively constant.⁸

The slowdown in GDP and productivity growth described above not only has brought higher rates of unemployment in most countries, but occurred along with a slowdown in the growth of wages. We consider the labor share, defined as the economy-wide wage bill as a percentage of GDP, a good indicator of economic insecurity, as it reflects both labor demand and wage changes. Beginning in the early 1980s, the labor share of national income began to fall across many industrialized countries (see Figure 1). Since most labor force participants are not owners of capital, this trend in the labor share captures in a broad way the growing economic insecurity in the industrialized world.

Broadly speaking, we see two turning points in Figure 1. At the beginning of the 1980s, the increases in the labor share from the early 1970s begin to level off. This can be associated with the advent of neoliberal policies, labor market deregulation and the retreat of the welfare state in some countries.⁹ The second turning point occurs at the end of the 1990s, with a clear downward trend in the labor share across the sample. This second shift has been linked to financialization and globalization, and, in particular, the emergence of China, India and other low-wage exporting countries.¹⁰

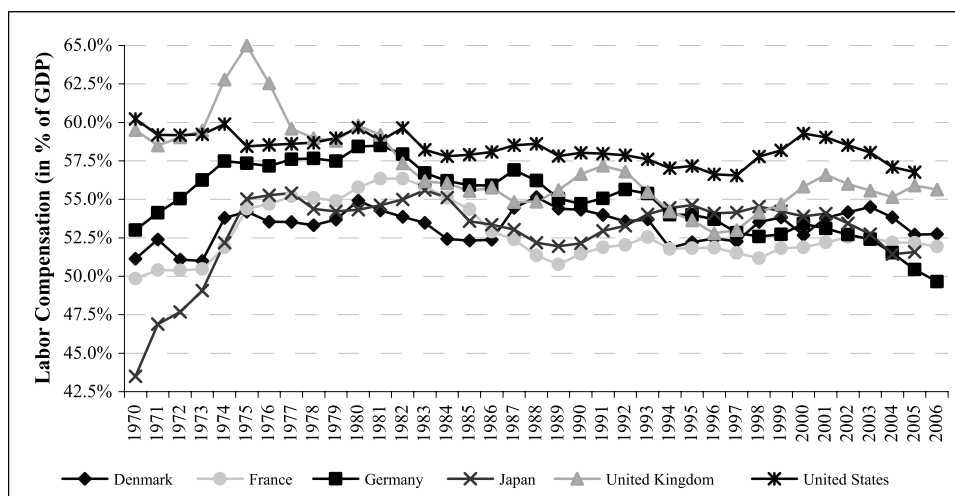


Figure 1. Labor compensation (in % of GDP), 1970–2005/06, selected countries. Source: Own illustration. Data: OECD Annual National Accounts Statistics.

Table 2. Wage inequality, selected countries. (Ratio of wages of top 10% of earners to bottom 10% of earners.)

	1985	1991	2005
Denmark	2.2	2.2	2.6
France	3.1	3.3	2.9
Germany	2.9	2.8	3.3
Japan	3.1	3.1	3.1
United Kingdom	3.2	3.4	3.6
United States	4.1	4.3	4.9

Source: Own calculation. Data: OECD Labor Force Statistics, wages per full-time employee.

* Wages only for West Germany. 1990 wages for Denmark, 2004 wages for France.

While our focus is on changes in the labor share of national income, comprising both employment and wage changes, much of the research on the welfare effects of international trade looks at wage inequality, and in particular the relative wage of skilled to unskilled workers. Inequality across wage earners is shown in Table 2, which gives the ratio of wages in the top decile to the bottom decile for 1985, 1991 and 2005. Over the entire period, US income inequality has been far above the others, and compression of incomes is much greater in Denmark than in all the rest. Since 1985, France and Japan were the only countries of these six not to experience an increase in inequality. Japan's slow growth seems to have affected all groups proportionally. France underwent a large increase in the minimum wage, which served to compress the wage distribution.¹¹ Wage inequality is the focus of research largely because of its link to the Heckscher–Ohlin model with two factors of production, high- and low-skill labor. In the analysis below, we adopt the labor share of national income as a proxy for economic insecurity since it comprises both labor demand and wages.

3. Varieties of capitalism and the burden of economic risk

There are private and public responses to rising economic exposure for workers. Households may borrow in order to insulate their spending patterns from earnings volatility, and the rise in home equity loans in the US and consumer credit in the UK are partly for this reason.¹² Household saving rates out of disposable income fell over the 1990s for the major OECD countries (Germany and France being the exceptions), indicating the need for households to limit saving in order to maintain economic security and to incur debt for the same purpose (OECD 2007a).

The classic analysis of the varieties of industrial capitalism distinguishes among systems according to the extent of market coordination and the extent of social protection.¹³ This typically generates a set of three distinct varieties, including (1) market-led economies with less state-provided social protection; (2) more coordinated economies with state provided social protections; and (3) market-led economies with more family provision of social protection. In general, the advanced industrialized countries reduced social protection and labor market protections over the past 20 years, in part in response to the rise of neoliberalism and the effort to increase labor market flexibility in Europe, and in part due to the self-imposed fiscal constraints in the Eurozone. Nonetheless, there remain significant differences across countries in the amount and form of labor market and social protection. We focus on the strictness of employment protection legislation to reflect labor market protection, and on two

aspects of social protection or ‘labor support’ – the gross unemployment replacement rate and public expenditures on active labor market programs. By these measures there remain clear differences in government response to economic insecurity.

Using 2003 data (the most recent available for employment protection legislation), we calculated an index of the strictness of employment protection legislation by setting the US level of employment protection legislation equal to one and recalculating the relative levels for other countries. We constructed an index of ‘labor support’ by again setting US levels of gross unemployment replacement rates and public expenditures on active labor market programs equal to one and (with equal weights on each variable) combining them into a single index. A scatter plot of these two indexes for 23 OECD countries is shown in Figure 2.

Five distinct ‘models’ emerge and they follow closely the groupings presented in recent discussions of varieties of capitalism.¹⁴ On the lower left we can identify an ‘Anglo-Saxon model’ of low levels of regulation on hiring and firing and low levels of labor support. This group includes the US, the UK, Canada, Australia, Ireland and New Zealand. Countries on the lower right follow the ‘Mediterranean model’ that combines relatively strict employment protection legislation and low levels of worker support. This group includes Greece, Portugal, Spain and Italy. For this group of countries, family support substitutes for state-based protection.¹⁵

Countries on the upper right of the scatter plot – the ‘Rhineland model’ – combine relatively strict employment protection legislation and high levels of labor support. Here we find France, Sweden, Belgium, Germany and Norway. This constitutes a variation on the standard classification, grouping the Nordics together. They would be lumped together if the grouping were only around labor market support. But Norway

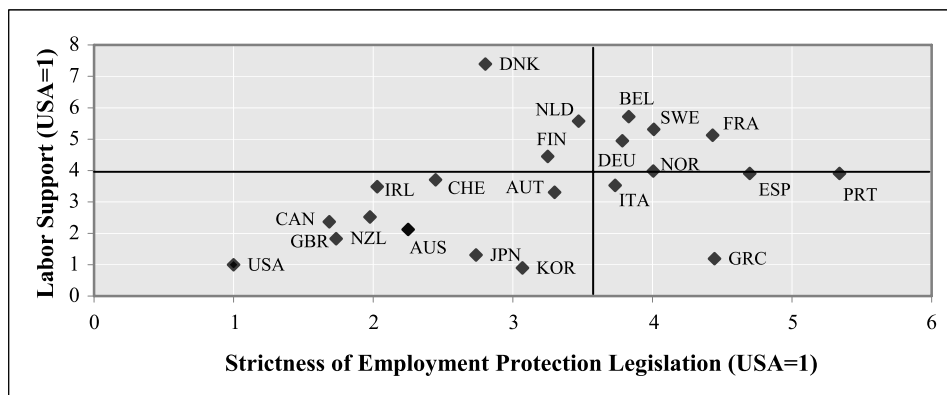


Figure 2. Strictness of employment protection legislation versus labor support in OECD countries, 2003. (Indexes, USA=1).

Source: Own calculations. Data: OECD Employment Outlook 2004, OECD Social Expenditures and OECD Tax-Benefit Models.

NB: The Strictness of Employment Legislation Index has been calculated indexing the USA=1, i.e. dividing the values of all other countries by the U.S. value. Higher values indicate stricter regulation on hiring and firing. Labor support is an index (using equal weights) composed of the indexed (USA=1) Active Labor Market Expenditures (as % of GDP) as well as the indexed (USA=1) Gross Unemployment Replacement Rate. Higher values indicate a higher security level. Gross Unemployment Replacement Rate: The OECD summary measure is defined as the average of the gross unemployment benefit replacement rates for two earnings levels, three family situations and three durations of unemployment.

and Sweden have more strict employment protections in place than Denmark, the Netherlands or Finland. These latter constitute the 'Flexicurity model.' They are countries with relatively flexible labor markets and high levels of worker support.

Japan has always been difficult to categorize in these schemes because although the state supports only low levels of labor market and social protection, the private sector had traditionally supported long-term employment security. We would propose an 'East Asian model' including Japan and Korea, who both have greater employment protection than those in the Anglo-Saxon group in Figure 2. It would seem that the traditional role for the private sector in Japan has given way to a great extent, as seen by the increase to European levels of Japanese long-term unemployment and involuntary part-time employment.

Denmark and the United States represent polar opposites in terms of the political response to economic insecurity. The Danish flexicurity model has attracted a lot of attention because of Denmark's superior performance in trade and employment and the unusual combination of policies, with flexibility in terms of hiring and firing and strong social protection for those seeking employment, including a high level of unemployment benefits and considerable levels of spending on active labor market programs.¹⁶ Moreover, Denmark greatly exceeds the other countries in terms of pension benefits relative to lifetime earnings.

Over the past 20 years, the US has experienced a dramatic shift in the burden of risk, from government to the households themselves. This has resulted from a combination of more volatile household income and an increase in health insurance costs, a greater reliance on private (as opposed to public) pensions and a continuation of policies of low levels of unemployment benefits. Hacker (2006) describes these political changes as 'the great risk shift'.¹⁷

As an indication of the changes in the US, Table 3 shows union density in our sample countries since 1980, with Denmark remaining at very high levels and the US experiencing by far the greatest decline. The UK, following a similar model is second in the extent of decline of unionization, but remained still in 2001 at a much higher level than the US. France's low rate of unionization would seem to be deceptive, since bargaining coverage of union agreements has remained very broad.¹⁸ The US also stands out in the area of health insurance. The US, alone among our sample countries in not having universal health insurance coverage, had 47 million people uninsured in 2005, reflecting a steady increase in the number and percentage uninsured since the late 1980s. With legislation signed by President Obama in 2010, 31 million of these will be insured by 2020.

Table 3. Union members as share of total labor force (in %), selected countries.

	1980	1991	2001
Denmark	59.8	60.5	63.4
France	14.0	7.8	8.0
Germany	29.2	30.2	19.2
Japan	21.9	19.1	16.6
United Kingdom	43.4	30.2	26.2
United States	18.3	12.9	11.2

Source: Own illustration. Data: OECD Trade Union Statistics, based on administrative data except for United Kingdom 2001 and United States 1991 and 2001 (survey data).

4. The new wave of globalization

While economic insecurity has increased in the industrialized world, the international trading environment has simultaneously changed over the past 20 years. From a historical perspective, this period constitutes a new wave of globalization. In 1950, imports from low-income countries (in total imports) were especially high in countries with colonial ties, such as France, the UK, and the US, but also in Germany. The shares declined in the four countries between 1950–91, but showed considerable positive growth after 1991 (see Milberg and Winkler 2009). This new wave of globalization reflects political, economic and technological changes that have together encouraged more international trade and foreign investment, altered the structure of trade, and changed the relation between trade and foreign direct investment (see Section 5.1).

Countries have become more open to trade and they have relied increasingly on sophisticated global value chains, as companies in industrialized countries went offshore to perform both manufacturing and services to focus on ‘core competencies’ related to marketing, finance, R&D and design. This shift is reflected both in the general growth in trade openness and in particular by the growth in intermediate goods imports and goods imports from low-income developing countries. All six countries under study increased their trade share. The US and the UK experienced a severe worsening of their current account balances, while Germany’s improved markedly (see Table 4).

The input–output measures of offshoring for Germany, the UK and the US (not reported here, but see Milberg and Winkler 2009, and Campa and Goldberg 1997), show that materials and services offshoring, measured as amount of imported inputs in total non-energy inputs, rose through the 1990s, with materials offshoring accounting for almost 30% of input use in the UK, 23% in Germany and over 17% in the US. In the cases of Germany and the US, these levels reflect slow but steady growth in the reliance on imported inputs of goods, growing about 50% over the ten-year period considered. For services, the level of imported inputs is much lower, but the rates of growth are generally much higher than for materials offshoring. As a number of recent studies indicate, services offshoring is likely to continue to expand more rapidly than that of materials in the years to come. These recent increases in offshoring are not new, but in fact continue a trend from the 1980s.

Rather than adopting the standard input–output measure of materials offshoring, which captures only intermediate materials, we use a broader measure that also includes final goods shipments from low-income countries. Specifically, we measure goods offshoring intensity in two ways:

$$OSG_{it}^{LIC} = (\text{Goods Imports})_{it}^{LIC} / (\text{Good Imports})_{it}^{total} \quad (1a)$$

$$OSG_{it}^{DEV} = (\text{Goods Imports})_{it}^{DEV} / (\text{Good Imports})_{it}^{total} \quad (1b)$$

Equation (1a) measures the share of goods imports from low-income developing countries (LIC) in country i ’s total goods imports at time t , while equation (1b) represents the share of goods imports from all developing (DEV) countries in a country’s total goods imports. Low-income developing countries, such as China or

Table 4. Trade and offshoring, selected countries, 1991–2005/06.

Measure		Denmark	France	Germany	Japan	United Kingdom	United States
(Exports plus Imports)/GDP	1991	71.7%	44.2%	51.9%	18.5%	47.1%	20.5%
	2005	92.8%	53.0%	76.7%	27.3%	56.5%	26.9%
	CAGR	1.9%	1.3%	2.8%	2.8%	1.3%	2.0%
Balance of goods (in % of GDP)	1991	2.5%	-1.4%	0.8%	2.3%	-2.7%	-1.5%
	2005	3.2%	-2.0%	7.2%	1.7%	-6.0%	-6.6%
Balance of services (in % of GDP)	1991	2.8%	1.3%	-1.4%	-1.2%	0.7%	0.7%
	2005	1.1%*	0.5%	-1.7%	-0.5%	1.9%	0.5%
Goods offshoring intensity (Narrow Measure)	1991	2.9%	3.8%	4.1%	14.9%	3.0%	8.6%
	2006	6.5%	6.3%	8.2%	29.1%	8.2%	23.1%
	CAGR	5.4%	3.4%	4.7%	4.5%	7.0%	6.8%
Goods offshoring intensity (Broad Measure)	1991	9.0%	15.2%	14.6%	49.3%	14.1%	40.1%
	2006	13.1%	16.4%	17.0%	68.2%	22.8%	54.1%
	CAGR	2.5%	0.5%	1.0%	2.2%	3.3%	2.0%
Services offshoring intensity (Narrow Measure)	1991	23.1%	13.0%	20.0%	29.2%	13.7%	10.4%
	2006	20.0%	28.0%	26.1%	24.3%	22.6%	18.6%
	CAGR	-1.0%	5.2%	1.8%	-1.2%	3.4%	4.0%
Services offshoring intensity (Broad Measure)	1991	23.1%	24.7%	22.1%	31.6%	17.7%	18.6%
	2006	22.3%	33.4%	31.6%	27.0%	32.9%	22.6%
	CAGR	-0.2%	2.0%	2.4%	-1.0%	4.2%	1.3%

Source: Own calculations. Data: OECD International Trade by Commodity Statistics, IMF Balance of Payments Statistics, UNCTAD Handbook of Statistics.

*2004 data for Denmark.

NB: See text for offshoring variable definitions.

India, are used as destination countries for offshoring in order to cut production costs, which is well captured by the narrow measure of goods offshoring in equation (1a).

We see in Table 4 that Japan and the US now rely heavily on goods imports from low-income developing countries (29% and 23% respectively). While the European countries are at much lower levels, all countries have seen more than a doubling of the share of their imports coming from low-income developing countries since 1991 (see CAGR). However, offshore destinations also include developing countries with a higher income level, such as Mexico, Brazil or South Africa. Thus, the broad measure of goods offshoring shows that developing country imports constitute over half of total imports by Japan (68%) and the US (54%), while the European countries range from 23% in the UK to only 13% in Denmark.¹⁹

Since services import data by regions are not available for our relevant time period, we cannot derive similar measures as for goods offshoring. We use the following measure of services offshoring intensity:

$$OSG_{it}^{narrow} = (\text{Services Imports})_{it}^{narrow} / (\text{Services Imports})_{it}^{total} \quad (2a)$$

$$OSS_{it}^{broad} = (\text{Services Imports})_{it}^{broad} / (\text{Services Imports})_{it}^{total} \quad (2b)$$

Equation (2a) is defined as country i 's import share of 'computer and information services' plus 'other business services' in total services imports at time t . Equation (2b) additionally takes 'communication services' and 'financial services' into account. In Table 4 we see that Japan and Denmark saw a small decline in services offshoring between 1991 and 2006, while the other countries experienced compound annual growth rates of services offshoring of between 1.3% and 5.2%.

China's export growth to the industrialized countries has been especially remarkable over the past ten years, reaching 10% of total OECD imports in 2005, and continuing to grow since then. In 2006, the US ran a \$235 billion deficit with China, based on imports of \$287 billion and exports of \$52 billion. Most of these imports were demanded directly by US corporations, such as Wal-Mart, Nike and Mattel and a number of apparel, electronics and automotive companies.²⁰ About 25% of US imports from China are 'related party' imports, meaning they are between parties with at least a 5% common ownership interest. Those without affiliates in China often order from large Chinese contract manufacturers or from vendors who subcontract to Chinese firms. In the electronics sector, Chinese production is dominated by foreign investors from Asia.

5. Connections between globalization and economic insecurity

5.1. Economic insecurity resulting from foreign trade and investment

In this section we give an overview of the connections between the new wave of globalization and economic insecurity in order to test our hypothesis that institutional context matters in this connection. The broad picture of globalization described in the previous section immediately leads to predictions about worker welfare. Corporate strategies, aided by new information technologies, have raised the payoff to international offshoring. Geopolitics has also promoted this particular globalization process. The collapse of the Soviet Union and of communist governments throughout Eastern Europe and East Asia, the capitalist turn of communist China's economic plan, and even the opening and liberalization of India's economy, have all served to expand global productive capacity, international trade, foreign investment and international subcontracting.

Freeman (2007) has characterized these developments as 'the great doubling' of the world capitalist system's labor force as it had added 1.3 billion people to the pool of labor seeking work under competitive conditions. Such a labor supply expansion alone, Freeman argues, is enough to dampen wage growth in the rest of the world, including the industrialized countries. Glyn (2007, 1) puts an even finer point on this, noting that '[i]ncreasing opportunities for capital to shift production overseas has given a huge bargaining advantage to employers in most of the OECD'.

When such a labor supply 'shock' occurs in a period of slower demand growth compared with the 'Golden Age' period of 1950–73, the effect on labor markets around the world is likely to be significant. Indeed, one of the lessons of the comparison between the Golden Age and the post-Golden Age is that both the reality and perception of economic insecurity resulting from international trade and investment is lower during periods of more robust macroeconomic expansion, as unemployment and its duration are less and replacement wages of displaced and rehired workers are higher, as will be shown below.

In the face of these broad trends, economic research has nonetheless focused narrowly on the skills-bias of labor demand shifts induced by trade liberalization. The

unambiguous result from the dozens of studies of OECD countries is that offshoring is associated with higher employment for high-skill workers, lower employment for low-skill workers and an increase in the relative wages of skilled workers.²¹ Some studies focus on the contribution of trade versus technological change in the rise in the relative wage (and share of labor income) of high-skill workers, with estimates of the role of trade ranging from 15% to 75%.

Trade and technological change are connected, and increasingly so as global supply chains developed. Already in 1995, Adrian Wood wrote that ‘the pace and direction of technical change may be influenced by trade ... So, however one looks at it, trade and new technology are intertwined: no story that excludes one or the other of them is likely to be the whole story’ (Wood 1995, 62). Studies of the overall employment effect of offshoring give conflicting results, with the work of Amiti and Wei (2004, 2005, 2006) giving generally positive conclusions, while the work of Winkler (2009) on Germany and OECD (2007b) on a cross-OECD sample find employment negatively affected.

The most recent studies indicate that offshoring may no longer have such a skills bias in its impact on labor demand. Blinder’s (2007) estimate of impersonal services offshoring likely to occur in the next decade in the US cuts across skill levels. And Geishecker (2008) finds that employment duration and thus economic security is negatively affected by offshoring in Germany across all skill levels. Winkler (2009) reports that the effect of services offshoring in Germany was negative for the relative demand for high-skill German labor for the period 1995–2004.

Another measure of the insecurity from trade is the replacement of earnings for those displaced by import competition. Kletzer (2001) has done the most extensive analysis of the re-employment rate and replacement wage for workers displaced as the result of foreign trade. In a study of the US from 1979–99 she found that earnings losses of job dislocation are large and persistent over time. Specifically, she found that 64.8% of manufacturing workers displaced from 1979–99 and one-quarter of those re-employed suffered earnings declines of greater than 30%. Workers displaced from non-manufacturing sectors did a little better: 69% found reemployment, and 21% suffered pay cuts of 30% or more.

OECD (2005) did a similar study for 14 European countries for 1994–2001 and found that while re-employment rates in Europe were lower than in the US, a much lower share had earnings losses more than 30% upon re-employment and a slightly higher share had no earnings loss or were earning more than before displacement, further evidence that labor market institutions and policies result in different outcomes with respect to insecurity even in the face of similar pressures on vulnerability.

In addition to labor demand shifts and job displacement, greater openness to international trade would also raise the sensitivity of labor demand (the wage elasticity of labor demand) to changes in domestic or foreign wages. This increased sensitivity of employment to both domestic and foreign wage movements is enhanced as global supply chains become more developed and offshoring increases. According to Anderson and Gascon (2007, 2), ‘disaggregating the value chain has allowed U.S. business to substitute cheaper foreign labor, increasing firms’ own price elasticity of demand for labor, raising the volatility of wages and employment, which increase worker insecurity’.

There have been very few estimates of the relation between trade openness and the wage elasticity of labor demand. Slaughter (2001) studied US manufacturers in the period 1960–91 and found that the labor demand elasticity rose for US

production workers (a proxy for lower-skill workers) and not for non-production workers over this period. The demand for production workers increased most in those sectors with the greatest increases in offshoring, as well as those with more technical change in the form of more computer-related investment. Scheve and Slaughter (2003) found that FDI is the key aspect of globalization that raises the elasticity of labor demand. In a study of outward FDI by UK firms, they found that higher FDI is associated with a higher labor demand elasticity, and more volatility of wages and employment.

The higher elasticity of labor demand can have an indirect effect on wage formation, since it enhances the threat effect, whereby the mere threat by companies to move production overseas influences wage demands. As Freeman (1995, 21) notes, '[i]t isn't even necessary that the West import the toys. The threat to import them or to move plants to less-developed countries to produce toys may suffice to force low-skilled westerners to take a cut in pay to maintain employment. In this situation, the open economy can cause lower pay for low-skilled westerners even without trade.'

A few researchers have explored the importance of firms' threats to move production abroad on the bargaining power and demands of labor. The issue had received considerable attention by theorists, but has undergone little empirical analysis. Bronfenbrenner and Luce (2004), studying the US between 1993 and 1999, focus more narrowly on unionization campaigns as opposed to wages. They find that a firm's mobility did raise the credibility of the threat to move production offshore and that this influenced union election, with unionization drives having a much lower rate of success in firms with a credible threat of mobility than in those considered immobile. Choi (2001) looked at detailed outward foreign direct investment by US manufacturers and found that increased outward FDI was associated with lower wage premia for union members during the period 1983–96.

5.2. *Offshoring and the labor share: regression results*

Substituting lower-cost intermediate goods and services imports for higher-cost, domestic inputs can raise firms' markup over costs as well as the economy-wide profit share of national income. Consequently, the labor share, defined as 1 minus the profit share, is expected to fall. Define the markup as $m = (p - c)/c$, where p is price and c are variable costs. If we reduce these costs to labor costs, then we can rewrite the markup, $m = (p - wa)/wa$, where w represents the wage and a is the labor coefficient. Equivalently, we can write $p = (1 + m)wa$. Since the pre-tax profit share r is defined as $r = (p - wa)/p$, this implies that $r = ((1 + m)wa - wa)/((1 + m)wa) = m/(1 + m)$. In this formulation we see that an increase in the markup yields an increase in the profit share, since $dr / dm = 1/(1 + m)^2 > 0$.

In this section we estimate a traditional model of the labor share and integrate offshoring into the model. Our estimations focus on the relation between offshoring and the labor share of national income for 22 OECD-countries between 1991 and 2006.²² By breaking the sample into two groups of countries with different labor market institutions and two different time periods, we are able to better assess the contingent nature of the relation between offshoring and the labor share, that is the extent to which institutions mediate between economic exposure and economic insecurity.

A number of studies have confirmed the role of offshoring in the change in the distribution of income between labor and capital, but none have considered the role of

labor market support policies on this relation. Milberg and Winkler (2009) find that offshoring intensity is positively associated with sectoral profit shares in the US over the period 1998–2006. A number of recent papers have taken up the question of trade and the profit share at the aggregate level. Harrison (2002) studies the relation between trade openness and the functional distribution across a large number of countries and find (contrary to the prediction of Heckscher–Ohlin theory) that openness is generally associated with a lower labor share of national income. Harrison concludes that ‘rising trade shares and exchange rate crises reduce labor’s share, while capital controls and government spending increase labor’s share’.

A study by the IMF (2005) finds that offshoring is a small, but nonetheless negative and significant factor in the determination of the labor share of income for a group of OECD countries. In this same study, three aspects of globalization (related to prices, offshoring and immigration) are combined to play a large role in explaining the declining labor share. A study by Ellis and Smith (2007) finds no connection between openness and the profit share, but links the rising profit share to increased ‘churning’ in the labor market. While the authors attribute this to technological change, it seems likely that such a churning effect might vary depending on labor market institutions.

We adopt Bentolila and Saint-Paul’s (2003) model of the labor share, which assumes CES technology, yielding the following expression for the labor share of income:

$$S^L = \frac{(1-\alpha)(B \cdot L)^\gamma}{\alpha(A \cdot K)^\gamma + (1-\alpha)(B \cdot L)^\gamma} = 1 - \alpha(A \cdot k)^\gamma \quad (3)$$

where K and L denote capital and labor, while A , B and γ represent technological parameters. Capital intensity k , i.e. the capital-output ratio, is defined as:

$$k = \left(\frac{K^\gamma}{\alpha(A \cdot K)^\gamma + (1-\alpha)(B \cdot L)^\gamma} \right)^{1/\gamma} \quad (4)$$

The capital share is defined analogously, and thus

$$S^K + S^L = 1 \quad (5)$$

Bentolila and Saint-Paul (2003) identify two sources of deviation from the relationship in equation (3): (1) capital-augmenting technological-progress induced changes, for example by import price fluctuations; and (2) divergence between wages and productivity, brought on, for example, by a shift in labor bargaining power. This leaves four explanatory variables in the model: technological progress A , capital intensity k , import prices MP and labor bargaining power. Taking logarithms we obtain:

$$\ln S_{it}^L = \beta_0 + \beta_1 \ln A_{it} + \beta_2 \ln k_{it} + \beta_3 \ln MP_{it} + \beta_4 \ln UND_{it} \quad (6)$$

where i designates countries and t the time dimension.

The labor share is measured as a country’s compensation of employees in GDP, or wL/Y , where w denotes the wage rate and Y the income. The technology parameter in the model is captured with labor productivity LP_{it} , measured as GDP per employee

(Y/L). Over 1991–2006, labor productivity has grown fairly constantly in our sample countries. Thus, the labor share will grow only if nominal wage increases exceed labor productivity growth. Capital intensity is obtained by dividing a country's total capital stock by GDP. Import prices MP_{it} are captured by using goods and services offshoring intensities as inverse proxies for the prices of imported goods and services, i.e. a higher intensity reflects lower imported goods and service prices. We adopt union density UND_{it} as a proxy for labor bargaining power, which measures the percentage of union affiliation in total employment.

This gives the following equation for estimation:

$$\begin{aligned} \ln S_{it}^L = & \beta_0 + \beta_1 \ln LP_{it} + \beta_2 \ln k_{it} + \beta_3 \ln OSG_{it} + \beta_4 \ln OSS_{it} \\ & + \beta_5 \ln UND_{it} + D_t + \varepsilon_{it} \end{aligned} \quad (7)$$

where β_0 denotes the constant, D_t year fixed effects, such as common shocks influencing all sectors, and ε_{it} the idiosyncratic error term. Detailed data description can be found in Appendix 1. The development of the offshoring intensities and the labor share variables are shown in Appendix 2.

To capture the differential effect of offshoring by institutional regime we split the sample of 22 OECD countries into two groups, depending on their values for the Labor Support Index (see Figure 2), and then estimated the labor share model separately for the two groups. 'Non-supportive states' include the Anglo-Saxon countries plus Japan, Switzerland and Austria and the Mediterranean countries. The 'supportive states' consist of the Flexicurity and Rhineland countries. Iceland, which is not shown in Figure 2, is characterized by a labor support index similar to Canada and is thus classified as non-supportive.²³ There are 14 non-supportive countries and eight supportive countries. This dichotomy obviously does not capture the institutional variety described in Section 3. Here we are constrained by the small sample size, and thus reduce our breakdown to two groups based on labor market support. We used the narrow measure of offshoring OSG_{it}^{LIC} and OSS_{it}^{narrow} (as defined as in equations (1a) and (2a)) to reflect cost-oriented offshoring, which has gained in importance over the last few years. We decided to split our sample into equally long time series (1991–1998 and 1999–2006) to take into account the low number of cross-sections as well as changes in corporate strategy.

Table 5 shows the results of the consistent fixed-effects estimator which allows unobserved time-constant sector-specific effects c_i to be correlated with some explanatory variables x_{it} . All estimations produce standard errors robust to both heteroscedasticity (Huber-White sandwich estimators) and any form of intra-cluster correlation. We report instantaneous effects (column 1) and instantaneous plus lagged effects (column 2). The third specification is based on the p -values of the second specification. Between 1991 and 1998, the non-supportive countries show a negative and significant effect of goods and services offshoring on the labor share. Labor productivity has a significantly negative effect, capital intensity has a slight overall negative effect, while the overall effect of union density is ambiguous.

For the sample of supportive states, however, goods offshoring has a slightly positive overall impact, being significant in column 5, while services offshoring shows a significantly positive effect in column 6. The effect of labor productivity is insignificant. Capital intensity now shows an overall significantly positive effect (columns 5 and 6), whereas the overall effect of union density now turns significantly positive (columns 5 and 6). In sum, we find that the relation between offshoring and

Table 5. Labor share in OECD countries, 1991–2006, different levels of state support.

		Dependent variable: $\ln S^L_{it}$											
		Fixed effects estimator											
		1991–1998						1999–2006					
		Non-supportive labor markets			Supportive labor markets			Non-supportive labor markets			Supportive labor markets		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\ln LP_t$		-0.5944*** (0.001)	-0.0379 (0.838)	-0.5815** (0.014)	-0.6129*** (0.001)	-0.7248 (0.118)	0.0676 (0.782)	0.1287 (0.318)	-0.1329 (0.734)	0.1839* (0.061)	0.2982 (0.267)	0.1453 (0.554)	-0.4482 (0.245)
$\ln LP_{t-1}$		0.5735** (0.018)	0.6148*** (0.000)	0.6148*** (0.000)	-0.0669 (0.665)	1.4554*** (0.000)	1.4275*** (0.000)	0.4321*** (0.006)	0.4708** (0.032)	0.4291** (0.011)	0.3200 (0.333)	0.1475 (0.711)	0.1176 (0.629)
$\ln k_t$		-0.5659** (0.020)	-0.6304*** (0.001)	-0.6304*** (0.001)	-1.2909*** (0.000)	-1.2578*** (0.000)	-1.2578*** (0.000)	0.0497* (0.067)	-0.1655 (0.483)	0.0300* (0.079)	-0.0163 (0.757)	0.0919* (0.076)	0.1018* (0.085)
$\ln OSG_t$		0.0267 (0.400)	-0.0572 (0.109)	-0.0417 (0.217)	-0.0306 (0.219)	0.0196* (0.088)	0.0116 (0.234)	0.0629* (0.057)	-0.0148 (0.487)	0.0454*** (0.003)	0.0407 (0.315)	0.0019 (0.969)	0.0073 (0.859)
$\ln OSS_t$		-0.0221** (0.016)	-0.0085 (0.263)	-0.0316** (0.017)	0.0131 (0.423)	0.0082 (0.616)	0.0216** (0.033)	0.0408* (0.056)	0.0408* (0.056)	0.0455*** (0.003)	0.0407 (0.315)	0.0019 (0.969)	0.0073 (0.859)
$\ln OSS_{t-1}$		0.0168 (0.713)	-0.0820 (0.101)	0.0066 (0.922)	0.0138 (0.805)	0.1245 (0.503)	0.0693** (0.024)	-0.0688 (0.514)	0.0198 (0.313)	0.0408* (0.056)	0.0407 (0.315)	0.0019 (0.969)	0.0073 (0.859)
$\ln UND_t$		0.0755 (0.179)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)
$\ln UND_{t-1}$		0.0755 (0.179)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	-0.0529 (0.714)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)	0.2815** (0.036)

Table 5. (Continued).

		Dependent variable: $\ln S^L_{it}$											
		Fixed effects estimator						1999–2006					
		1991–1998			1999–2006			Non-supportive labor markets			Supportive labor markets		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fixed year effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Joint significance:													
$\ln LP_t + \ln LP_{t-1} = 0$			$p > F = 0.0018$			$p > F = 0.3831$			$p > F = 0.6792$			$p > F = 0.1884$	
$\ln k_t + \ln k_{t-1} = 0$			$p > F = 0.0506$	$p > F = 0.0010$		$p > F = 0.0001$	$p > F = 0.0000$		$p > F = 0.0688$			$p > F = 0.8644$	
$\ln OSS_t + \ln OSS_{t-1} = 0$			$p > F = 0.2406$			$p > F = 0.2081$			$p > F = 0.1248$			$p > F = 0.0455$	
$\ln OSS_t + \ln OSS_{t-2} = 0$			$p > F = 0.1094$			$p > F = 0.4203$			$p > F = 0.0080$			$p > F = 0.9581$	
$\ln UND_t + \ln UND_{t-1} = 0$			$p > F = 0.1740$			$p > F = 0.2019$			$p > F = 0.0734$	$p > F = 0.0671$		$p > F = 0.0413$	$p > F = 0.0053$
AIC		-578.7	-536.7	-533.8	-326.3	-368.4	-360.8	-594.8	-551.9	-539.0	-322.6	-318.8	-318.3
Observations		112	98	98	64	56	56	112	98	98	64	56	56
R-squared (within)		0.55	0.67	0.65	0.64	0.90	0.88	0.30	0.48	0.40	0.50	0.67	0.67

Source: Own calculations. $p^* < 0.1$, $p^{**} < 0.05$, $p^{***} < 0.001$ (p -values in parentheses).

NB: S^L = labor share, LP = labor productivity, k = capital intensity, OSS = goods offshoring intensity, OSS = services offshoring intensity and UND = union density.

the labor share is negative over 1991–1998 in non-supportive labor markets, while it is positive in supportive countries.

Columns 7 to 12 show the estimation results for the period 1999 to 2006. In non-supportive countries, goods and services offshoring now has a significantly positive effect on the labor share. Labor productivity now influences the labor share positively, which is significant in column 9, suggesting that the ‘wage effect’ dominates the ‘productivity effect’. Interestingly, union density now shows a significantly negative overall effect on the labor share. Capital intensity affects the labor share positively, which is significant.

In supportive labor markets, the overall effect of goods offshoring is also significantly positive, but larger than in non-supportive countries (columns 11 and 12). The impact of services offshoring, labor productivity and capital intensity, however, are insignificant. The overall effect of union density on the labor share is positive and insignificant (see joint significance tests in columns 11 and 12) and strongly increased compared with the period 1991–98.

Although the results for supportive labor markets over the period 1999–2006 are less significant, the results suggest that goods offshoring had a larger positive effect in supportive countries than in non-supportive countries in the later period. This was not the case with services offshoring, however. Union density has a negative impact in non-supportive countries, while its effect is positive in supportive labor markets, both increasing over time.

6. Beyond the slump: sustaining economic security in a globalized economy

We have shown that the new wave of globalization has raised worker insecurity in many industrialized countries. But vulnerability does not translate directly into economic insecurity. This depends on household efforts to reduce the risk of sudden loss and on national policies to absorb such risks. Different industrialized countries have implemented very different sets of policies, and we have identified five models.

On one extreme are the US and other Anglo-Saxon economies with lax hiring and firing regulations, low unemployment benefits, and very limited spending on active labor market policies. On the other extreme is the Rhineland model including France and Germany, who have relatively high levels of employment protection, large unemployment benefits and significant spending on active labor market programs. Denmark (and a few other countries) seem to have found an effective combination of the two, comprising labor market flexibility with high replacement income programs for the unemployed and extensive active labor market programs. France and Germany have moved toward flexicurity, but are still quite a distance from a Danish-type system.

Our econometric analysis focused on the effect of offshoring on the labor share of national income across the OECD. We defined a fall in the labor share as an indicator of heightened economic insecurity. We found offshoring had a negative effect on the labor share in the period 1991–98 and a positive effect during 1998–2006. Our focus, however, has been on the mitigating role of labor market institutions on this general outcome. We found that for those countries providing more labor market support in the form of greater spending on active labor market policies and higher earnings replacement rates in unemployment benefits, offshoring had a smaller negative effect in the first period and a larger positive effect in the more recent period.

These institutional differences affect the distribution of the static gains from trade liberalization. But the key to capturing the dynamic gains from offshoring lies in the

need to ensure that profits from offshoring are reinvested.²⁴ The problem is that while profits and profit shares have increased in many countries, this has generally not translated into higher rates of investment. Figure 3 shows that as the rate of investment out of GDP has fallen in major industrialized countries since the late 1970s, the rate of investment in China has soared. That is, the macroeconomic effects of offshoring – the growth in profits and the profit share – must be re-channeled away from financial assets and towards the domestic reinvestment of efficiency gains from offshoring in new capacity and employment, in product and process innovation, and in skills development. That will depend in part on a rapid economic recovery.

The decline in investment spending in the corporate sector is tied to the shift in corporate strategy that occurred during the 1980s as the revolution in the assertion of shareholder rights took hold in the US and subsequently elsewhere. Pressure on management was to ‘downsize’ the corporation and ‘distribute’ profits at a greater pace back to shareholders. This process – sometimes described as the ‘financialization of the non-financial corporate sector’ – was supported by the possibility of moving operations abroad through foreign direct investment or arm’s-length subcontracting. By focusing increasingly on ‘core competence’ and contracting out (both domestically and internationally) the remainder of the operation, corporate managers were able to reduce domestic investment needs and meet shareholder demands for improvements in shareholder value.

Stockhammer (2004) documents a marked increase in the share of non-financial corporations’ value added going to interest and dividends since the late 1970s in the US, UK, France and Germany, and he finds this measure of financialization to be associated with reduced business investment. The financialization of the non-financial corporate sector is particularly strong in the US, where Orhangazi (2008), in a detailed, firm-level econometric analysis, finds a strong negative relation between financialization and investment.

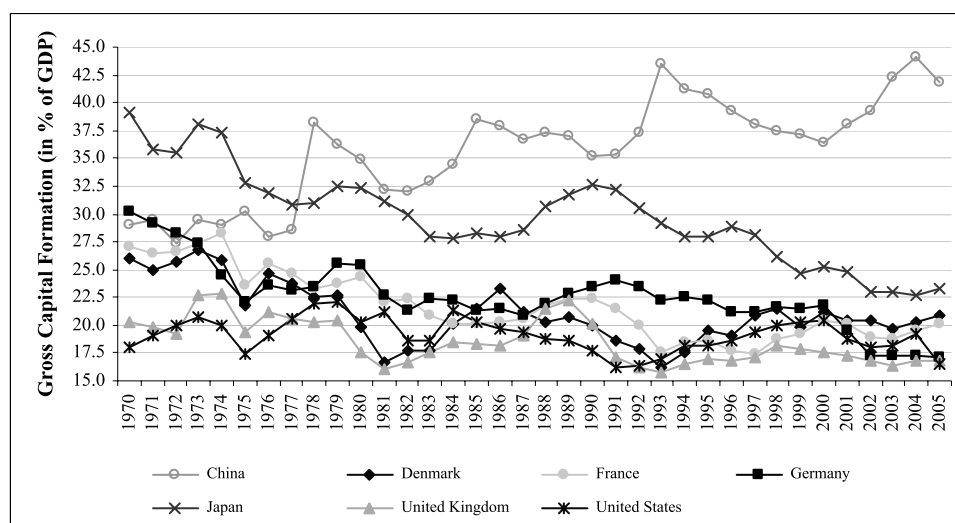


Figure 3. Gross capital formation (in % of GDP), 1970–2005, selected countries.

Source: Own illustration. Data: UN DESA Statistics Division, Retrieved from: UNCTAD GlobStat Database.

The full gains from offshoring will require not only domestic reinvestment of efficiency gains, but also that the financial system in the advanced countries, including the incentives it creates for non-financial corporations, will have to be reformed so that any renewed flow of credit doesn't simply ignite another asset-led boom. That will mean banks getting back to the business of securing people's savings, following prudent credit assessment in line with borrowers' expected income flows and building stable networks and levels of trust with business – both large and small – which can support more socially productive investment opportunities.

If one goal of policy reform in advanced capitalism in the recent crisis was the reduction of economic insecurity, then it will also have to include the expansion of social and labor market protections in many countries that will allow globalization to continue while economic insecurity is kept under control. Denmark has successfully raised economic security in that country despite globalization pressures. US labor market flexibility combined with relatively meager social protections in the context of rapid growth of imports from developing countries has contributed to an unprecedented rise in income inequality and economic insecurity. The provision of a solid and portable set of social protection does not reduce a nation's trade competitiveness and in fact may raise it as increased worker security leads to greater possibilities for innovation and rapid productivity growth.²⁵

More than 50 years ago, Polanyi (1942) identified the 'double movement' of the state in capitalist economies, which tend to veer first toward free markets and then, as the inequities and insecurities created by market forces grow, move toward greater state intervention as a response to the growing inequities and insecurities that inevitably arise under free markets. Polanyi focused on two aspects of liberalism in the 20th century: finance and international exchange. These remain the pressure points of the current economic crisis. We have argued that trade and financialization are connected and, moreover, that the heightened economic insecurity calls not only for greater oversight of finance, but a rebuilding of domestic labor market protections and the domestic reinvestment of efficiency gains.

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Notes

1. See Hacker (2006) and Gosselin (2008).
2. See Galbraith (2008).
3. See Levy (2005). Blinder (2007) sees offshoring of services as the source of a 'new industrial revolution'. Serfati (2008) and Grossman and Rossi-Hansberg (2006) deem that the situation calls for a new paradigm for international trade analysis.
4. See, for example, Geishecker (2008) and Winkler (2009).
5. For a review of the econometric evidence on offshoring and labor demand, see Milberg and Winkler (2009). Regarding the possible future expansion of services offshoring in the US, see Blinder (2007).
6. See Howell (2005, Table 3.2).
7. We have used 1991 as a starting point in much of the analysis so that German data reflect unification.

8. Figures can be found in Milberg and Winkler (2009).
9. See the introduction in Howell (2005).
10. See Glynn (2007).
11. For details, see Howell and Okatenko (2010).
12. Barbosa et al. (2007) find that the deterioration in the US current account between 1995 and 2003 closely tracks the rise in health care spending by Americans. This indicates that Americans were not so obviously on a whimsical buying spree, as is so often claimed, but instead were trying to retain spending in the face of stagnant real wages and rapidly rising costs of health care.
13. See Hall and Soskice (2001) and Esping-Anderson (1990).
14. See, for example, Boeri (2002) and Hancke et al. (2007).
15. See Esping-Anderson (1990).
16. See, for example, Gazier (2006), Clasen (2007) and Kuttner (2008).
17. See also Gosselin (2008).
18. See Howell and Okatenko (2010).
19. The relevant economic groupings of developing countries according to the UNCTAD can be found here: http://www.unctad.org/sections/stats/docs/gds_csirb_c&td-2-9_en.pdf.
20. See Scott (2007) on Wal-Mart's US imports from China and their employment effects in the US.
21. For a full summary of the econometrics literature, see Milberg and Winkler (2009).
22. The new OECD-member countries Czech Republic, Hungary, Mexico, Poland, Slovak Republic and Turkey are excluded from the analysis. Luxembourg and South Korea are not included due to missing data.
23. Since no EPL index is reported for Iceland, we relied on the Rigidity of Employment Index from the World Bank 'Doing Business' database, which ranks Iceland in the middle of the OECD-countries (similar to Austria). Thus, Iceland rather belongs to the Anglo-Saxon model.
24. See Milberg and Winkler (2010, chapter 3) for a classical analysis of the dynamic gains from offshoring.
25. See Milberg and Houston (2005) for evidence from OECD countries for 1978–95.

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Appendices

Appendix 1. Data description

Our regression includes a cross-section of 22 OECD-countries and covers the period 1991–2006. The calculation of all four offshoring measures is based on import data from the UNCTAD GlobStat Database. We use the ‘International merchandise trade by region’ dataset to calculate *goods offshoring intensities*, which is based on UN DESA Comtrade and IMF Direction of Trade statistics databases. *Services offshoring intensities* rely on data from the ‘International trade in services’ dataset, which in turn is based on the IMF Balance of Payments Statistics and other international and national sources.

The *labor share* is calculated as compensation of employees in GDP, based on the GDP income approach of the OECD National Accounts database. *Labor productivity* is measured as GDP (in constant prices and constant PPP using the OECD base year) per person employed. *Capital intensities* are obtained by dividing the total economy’s capital stock, available from the OECD Economic Outlook, by GDP. Iceland, Norway, and Switzerland only reported capital stock data of the private sector.

Union density, defined as the number of union members in total employment, is based on the OECD Labor Force Statistics. We used the Groningen Growth and Development Center Total Economy Database to update missing employment data for the US. Since union membership data are incomplete from 2002 on, we extrapolated the data based on the compound annual growth rate of the previous years.

Appendix 2. Labor share and offshoring, 1991 and 2006

	Labor Share						Goods Offshoring Intensity						Services Offshoring Intensity						
	1991			2006			Narrow Measure			Wide Measure			Narrow Measure			Wide Measure			
	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR
Australia	49.7%	47.9%	-0.2%	8.4%	22.7%	6.9%	26.0%	48.7%	4.3%	19.2%	11.7%	24.4%	-3.3%	24.4%	15.1%	-3.2%			
Austria	53.3%	48.6%	-0.6%	2.5%	3.3%	1.8%	8.8%	7.8%	-0.8%	32.1%	24.1%	33.5%	-1.9%	33.5%	29.4%	-0.9%			
Belgium	51.9%	49.9%	-0.3%	3.3%	6.7%	4.8%	10.3%	14.3%	2.2%	31.8%	29.5%	38.2%	-0.5%	38.2%	39.0%	0.1%			
Canada	55.3%	51.2%	-0.5%	2.6%	11.1%	10.1%	11.9%	24.9%	5.0%	16.7%	20.6%	22.9%	1.4%	22.9%	27.2%	1.2%			
Denmark	54.0%	52.9%	-0.1%	2.9%	6.5%	5.4%	9.0%	13.1%	2.5%	23.1%	20.0%	23.1%	-1.0%	23.1%	22.3%	-0.2%			
Finland	57.4%	48.3%	-1.1%	2.4%	6.4%	6.7%	9.2%	11.8%	1.7%	30.2%	30.2%	35.2%	0.0%	35.2%	34.7%	-0.1%			
France	51.9%	51.8%	0.0%	3.8%	6.3%	3.4%	15.2%	16.4%	0.5%	13.0%	28.0%	24.7%	5.2%	24.7%	33.4%	2.0%			
Germany	55.1%	49.5%	-0.7%	4.1%	8.2%	4.7%	14.6%	17.0%	1.0%	20.0%	26.1%	22.1%	1.8%	22.1%	31.6%	2.4%			
Greece	32.2%	33.4%	0.3%	2.2%	5.6%	6.4%	15.7%	24.9%	3.1%	18.8%	11.7%	18.8%	-3.1%	18.8%	14.7%	-1.6%			
Iceland	49.2%	57.5%	1.0%	0.8%	6.1%	14.8%	4.3%	11.7%	6.9%	12.4%	21.5%	14.6%	3.7%	14.6%	24.0%	3.4%			
Ireland	46.9%	40.9%	-0.9%	2.0%	4.2%	5.0%	6.7%	13.5%	4.8%	40.7%	42.6%	49.9%	0.3%	40.7%	49.9%	1.4%			
Italy	44.9%	41.1%	-0.6%	3.4%	8.4%	6.3%	17.9%	25.8%	2.5%	26.4%	32.2%	37.4%	1.3%	32.4%	37.4%	1.0%			
Japan	52.7%	51.6%	-0.1%	14.9%	29.1%	4.5%	49.3%	68.2%	2.2%	29.2%	24.3%	27.0%	-1.2%	31.6%	27.0%	-1.0%			
Netherlands	52.5%	49.0%	-0.4%	3.3%	12.6%	9.3%	14.4%	29.3%	4.9%	27.5%	41.1%	46.9%	2.7%	29.2%	46.9%	3.2%			
New Zealand	44.4%	44.7%	0.0%	3.4%	16.6%	11.2%	19.9%	39.3%	4.7%	27.4%	19.3%	27.4%	-2.3%	27.4%	22.8%	-1.2%			
Norway	48.0%	40.8%	-1.1%	2.8%	6.9%	6.2%	10.6%	15.4%	2.5%	19.7%	22.7%	23.1%	0.9%	23.1%	26.4%	0.9%			
Portugal	51.3%	50.0%	-0.2%	4.5%	5.1%	0.8%	15.0%	17.1%	0.9%	3.0%	21.8%	14.1%	6.6%	6.6%	28.1%	10.1%			
Spain	50.1%	47.2%	-0.4%	5.0%	9.4%	4.3%	19.9%	26.7%	2.0%	20.0%	34.0%	22.9%	3.6%	22.9%	42.1%	4.1%			
Sweden	57.3%	53.7%	-0.4%	2.4%	4.9%	4.9%	10.2%	10.5%	0.2%	12.4%	40.3%	14.4%	8.2%	14.4%	47.5%	8.3%			
Switzerland	62.0%	62.1%	0.0%	1.6%	3.8%	6.0%	7.7%	10.5%	2.1%	7.8%	34.6%	14.0%	10.4%	14.0%	41.8%	7.6%			

Appendix 2. (Continued).

	Goods Offshoring Intensity						Services Offshoring Intensity								
	Labor Share			Narrow Measure			Wide Measure			Narrow Measure			Wide Measure		
	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR	1991	2006	CAGR
United Kingdom	56.9%	55.5%	-0.2%	3.0%	8.2%	7.0%	14.1%	22.8%	3.3%	13.7%	22.6%	3.4%	17.7%	32.9%	4.2%
United States	58.0%	56.7%	-0.1%	8.6%	23.1%	6.8%	40.1%	54.1%	2.0%	10.4%	18.6%	4.0%	18.6%	22.6%	1.3%

Source: Own calculations. Data: OECD National Accounts database, UNCTAD GlobStat Database.

Variables: labor share = compensation of employees in GDP; narrow goods offshoring intensity = goods imports from low-income developing countries in total goods imports; wide goods offshoring intensity = goods imports from developing countries in total goods imports; narrow services offshoring intensity = imports of 'computer and information services' and 'other business services' in total services imports; wide services offshoring intensity = imports of 'computer and information services', 'other business services', 'communication services' and 'financial services' in total services imports.