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Towards global competition: catalysts and constraints

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TOWARDS GLOBAL COMPETITION: CATALYSTS AND CONSTRAINTS

by

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Abstract

The ongoing process of globalization, which is boosted by technological and political catalysts as well, increasingly raises public concerns. It is feared that international integration will be accompanied by national disintegration, since the income distribution in rich countries will become less uniform. Moreover, policy-makers become aware of the fact that global competition also encompasses their realm, because it constrains the scope for independent national policies. However, they should refrain from restricting global competition by protectionistic measures, because substantial gains from globalization for the world economy in general and terms-of-trade improvements for industrial countries in particular are at stake.

When the turn of a century approaches, perceptions of the future tend to become gloomy. At the turn to the 21st century, one of the gloomy catchwords is "globalization", which is associated with concerns and sorrows about economic prospects of highly developed countries. It is feared that they will not be able to withstand the storms of global competition which will eventually destroy the wage gap against poor countries and will raze social standards to the ground all around the globe. "One world, ready or not", is the title of a best-selling book, and many observers are concerned that people are not ready yet.

It is the basic message of this paper that the public debate strongly overrates the risks of globalization and almost completely ignores its opportunities. Most of the concerns raised today against globalization could similarly have been raised against the expansion of international trade in the 1960s. Import competition in those days was also threatening domestic jobs and put labor-intensive and standardized industries in advanced economies under strain. In retrospective, however, the sixties appear as the "golden age", when an increased international division of labor opened up rich export opportunities, created numerous new jobs, and fostered economic growth and welfare in all open, internationally oriented economies. There is good reason to believe that the current wave of globalization will once also be regarded as a period of rich opportunities which will eventually lift all boats.

The structure of the paper is as follows: part I analyzes the concept of globalization in the context of the theory of international economics, part II analyzes the driving forces for a more integrated world economy, part III discusses the constraints of globalization, part IV presents some evidence on the potential gains from globalization and concludes.

Paper prepared for the Conference "21st Century Dynamics: Anatomy of a Long Boom", held by the OECD in Frankfurt, December 2-3, 1998.

I. Visions of an Integrated World Economy

No doubt, globalization is an increasingly fashionable term. If one looks up the titles of publications which contain the word "globalization" (or: globalisation) at the library of the Kiel Institute of World Economics, one will find not more than 36 entries for the year 1990. For the year 1997, the number of entries increases to 212, which is equivalent to a growth rate of 30 per cent per year.

There is still no unequivocal definition of what globalization means and what it does not mean. For some observers, it describes the tremendous increase of trade and capital flows in the recent past, for others it is a catchword for the ubiquitous availability of all kind of information, for the emergence of world-wide production networks, or for the assimilation of life-styles in the global village. All these perceptions have in common that globalization raises the level of integration in the world economy.

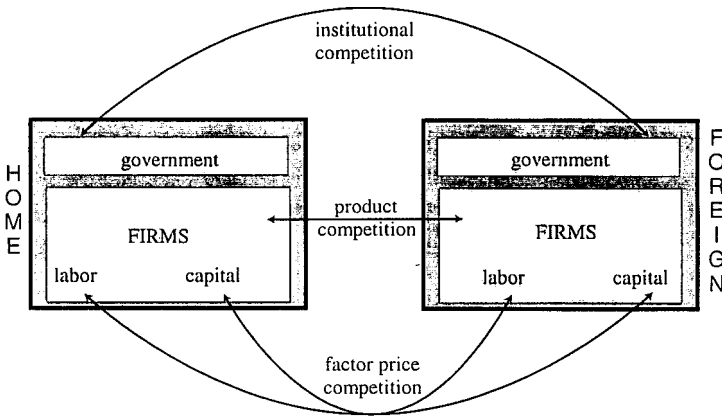
As the suffix "zation" points out, globalization describes a process, not a state of affairs. From an economist's point of view, globalization can be defined as the process of converting separate national economies into an integrated world economy. This conversion is basically achieved through three channels:

- The first channel is international trade, which is still the basic and most important link between national economies.
- The second channel is international factor movements, which are mainly confined to capital flows, whereas the international mobility of workers is still rather low.
- The third channel is the international diffusion of technology, which is only partly a by-product of international flows of goods and capital and increasingly rests upon intangible cross-border flows of information.

The immediate result of globalization is an increase of competitive pressures in virtually all areas of the economy. Figure 1 illustrates the main features of a

world economy where national borders have lost their significance and where global competition is prevalent. It is based upon a simple model with two countries, two production factors (capital and labor), and an independent government in each country. Production factors are employed by firms which compete with each other in the domestic market and with foreign firms in world markets.

Figure 1 — Basic Elements of Global Competition



As a result of *product competition*, it can be expected that there will remain no substantial differences in product prices between the two countries. Standard models of trade theory tell us that this equalization of product prices will be sufficient for equalising also real wages and interest rates. However, this factor price equalization theorem rests upon a number of restrictive assumptions which are not very realistic. For instance, it assumes the complete absence of any transport costs or other types of trade barriers. And, more important, it postulates identical technologies all over the world.¹ In the real world, where shipping goods across long distances is costly and where some countries are

¹ Gottfried Haberler (1955) even argued that the factor price equalization theorem actually proves the opposite of what it claims to prove because its assumptions are much too restrictive for ever being fulfilled.

technologically ahead of others, it can be expected that international trade will tend to level factor prices, but will not succeed in completely eliminating any international factor price differentials.

Remaining factor price differentials are the stimulus for international factor flows which give rise to international *factor price competition*. If capital is free to move across national borders, international interest rates will differ only with respect to different risk premiums, but not with respect to the capital endowment of countries. Real wages in rich countries will not benefit any longer from a better equipment with physical capital, because capital will flow to those places where the rate of return is highest. If capital mobility is supplemented by unrestrained international flows of technology, factor price equalization will also apply to real wage levels, even if international mobility of labor is low. Under such conditions, international wage differentials will only be sustainable if they reflect corresponding differences in the qualification of the labor force or in the general economic conditions within the respective countries.

In former centuries, when governments were small and unimportant and nature was a much more important production factor than today, general economic conditions mainly depended on geographical features, i.e. on climate, the quality of soil, or the availability of ports and navigable rivers. Nowadays, the economic capacity of locations much more depends on institutional settings which are largely under the influence of governments. Among these settings are the quality of communication infrastructure, the level and structure of taxes, the validity of legal protection, the intensity of social conflicts, and the stability and convertibility of the national currency. If countries want to attract internationally mobile production factors, their governments have to engage in an institutional competition with foreign governments. In a perfectly integrated world economy, where distance costs have completely vanished, the relative wage level of regions exclusively depends upon the relative performance of governments in *institutional competition*.

The major result of globalization is the extension of competition from the level of firms to the level of governments. The position of governments in global competition can be compared to landlords of hotels who have to attract mobile guests. If the service offered is poor or too expensive, guests will pass by and the landlord will have to improve the service or to lower the price. Equivalent⁴, internationally mobile investors will choose locations with either low costs and poor infrastructure or with high costs and excellent infrastructure, but will surely avoid locations with high costs and poor infrastructure. This type of competition, which is labelled as "institutional competition" in Figure 1, can also be referred to as "locational competition" (which is a poor, although the best available translation of the German term "Standortwettbewerb"), because it is concerned with the relative attractiveness of business locations for internationally mobile factors.

All in all, it can be expected that all types of global competition will increase aggregate welfare: product competition will enrich consumption opportunities and will erase productive inefficiencies; factor price competition will improve capacity utilization and will avoid allocative distortions; and institutional competition will eliminate excessive and inefficient government activities. The vision of an integrated world economy promises substantial "gains from globalization" which basically result from the deepening of the international division of labor. Hence, the pessimistic perceptions of globalization in the public are not shared by the internationally oriented economists.

II. Catalysts of Globalization

1. Factors driving globalization

A whole string of tendencies can be observed in the world economy, causing a reduction of market segmentations and an increasing interdependence of world markets. Globalization is driven by the following factors:

Transport and communication costs have fallen significantly in recent decades. That is true for the traditional costs of covering distances by sea and air (which have been reduced to approximately one fifth since the twenties and thirties respectively) as well as for the costs of telecommunication. For instance, a three minute telephone call from New York to London in 1930 cost 250 U.S.-\$ (in constant prices from 1990), in 1950 still 50 U.S.-\$, and in 1990 still 3.32 U.S.-\$; the price for processing information fell from 1 U.S.-\$ per instruction per second in 1975 to one cent in 1994 (World Bank 1995, p. 45). The costs of using satellites have also fallen dramatically.

In information technology, the world experiences a revolution. The "web" represents a world wide information network. In 1998, 180 million internet stations provided a worldwide network; it will be half a billion in 2002.

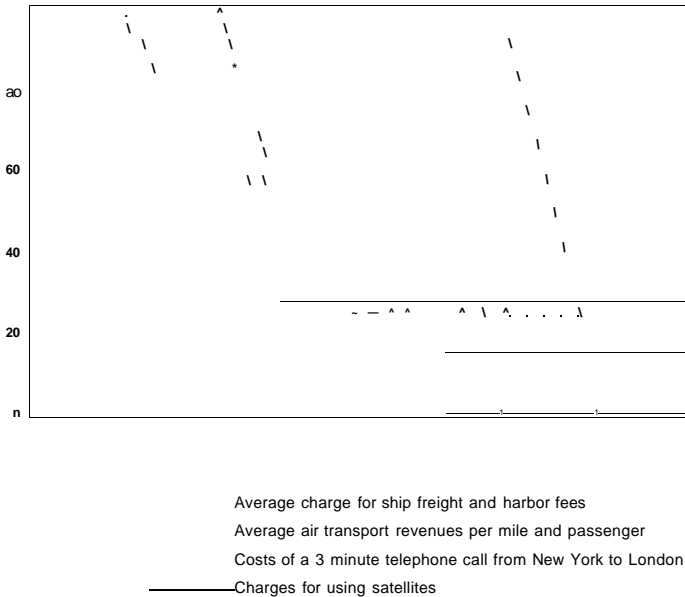
The reduction of political tensions (e.g. Cold War, Apartheid in South Africa), regional efforts towards integration, for example in Europe, and the strengthening of multilateral trade agreements also have eliminated impediments to trade.

The radical change in the former centrally-planned economies of Central and Eastern Europe and the opening of China has brought important regions of the world into the international division of labor. Taking India into account, a historical process is taking place, in which more than 40 per cent of the world's population is integrated into the world economy. This implies that the limitation of the size of markets, which was a possible barrier for the extension of the international division of labor in the past, will be less important in the future.

- Most developing and newly industrializing countries have changed their strategies for development and foreign trade and are now much more open. 44 countries have joined GATT/WTO from 1986 to 1998. As of 1998, 31 countries want to become members of the WTO.
- Apart from measures which explicitly restrict trade, national regulations are increasingly reviewed. They are continuously adjusted in the process of institutional competition, thus resulting in less impediments as well.

The decline of transport and communication costs over the past decades is illustrated in Figure 2. The "death of distance" (Cairncross, 1997) facilitates the establishment and monitoring of international production networks, enlarges trading areas, and enables firms to exploit international cost differentials by the fragmentation and relocation of production and global sourcing.

Figure 2 — Costs of Transport and Communication



Source: World Bank (1995, p. 62).

At present, the integration into a global world of information is much easier for rich countries than for poor ones. In rich countries like the United States or Singapore the availability of information and communication equipment is significantly superior than in poor countries such as China or India (Table 1). As the relative prices of these appliances are declining, however, it can be ex-

Table 1 — Information and Communication Equipment per 100 Inhabitants by Income Groups of Countries, 1995

GNP per head	PCs	Telephones	TV sets
low: < \$ 726	0.3	2.0	12.9
middle: \$ 726 - \$2895	1.1	9.1	20.5
upper: \$ 2896 - \$8955	3.3	14.5	26.3
high: > \$ 8955	20.5	53.2	61.2

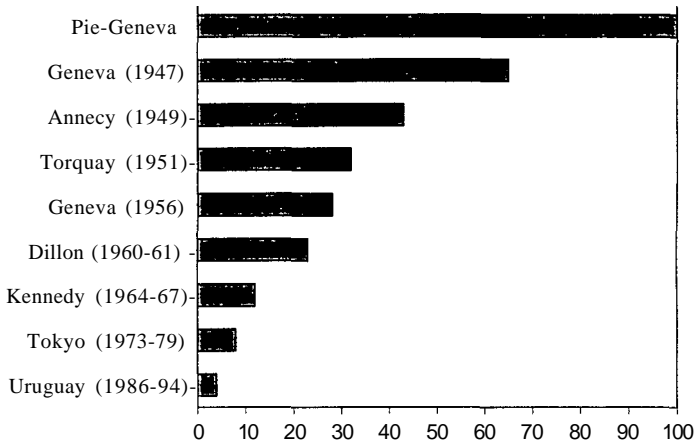
Source: Cairncross (1997, p. 22).

pected that the connection of poor countries to the world pool of information will considerably improve in the near future.

The technological engines of globalization are supported and complemented by political engines such as the above mentioned transition from centrally planned to market economies, the liberalization approaches of several developing countries, and the international negotiations about trade and investment barriers in the GATT/WTO framework. The significance of declining trade barriers is illustrated in Figure 3 which describes the development of average tariff rates for the United States since the 1940s. By and large, the tariff rates of other industrial countries are similar, whereas the tariff rates of developing countries are in general at a higher level. Over time, however, also the tariff rates of developing countries are substantially declining.

Of course, the international trading system is still far away from free trade in several areas, notably in agriculture, textiles, and clothings. And severe problems will have to be solved before international trade in services will really become free. Nevertheless, there should be no doubt that trade liberalization has significantly contributed to the integration of the world economy over the past decades.

Figure 3 — Weighted Average U.S. Tariff Rate After GATT-Rounds (Pre-Geneva = 100)



Source: Bhagwati (1989); own calculations.

2. Indicators of a more integrated world economy

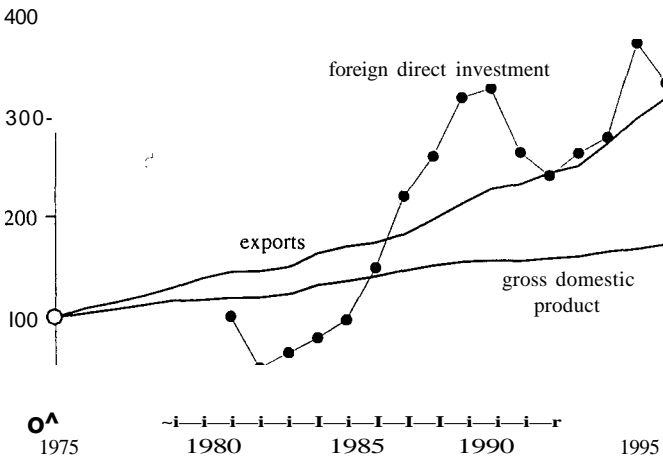
As globalization is a complex phenomenon, there is no universal indicator which would undoubtedly reveal the distance of the real world from the perfectly integrated world economy. The degree of integration between national economies cannot be measured directly. Hence, one has to rely upon indirect measures which inevitably give room for different measurement concepts and alternative economic interpretations.

A rather simple, although highly instructive indicator of globalization is provided by the growth rates of world output and world trade. By and large, the volume of international trade grows twice as fast as the volume of world output. This development suggests that the international division of labor is deepening and the world economy becomes increasingly integrated (WTO, 1998). A similar development can be observed for the OECD where gross domestic product at

constant prices rose by 60 per cent since the mid 1970s, whereas exports rose by 160 per cent (Figure 4). This, however, can be observed not only in the last thirty years, but since the end of World War II. Apparently, the gap between export growth and GDP growth has further enlarged in the recent past, which points to an increase in the speed of globalization. Of course, this indicator covers only one aspect of globalization — namely the integration of the world economy via international trade in goods.

As mentioned above, the second major channel of globalization are international flows of capital. Their importance can be assessed by the development of foreign direct investment (FDI), which is directly concerned with the emergence of international production networks. Unfortunately, the available statistics do not provide any information about FDI in real terms. Some authors simply compare the development of nominal FDI to the development of real output, which is obviously misleading because meaningful indicators of globalization should

Figure 4 — Gross Domestic Product, Exports, and Foreign Direct Investment of OECD Countries (at constant prices; 1975 = 100)



Source: OECD; own calculations.

be calculated either completely in nominal terms or completely in real terms. In order to avoid inflationary distortions, the FDI data in Figure 4 were deflated by the implicit price index of gross domestic product of OECD countries.² According to these calculations, the importance of international investment flows diminished in the early 1980s and strongly recovered thereafter. All in all, FDI expenditures are apparently much less stable than exports and output. Two distinct waves of globalization via FDI can be identified, which peaked around 1990 and 1995. Over the whole period since 1975, the expansion of FDI corresponds to the expansion of exports, which indicates that international capital flows can indeed be regarded as the second major channel of globalization.³

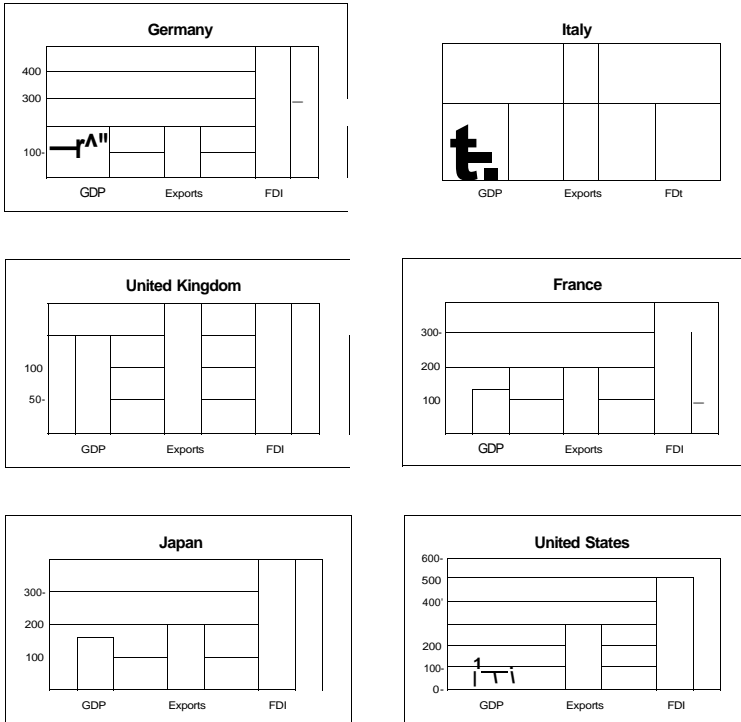
Among the larger OECD countries, FDI dominated in Germany, France, Japan, and the United States, whereas in Italy and in the United Kingdom globalization was mainly driven by exports (Figure 5). On the other hand, it should be kept in mind that the international integration of production networks cannot only be achieved by outward FDI (which is presented in Figure 5), but also by inward FDI which is especially important for the United Kingdom. With respect to the elimination of international factor price differentials, outflows and inflows of foreign investment are working into the same direction.

Figures 4 and 5 look at investment capital and ignore international flows of financial capital which have reached impressive levels in recent years. According to the Bank for International Settlement, international currency transactions (which are only a fraction of international financial transactions) account for 1490 billion U.S.-\$ per day in 1998, which is an increase of 26 per cent against 1995 and an increase of 150 per cent against 1989 (NZZ, October 19, 1998, p. 10). Nevertheless, there are still reasonable doubts whether the world capital markets can really be regarded as perfectly integrated.

² Moreover, FDI figures from 1975 to 1980 had to be estimated by aggregate data for the whole 1970s. For an alternative picture based on IMF data compare Figure 2.2 in Siebert (1997b).

³ For a detailed analysis of the structure and determinants of foreign direct investment see Klodt (1998).

Figure 5— Increase in Gross Domestic Product, Exports, and Foreign Direct Investment of Selected Countries 1981-1996 (at constant prices; 1981 =100)



These doubts were originally raised by Martin Feldstein and Charles Horioka, who argued that a perfectly integrated world capital market could be regarded as a financial pool where savers put their money in and investors take their money out — irrespective of the national origin of savings and investment. Under such conditions, there should be no systematic relationship between the savings ratio and the investment ratio of a country, because a high propensity to save would only by accident go hand in hand with rich and promising investment opportunities.

However, Feldstein and Horioka (1980) found a rather stable relationship between the savings and the investment ratio across countries. This observation, which became known as the Feldstein-Horioka-Puzzle, was confirmed in several other studies. Moreover, Mark Taylor (1996) found that international capital mobility among the G7 countries was even higher in the late 19th century than in the 1970s and 1980s and only slightly lower than in the 1990s.

There are several objections to these findings which cannot be discussed at length in this paper. For instance, the argument of Taylor ignores that international capital mobility today covers many more countries than in the past century. And more important, it covers countries with much larger differences in their wage rates and technological levels, which gives more room for exploiting international cost and productivity differentials by relocations of capital. With respect to the Feldstein-Horioka-argument, the basic objection is that countries may be affected by external shocks which influence savings and investment behavior into the same direction. Therefore, a parallel development of national savings and investment ratios does not necessarily reflect a segmentation of national capital markets. Nevertheless, most observers agree that the Feldstein-Horioka-coefficients at least contain some relevant information about the integration of world capital markets.

More recent studies have revealed that the correlation between savings and investment ratios is still significant, but declining overtime (Table 2).⁴ Hence, it can be argued that world capital markets are still far from being perfectly integrated. But integration obviously proceeds which implies that globalization via transborder flows of capital is an ongoing process which will probably continue in the future. The underlying reasons of this development are discussed in the following section.

⁴ In a perfectly integrated world capital market, the coefficient p in Table 2 should be zero, whereas it should be unity in case of completely segmented national capital markets.

Table 2 — Feldstein-Horika Coefficients for OECD-Countries

Regression: $(I/Y) = a + p (S/Y)$,		
Period	P	t-value
1960-69	0.86	14.3
1970-79	0.77	7.0
1980-89	0.63	6.3
1990-93	0.61	6.8

Source: Bayoumi (1998).

III. Constraints of Globalization

The driving forces of globalization — technological reduction of distance costs and removal of artificial economic barriers between countries — have surely not reached an end yet. It can be expected that the trend towards the integrated world economy will steam ahead in the years to come. It should be kept in mind, however, that history has never been and will never be a one-way road. The success of globalization will breed its own constraints which may slow down, if not reverse world economic integration. The process will also encounter other constraints.

More Redistribution and an Expansion of Welfare State?

Resistance against further globalization can be expected especially from those groups which fear that they will be among the losers. In highly developed countries the main losers are low-qualified workers, because they are increasingly exposed to direct and indirect factor price competition from low-wage countries. There is still an ongoing debate among economists about the relative importance of globalization for the income and employment opportunities of skilled and less skilled workers, but there is no doubt that the integration of China, Eastern Europe and other labor-rich regions into the world economy will put the wage levels in Western industrial countries under strain. In a globalized world

high wages can only be earned if they correspond to the qualification level of workers.

In the United States, the United Kingdom, and to some extent also in Japan the national labor markets have reacted to the increased adjustment pressure from global competition by an increase of wage differentials (Table 3). In continental Europe, by contrast, wage dispersion remained constant or even declined. In consequence, low-qualified workers had to face a severe deterioration of their employment opportunities in those countries. The inadequate and inflexible adjustment to global competition can be regarded as a major determinant of rising structural unemployment in continental Europe (cf. Siebert, 1997a).⁵

Table 3 — Wage Dispersion Between Different Income Decils^a Across Countries

Country	D5/D1		D9/D5	
	1979	1995	1979	1995
United States	1.84	2.13	1.73	2.04
Japan	1.71	1.63	1.76	1.85
Western Germany ³	1.65	1.44	1.63	1.61
France ^c	1.67	1.65	1.94	1.99
United Kingdom	1.69	1.81	1.65	1.87
Italy ^d	1.96	1.75	1.50	1.60

^aD 1: lowest income decil; D9: second-highest income decil. — ^b1983 to 1993. — ^c1994 instead of 1995. — ^d1993 instead of 1995.

Source: OECD (1996).

⁵ For the European Union as a whole unemployment reached a level of 12.6 per cent for low-qualified workers, of 8.6 per cent for medium-qualified workers, and of 5.9 per cent for high-qualified workers in 1996 (EUROSTAT, 1997).

drie strategy with which the potential losers of globalization can try to minimize their adjustment costs is that they may call for redistribution from gainers to losers in order to participate in the aggregate welfare gains from globalization. In principle, this strategy meets open arms in the European approach to economic policy, for instance in the concept of the "Social Market Economy" in which social insurance helps to accommodate structural change. It is therefore not surprising that, as Dani Rodrik observed, open economies tend to spend more on social security and redistributive policies than less open economies. In his view, "the social welfare state is the flip side of the open economy" (Rodrik, 1997, p. 53).

The potential for compensating the losers of globalization by an extended social policy are limited, however, because institutional competition restricts the power of governments to raise taxes for financing such policies. Rodrik may be right in concluding that the demand for redistributive policies will rise, but he ignores that the supply of redistribution will decline. Politicians will increasingly face the dilemma that rising claims for redistribution will be accompanied by shrinking tax revenues. The social security systems in Europe are under severe pressure anyhow because they create severe distortions in the labor market (tax wedge) and because with an aging population these systems are running the risk of not being sustainable. The scope for redistribution is limited; an increase in the welfare state is unlikely; instead, the industrial countries in Europe are faced with the choice which income risks (in case of unemployment) are relatively small so that each individual can carry them out of his own economic capacity and which risks are so large for the individual that society has to take over these risks (Siebert 1998a).

The transfer system of the European Union (structural funds, common agricultural policy) can be interpreted as an attempt to make structural adjustment more acceptable. With the monetary union, the political demand for transfers can be expected to rise. With the EU budget being limited to 1.12 percent of the EU-GDP, there is a severe hurdle for an extension of transfers which would eat away the efficiency gains that are expected from the single market.

A Return of the Trade Unions?

The increased pressure on the labor market could end up in stronger trade unions. This, however, is unlikely. Trade unions have seen an erosion of their power in the US, the UK and a loss of membership in the continental European countries, for instance in Germany. New production processes in teams with more responsibility of the individual worker, the higher level of human capital required, the decline of industrial-type jobs and the rise of the new jobs in information technology and in the service sector in general — all these tendencies make it more difficult for trade unions to organize members. The most important aspect, however, is that trade union policy will affect investment including foreign direct investment; the capital stock, however, influences labor productivity and thus the potential for real wages and employment. The attempt to europeanize wage policy will not be a way out for the trade unions.

Capacity of the Political System to Solve Problems

Another serious constraint of mature economies is whether the political decision making system is able to cope with larger shocks or reversal of economic trends that prevailed for some decades. Japan, being used to high growth rates until the early nineties, seems to be a case in point. One may get the impression that Japan's political system has lost its capacity to solve economic problems. Is that also true for the three major continental countries in Europe — Italy, France and Germany? Like Japan these countries are based on consensus, and not unlike Japan, they seem to be able less and less to solve major issues such as high unemployment and the necessary reform of the social insurance system.

A Revival of Protectionism?

Under such circumstances, it must be expected that politicians will increasingly rely upon another strategy, i.e. the establishment of protectionistic barriers against global competition. Such barriers can be arranged in various forms: for instance as tariffs, non-tariff trade barriers, capital controls, Tobin taxes, social and green standards, etc. It seems necessary, therefore, to have a careful eye upon the development of protectionistic policies in the future.

In the area of trade-related instruments, the imposition of anti-dumping actions is one of the most important protectionist measures. In the 1990s, the significance of these measures has strongly increased (Table 4). It would perhaps be misguided to interpret the data of Table 4 as the beginning of protectionistic struggles against global competition, but the large increase in the number of actions per year should at least be taken as a first warning signal.

Table 4 — Anti-Dumping Actions by Region

Countries initiating actions	Average actions per year ^a	
	1985-90	1990-96
North America	56.8	62.7
Western Europe	28.2	30.7
Australia/New Zealand	33.6	47.5
Latin America	5.6	38.5
Asia	1.4	7.8
Other	0.0	12.6
Total	125.6	199.8

^aYears run from 1/7 to 30/6.

Source: Calculated from Spinanger (1997, Table 2).

A second warning signal results from the calculations of Table 5, where the share of intra-bloc trade is provided for different trading blocs. Except for the EU, intra-bloc trade has gained importance both in exports and imports.⁶ The numbers are not dramatic, but they may well indicate that governments start to look for ways of escaping from global competition and the associated adjustment pains in the integrated world economy.

⁶ For the EU, no reliable data could be calculated for the year 1990, because the completion of the internal market in 1992 brought about substantial changes in trade statistics. Since 1993, the statistical coverage of intra-EU trade is much lower than before. Therefore, a comparison of intra-bloc shares of 1990 and 1996 would make no sense.

Table 5 — Share of Intra-Regional in Total Trade Flows^a (per cent)

Trading bloc	No. of participating countries	Exports		Imports	
		1990	1996	1990	1996
APEC	18	69.1	73.0	67.0	70.9
EU	15	62.5 ^b	62.2	62.1 ^b	64.0
NAFTA	3	42.7	47.5	34.4	39.2
ASEAN	7	19.5	24.7	15.9	19.3
MERCOSUR	4	8.9	22.6	14.5	20.0

^aWithout associated members. — ^b1993.

Source: WTO (1997, Vol. II, p. 7).

Harmonizing Social Norms

In the public debate, harmonizing social norms is proposed as another strategy. The starting point of this position is that social protection should not stop at national borders, but should also apply to those countries where the imports of advanced countries come from. The logic behind this approach is that employers in developing countries would be forced to improve their working conditions if they otherwise obtained no access to the markets of developed countries. However, this logic is fallacious for different reasons:

- Firstly, from an employer's point of view social standards are just another form of non-wage labor costs. They can only be increased at the expense of the wage level. As the demand for social protection is income-elastic, rich countries should refrain from imposing their conceptions about social security upon poorer countries which probably prefer higher wages instead of higher social standards.
- Secondly, social standards in international trade may cause substitution effects between the international sector and the domestic sector in developing countries. For instance, if advanced countries ban the import of

"" goods which are produced with child labor, children would probably be driven into local industries where working conditions may be even worse.

In many cases, the demand for social standards in international trade is not motivated by solidarity with exploited workers in poor countries, but basically aims at sheltering high-wage jobs in advanced countries from low-wage competition. The price of such a "social protection" would have to be paid by the developing countries which would face reduced opportunities of integrating into the world economy and by consumers in developed countries who would have to face higher import prices.

Reducing Financial Volatility

The financial crisis in South East Asia, the fragility of the banking sector in Japan, the crisis in Russia, the potential instability of Latin American countries like Brazil, and the increased risk aversion in the financial sector in the US have made clear that volatility in the financial sector has an impact on the real sphere of the economy. Globalization also means more globalized financial markets.

Many solutions to these issues have been discussed, but the punch line of all solutions must be that each country has to anticipate the negative impact that a financial crisis will have for its own development. Thus, countries can not rely on international efforts to help them. They have to take stability at home more seriously by applying a stricter bank regulation, by including investment banks and hedge funds in a regulatory framework, by preventing a bubble from developing, by a more stability oriented policy. "Stability begins at home" will be an important slogan for the new world economy. This, however, implies that stability constraints have to be taken into consideration early on. This will be a restraint on excessive growth; it will, however, be helpful in steering the economies to a long-run growth path.

Environmental Sustainability

Another constraint for the world economy is the environment as a sink, i.e. as a receptacle of wastes. The issue is not national environmental quality as a restraint for national development, the issue of the next century are global environmental goods.

If the evaluation of the overwhelming majority of natural scientists is taken seriously, global warming is a risk for the world; the risk has to be taken into account by a precautionary environmental policy. The systematic issue is that competing user exist for the global environment between its role as a public good for consumption and its function as a sink for greenhouse gases (Siebert 1998b). A solution requires to determine the optimal level of the global environment (the atmosphere), i.e. the quantity of greenhouse gases to be tolerated. This requires to compare the costs of reducing emissions and the benefits of an improved environmental quality, including the reduction of the risk of global warning. It also requires to signal the global scarcity to individual countries. The problem is that in determining the tolerable global quantity of emission countries can behave as a free rider. The solution also requires to allocate the total quantity of emissions to the individual countries. This allocation of property rights poses severe incentive problems including the issue of acceptance of a global treaty and the issue that an international contract among sovereign states is not reneged in the future. This presupposes that the allocation of emission rights is incentive compatible and that the increased demand for emission rights of developing countries in the process of their economic development is taken into account (Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 1998). According to the Kyoto Protocol emission reduction obligations will be defined for the 1990 level. The obligations will be tradable.

To what extent the limited capacity of the atmosphere to absorb greenhouse gases will be a restraint for economic growth is an open question. The institutional arrangement envisioned by the Kyoto Protocol and the results of the

1998-Buenos-Aires conference so far do not represent a specific restraint. Taking the impact of national environmental policy in the last twenty years as a frame of reference, environmental policy has had structural effects in reducing the competitiveness of emission-intensive sectors. By and large, environmental policy not been a severe restraint for national economic growth.

V. Gains from Globalization

From the politician's point of view, it could be argued that nothing is wrong with some protectionism which will surely slow down globalization but will restore the sovereignty of national policies and will calm down social tensions in advanced countries. From the economist's point of view, however, the advent of a protectionism era comes next to doomsday. For an economist, protectionism is the biggest avoidable cause of economic harm in the world: Firstly, open markets of rich countries are an indispensable precondition for developing countries which want to escape poverty and economic stagnation. And secondly, also the advanced countries will surely suffer severe welfare losses if the international division of labor will be repressed.

In public debate, it is the main problem for the economist that the welfare gains from globalization are almost impossible to measure. "No argument without a number" is the demanding request of politicians and of the media, but no sound and reliable number about the potential gains of an intensified international division of labor can be presented by economic analyses. Protectionists are often able to argue with concrete examples of jobs which are endangered by globalization, whereas aggregate efficiency gains resulting from intensified competition and potential new jobs evolving in a globalized world are hard to identify and to count. Due to this asymmetry between concentrated gains and widely spread losses from protection strategies for repressing global competition are often highly popular in the public.

Despite the methodological difficulties of demonstrating the potential benefits of global competition for advanced economies, some attempts shall be made to touch upon at least some of them. The first attempt is concerned with the terms-of-trade of industrial countries, i.e. with the relative development of their export prices as compared to their import prices. If this ratio rises, industrial countries are better off because they have to give in less export goods for the same amount of import goods or, equivalently, can afford higher imports at a given level of exports. The ongoing process of globalization is associated with the integration of large, labor-rich countries into the international division of labor. China alone disposes of about one fifth of the world-wide labor force, and India is not much smaller. The contribution of these and other newly integrating countries to world output is much smaller, because these countries are provided with little physical and human capital and a rather low technological level of production. Hence, it can be expected that labor-intensive goods (which are mainly imported by advanced countries) will become relatively cheap on world markets, whereas technologically sophisticated and capital intensive goods (which constitute the major export goods of advanced countries) will face increasing demand and rising prices on world markets.

As a result of these divergent price trends, the term-of-trade of advanced countries can be expected to improve in the course of globalization. This proposition is confirmed by the facts; the terms-of-trade of industrial countries have substantially improved during the past two decades (Table 6). These gains from globalization would be at stake if the world economy would fall back into protectionistic practices.

The second attempt to illustrate potential gains from globalization rests upon the experience of different countries with liberal and less liberal policies. The basis of this comparison is a pioneering study, from the World Bank (Michaely et al., 1991) where the trade policy of 31 countries in the post-war period was carefully examined and where periods of trade liberalization were identified.

Table 6 — Terms-of-Trade in International Trade

Year	Export Prices		Terms-of-Trade of Industrial Countries ⁸
	Industrial Countries	Developing Countries	
1980	100	100	1.00
1981	100	100	1.00
1982	99	94	1.05
1983	99	89	1.11
1984	98	93	1.05
1985	99	92	1.08
1986	118	91	1.30
1987	132	101	1.31
1988	140	111	1.26
1989	138	113	1.22
1990	148	115	1.29
1991	153	115	1.33
1992	160	118	1.36
1993	162	120	1.35
1994	168	122	1.38
1995	181	130	1.39

^aRatios of export prices of industrial countries to export prices of developing countries.

Source: Gundlach, Nunnenkamp (1997).

According to this study, economic growth after trade liberalization was higher than before in 23 out of 31 cases. The most prominent examples are presented in Table 7. It concentrates on the success stories of trade liberalization, but it also presents the average growth performance for all countries which clearly supports the case for free trade.

Table 7 — Annual Real GDP Growth Before and After Trade Liberalization
(per cent)

Country	Start of Trade Liberalization	Before ^a	After ^b
Brazil	1965	2.90	3.43
Chile	1974	2.30	3.74
Greece	1962	4.90	6.20
Indonesia	1996	6.13	8.95
Israel	1962	0.80	6.38
Korea	1965	5.77	10.40
Portugal	1970	5.32	6.48
Singapore	1968	1.60	4.20
Turkey	1970	2.80	6.81
Uruguay	1974	2.90	4.00
Average of 31 countries	X	4.45	5.57

^aAverage of three years up to liberalization. — ^bAverage of three years after liberalization.

Source: Maurer (1998).

These country-specific results are in line with the region-specific calculations of Stoeckel et al. (1990) which are based upon a general equilibrium model of the Centre for International Economics at the University of Canberra. The status-quo situation on world markets was compared to a scenario with completely liberalized trade on the one hand and a scenario with strong protectionism in the U.S. and the EU on the other hand. In case of completely free trade, world output would increase by about five percent, whereas a relapse into protectionism would reduce world output by three percent. Moreover, unilateral steps towards free trade either by the U.S. or by the EU would be beneficial to each region, although the welfare gains smaller than the gains from complete liberalization. Of course, the results of these simulations depend upon the specific features of the underlying model, but the calculations of Stoeckel et al. at least demonstrate that trade liberalization is not a zero-sum game.

The advanced economies would be well advised, therefore, to resist the pressure of special interest groups for protectionism and to proceed on the road towards the integrated world economy. Flexible adjustment to changing world economic conditions will probably require some painful offerings in the short run, but will eventually turn out to be beneficial to all participants. History has repeatedly demonstrated that those who try to escape from structural adjustment will not be able to preserve their Elysium, but will have to face an even harder landing when their protectionistic shelter is washed away by the relentlessly rising tide of global competition.

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