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Structural Change and Economic Performance
in the Era of Globalization:
Some Evidence from Industrial and Developing Countries

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Paper to be presented at the International Congress “Trade, Market
Opening and Development” of Gesamttextil, Berlin, September 25, 2001

I. INTRODUCTION

Globalization and trade liberalization do not appear to be highly esteemed these days. Wherever politicians or leading business figures meet, crowds of protesters are blaming globalization and trade liberalization for causing trouble in both industrial and developing countries:

- In industrial countries, unemployment, wage pressure and eroded social security are considered to be the consequence of globalization. This is said to be because mobile capital is fleeing from high-wage to low-wage countries. The markets of high-wage countries are then – so the argument goes – swept with cheap products of low-wage countries.
- At the same time, developing countries are said to be left on the sidelines when it comes to deriving benefits from globalization and trade liberalization. Consequently, developing countries would have no reasonable chance to catch up economically with industrial countries. According to its critics, globalization necessarily results in a widening income gap between industrial and developing countries.

As it seems, the protesters do not care about consistency: How can one attribute the economic problems of industrial countries to the emergence of new competitors in the Third World, if developing countries were bound to lose in the process of globalization? This inconsistency appears to be the result of easy generalizations that are unwarranted from an economist's point of view. What industrial and developing countries have in common is not that both groups suffer from globalization, but that the experience with globalization differs remarkably within both groups.

Once these differences are taken into account, the popular claim cannot be maintained that global markets have rendered national policymaking obsolete and impotent. To the contrary, economic policy matters in both industrial and developing countries. Much of the public debate misses an important link between globalization and economic performance. As argued in the following, structural change provides an explanation to the frequently ignored differences in economic performance. Policymakers in industrial **and** developing countries have the means to promote structural change and thereby derive benefits from trade liberalization and increased capital mobility.

II. MAJOR INDUSTRIAL COUNTRIES COMPARED

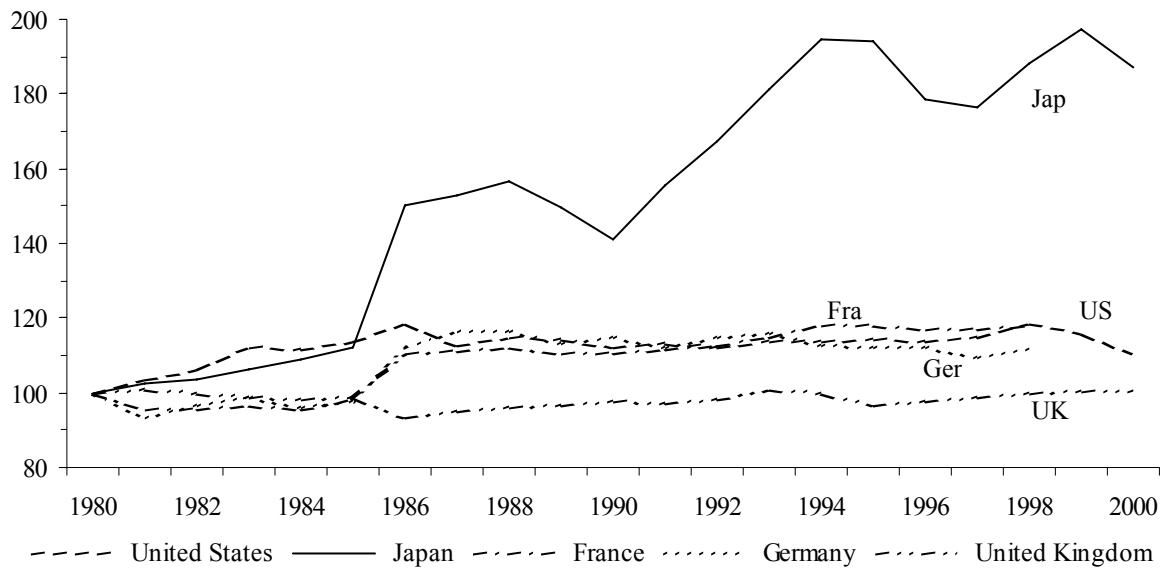
The closer integration of developing countries into the international division of labor should result in overall welfare gains for industrial countries. The terms of trade of industrial countries should improve when the worldwide supply of relatively labor-intensive goods increases. The snag is that overall welfare gains may come at the cost of distributional conflicts. The employment and income prospects of low-skilled workers in industrial countries tend to be negatively affected when low-income countries emerge as competitive suppliers.

All major industrial countries were subject to fiercer competitive pressure from low-income countries (Gundlach and Nunnenkamp 1997). Yet, overall welfare gains and labor market performance differ substantially between France, Germany, Japan, the United States and the United Kingdom:

- The United Kingdom did not benefit at all from improved terms of trade (Figure 1). Modestly rising terms of trade are reported for France, Germany and the United States. By contrast, Japan experienced a sharp rise in its terms of trade.
- Standardized unemployment in 2000 was particularly high in the two continental European countries, while it was lowest in the United States (Figure 2). The rise in Japanese unemployment started from an extremely low level in 1991. Protracted economic stagnation in Japan notwithstanding, Japanese unemployment continues to be low by French and German standards.

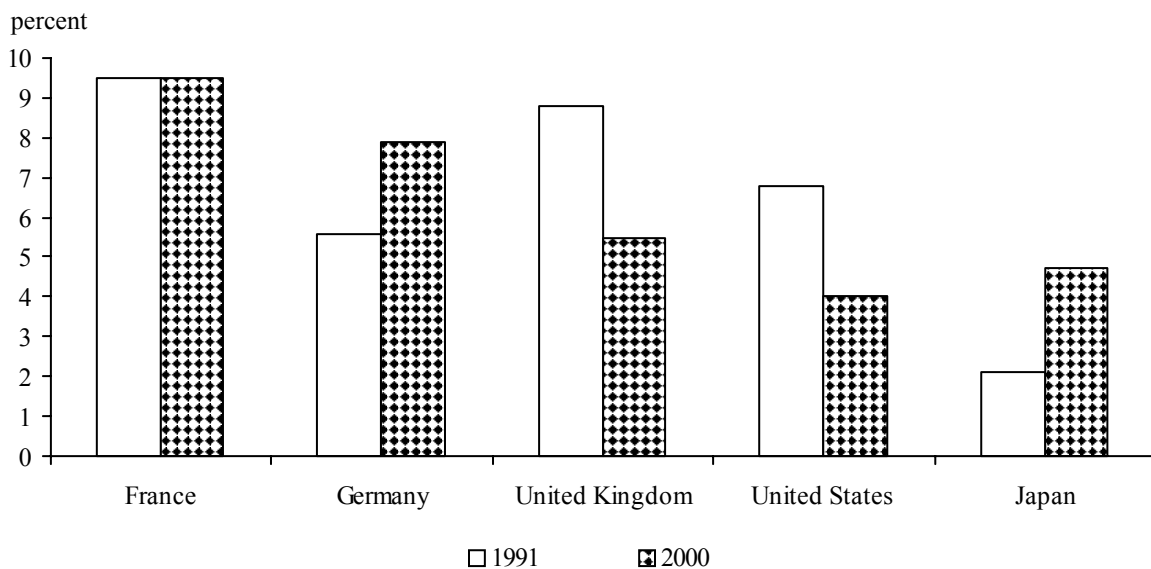
All in all, Europe seems to have dealt rather unsuccessfully with globalization so far. This invites the question what may be behind the differences in economic performance. In continental Europe, it is mainly debated whether or not the US model, typically paraphrased by flexible labor markets, is superior. While the proponents of the US model point to the so-called employment miracle, the critics argue that low unemployment in the United States came at the cost of a widening wage gap and declining incomes for low-skilled workers. Both, the proponents and the critics tend to disregard the Japanese experience in the 1980s and the first half of the 1990s. In contrast to the United States, Japan kept unemployment relatively low **and** prevented the wage gap from widening (Gundlach and Nunnenkamp 1997).

Figure 1 — Major Industrial Countries: Terms of Trade, 1980–2000 (1980=100)



Source: IMF, International Financial Statistics.

Figure 2 — Major Industrial Countries: Standardized Unemployment Rates, 1991 and 2000 (percent)



Source: OECD, Employment Outlook.

Japan may provide important lessons on how to deal successfully with globalization, even though the country failed to overcome the prolonged recession and to put its financial sector in order (Nunnenkamp 2001a). The case of Japan clearly reveals that structural change represents the – frequently overlooked – link between competitive pressure on the one hand and overall welfare gains and labor market problems for low-skilled workers in industrial countries on the other hand.

Structural change as a response to competitive pressure has several dimensions, of which restructuring of employment and specialization in foreign trade appear to be particularly important. Previous research at the Kiel Institute suggests that Japan was a frontrunner among major industrial countries as concerns structural adjustment (Gundlach and Nunnenkamp 1997). Manufacturing employment in Japan shifted towards industries in which industrial countries should possess comparative advantages. For instance, employment growth in Japan's automobile industry in the 1980s and 1990s was considerably higher than in the automobile industries of Germany and the United States (Nunnenkamp and Spatz 2001).

Until the mid-1990s, Japan outperformed other industrial countries also with regard to trade specialization. Japanese exports of capital- and skill-intensive goods more than tripled in 1980–1994 (compared to an increase of 180–240 percent for UK, US and German exports in this category). The observation that Japanese exports of these items stagnated thereafter indicates that structural change has slowed down since the mid-1990s.

Structural adjustment turns out to be relevant in industry-specific studies, too. In the German automobile industry, for example, employment developed more favorably in the production of autoparts than in the assembly of cars (Nunnenkamp and Spatz 2001). This may come as a surprise as the production of autoparts is less human capital-intensive, and competitive pressure from low-income countries was more pronounced in this segment of the German automobile industry. More successful restructuring in parts production appears to be the explanation to this “puzzle”. In striking contrast to the terms of trade in the assembly of cars, the terms of trade in parts production increased by about 20 percent in 1980–1999. This was largely because parts production benefited from a higher increase in export prices, which suggests that parts producers achieved a better fit of their production to comparative advantages.

The next question is how to promote structural change and how to contain distributional conflicts. In this regard, too, Japan offers some lessons. Success or failure in structural

adjustment depends on factor accumulation. For industrial countries to operate at the technological frontier, they need to accumulate physical, human and technological capital. Table 1 presents some indicators suggesting that the degree of factor accumulation differed remarkably between major industrial countries. The United Kingdom ranked at the bottom in all five categories. By contrast, Japan occupied the top position in three categories (investment ratio, R&D spending, and average years of schooling), and ranked second in the remaining two categories.

Table 1 — Mastering Structural Change: Factor Accumulation in Major Industrial Countries

	France	Germany	United Kingdom	Japan	United States
Investment, % of GDP ^a	19.7	22.8	17.3	29.7	18.4
R&D spending, % of GDP ^b	2.26	2.39	1.94	2.83	2.64
Absorption of new technology ^c	5.21	5.43	4.96	6.07	6.29
Schooling ^d	6.17	6.22	5.17	6.36	5.83
Math and science education ^e	5.96	5.00	4.22	5.95	4.47

bold figures: best performer; shaded cell: worst performer

^aAnnual average, 1990–1999. – ^b1997/98. – ^cSurvey results on whether companies are aggressive in absorbing new technology (7 = most aggressive; 1 = not at all). – ^dSurvey results on whether the average number of years of schooling of the labor force is sufficient to support highly competitive companies (7 = strongly agree; 1 = strongly disagree). – ^eSurvey results on whether the school system excels in math and basic science education (7 = strongly agree; 1 = strongly disagree).

Source: IMF, International Financial Statistics; World Economic Forum, The Global Competitiveness Report.

Moreover, according to the wage survey of the Japanese Ministry of Labor, the skill distribution of manufacturing employment shifted strongly towards employees with higher education. This shift is to be attributed primarily to changes in the labor supply. As it seems, Japan prevented a widening wage gap by upgrading the qualification of the workforce, which helped offset the globalization-induced decrease in the demand for low-skilled labor.

Note that the ranking of major industrial countries with regard to the determinants of structural change almost perfectly matches the account on the benefits and costs of

globalization presented above. Hence, the conclusion for industrial countries is that overall welfare gains may be increased and labor market problems be reduced by economic policies which encourage structural change.

III. EMERGING MARKETS: HOW TO CATCH UP ECONOMICALLY

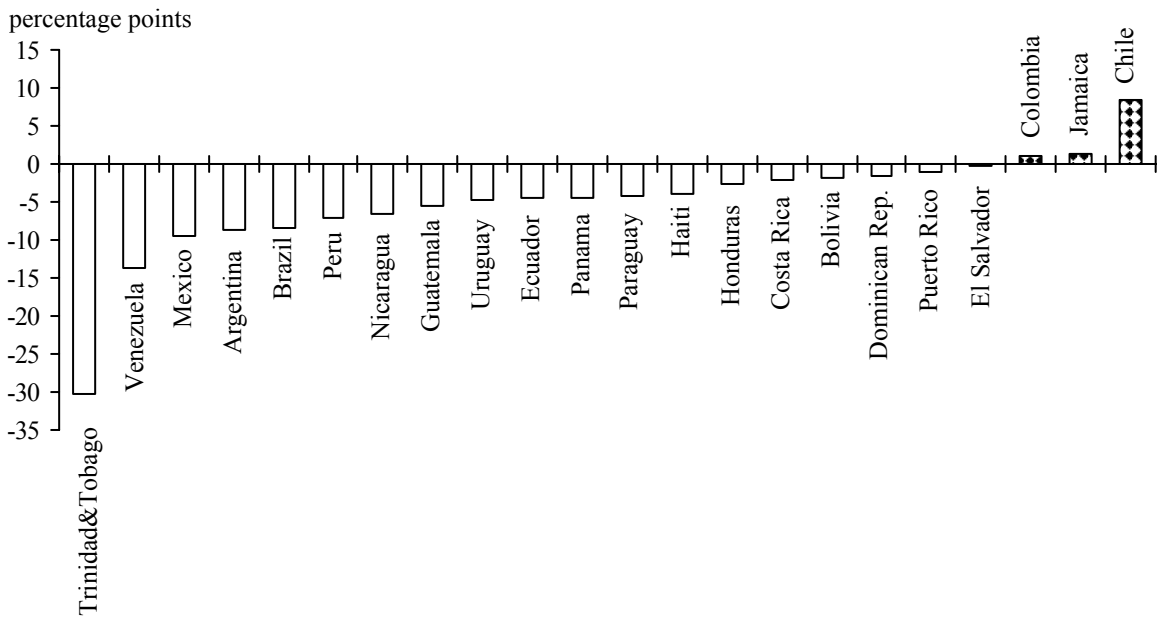
Similar conclusions can be derived for developing countries. As concerns developing countries, the most important criterion of success or failure in dealing with globalization is whether or not they have caught up economically with more advanced industrial countries. In the following, our measure of catching up or falling back is the development of per-capita income (in terms of purchasing power parity), relative to the per-capita income of the United States.

Earlier research at the Kiel Institute revealed diverging income trends among developing countries in the 1980s and the first half of the 1990s (Nunnenkamp 1998b). While some developing countries caught up at a spectacular speed, various countries, notably in Africa, continued to fall back. The proposition that this divergence is largely due to domestic economic policies was substantiated in several ways:

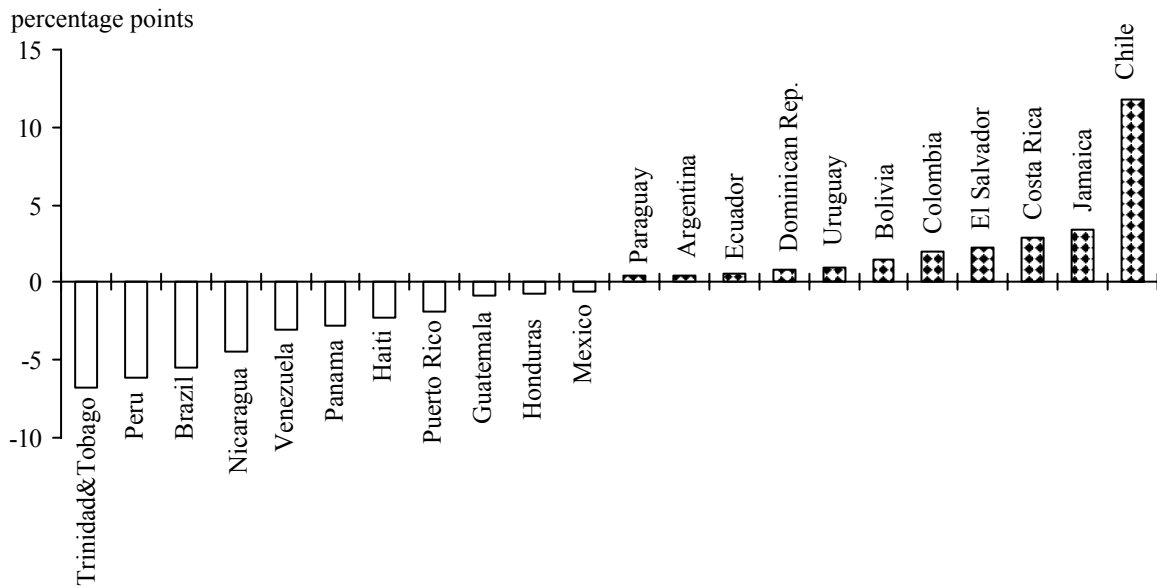
- In Latin America, it turned out that (relative) income developments differed significantly depending on the time period considered. About half of Latin American economies caught up with the United States when calculations were based on the period 1987–1995 (instead of 1980–1995; Figure 3). This suggests that stabilization efforts and structural reforms, including trade liberalization, undertaken by various Latin American economies during this (sub-)period were instrumental in raising per-capita income (see Nunnenkamp 1998a for a detailed evaluation). However, a major puzzle remains: Latin America resembles industrial countries in that trade liberalization gave rise to income inequality. Wood (1997) concludes from available evidence: “The conventional wisdom that greater openness to trade tends to narrow the wage gap between skilled and unskilled workers in developing countries, which is supported by the experience of East Asia in the 1960s and 1970s, is challenged by the experience of Latin America since the mid-1980s.” The legacy of

Figure 3 —Latin America: Catching Up and Falling Back^a

1980–1995



1987–1995



^aChange in per-capita income (PPP), relative to the United States (percentage points).

Source: Nunnenkamp (1998a).

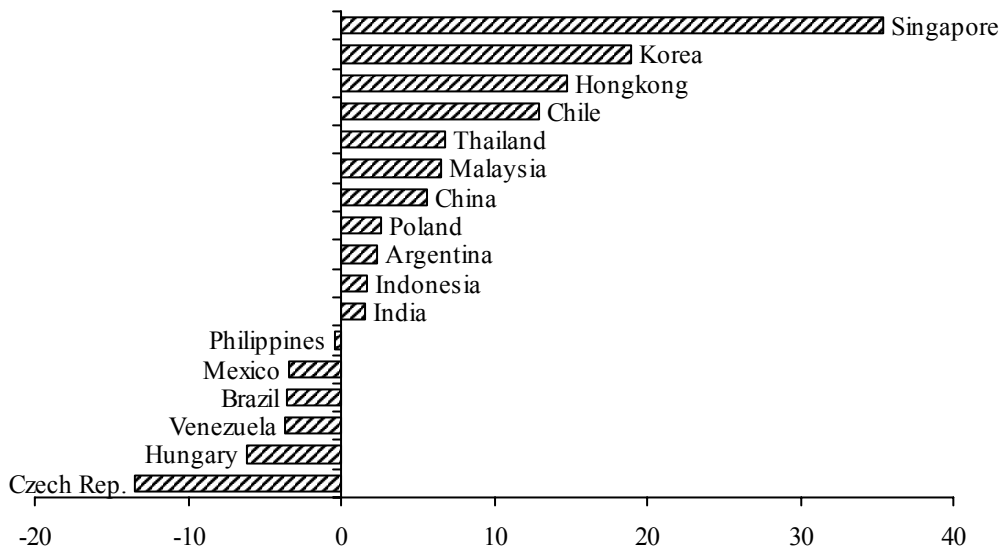
import substitution policies (i.e., delayed structural change), together with a rather poor endowment of skilled labor, may help explain why trade liberalization went along with a widening income gap in Latin America.

- Correlation analyses performed across a large number of developing countries in different regions supported the proposition that (relative) income developments depend on the intensity of structural change and on economic policies that encourage structural change (for details, see Nunnenkamp 1998b). For instance, positive income developments were correlated with diversification efforts related to production and exports. A higher investment ratio went along with per-capita income gains, and the same was true for human capital formation. Furthermore, according to our findings, catching up was easier for developing countries which integrated themselves into the international division of labor by opening up to imports of capital goods and foreign direct investment. Note that all these elements and determinants of structural change can be influenced by government policy. Hence, the evidence is in conflict with the widespread belief that globalization deprives policymakers in developing countries of the means to shape their countries' economic performance.

At this point, you may object that all this may no longer be true after recent financial crises in various emerging markets. However, even if it were correct to argue that globalization subjected emerging markets to the vagaries of volatile financial markets and was the ultimate cause of recent crises (for a critical evaluation of this reasoning, see Nunnenkamp 2001b), the economic set-backs suffered in the second half of the 1990s provide no grounds for reversing the course of trade liberalization and for delaying structural change. The subsequent evidence for a group of 17 emerging markets suggests just the opposite.

First of all, the tremendous income gains achieved by some emerging markets, including most Asian crisis countries, since the 1980s were far from being eroded by recent economic set-backs (Figure 4). Second, the correlations run for the sample of emerging markets, covering income developments in the period 1985–1998, underscore the relevance of factor accumulation. Both, a higher investment ratio and a better endowment of human capital (measured by survey results on the adequacy of schooling) are associated with rising per-capita income, relative to per-capita income of the United States (Figures 5 and 6). The R^2 of the regression equation in Figure 5 is 0.33, and the coefficient of the investment ratio is

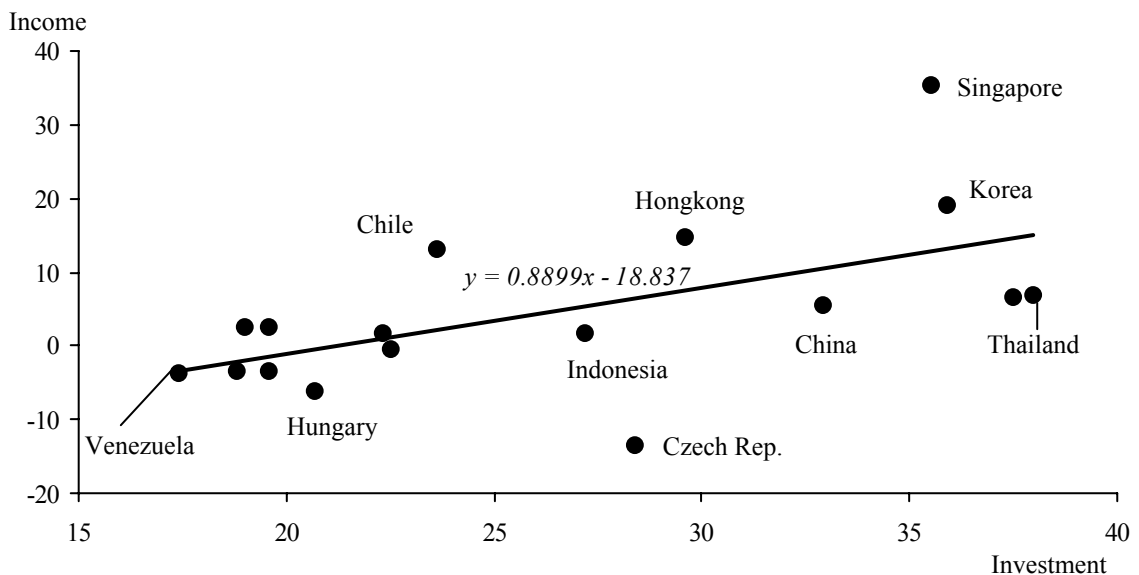
Figure 4 — Emerging Markets: Catching Up and Falling Back^a, 1985–1998



^aChange in per-capita income (PPP), relative to the United States, in 1985–1998 (percentage points).

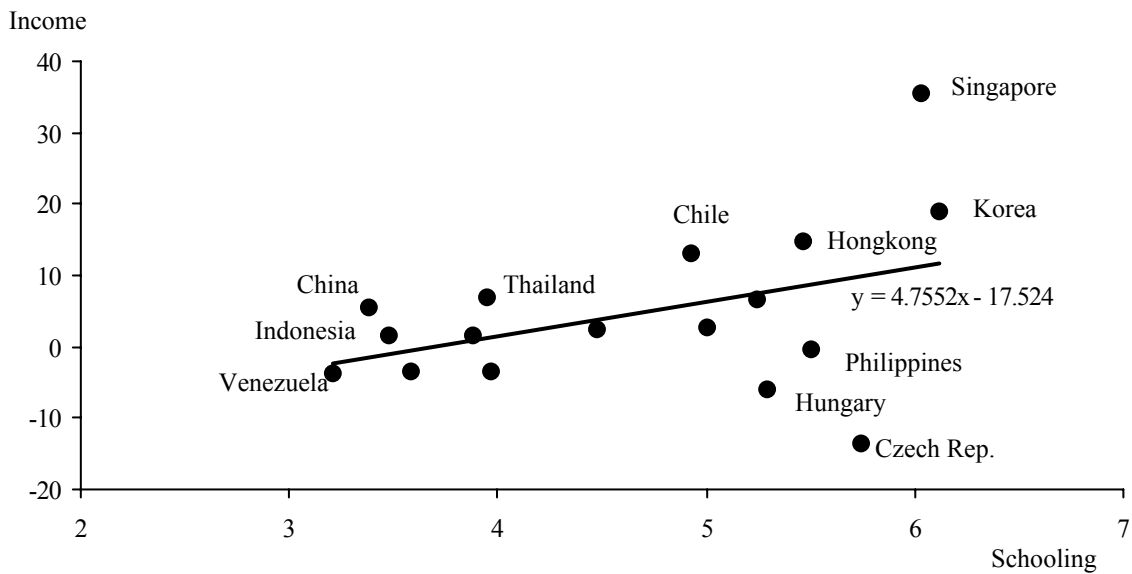
Source: World Bank, World Development Indicators.

Figure 5 — Emerging Markets: Per-capita Income Growth^a and Investment^b



^aChange in per-capita income (PPP), relative to the United States, in 1985–1998 (percentage points). – ^bAverage share of gross domestic fixed capital formation in GDP, 1990–1998.

Source: World Bank, World Development Indicators.

Figure 6 —Emerging Markets: Per-capita Income Growth^a and Average Years of Schooling^b

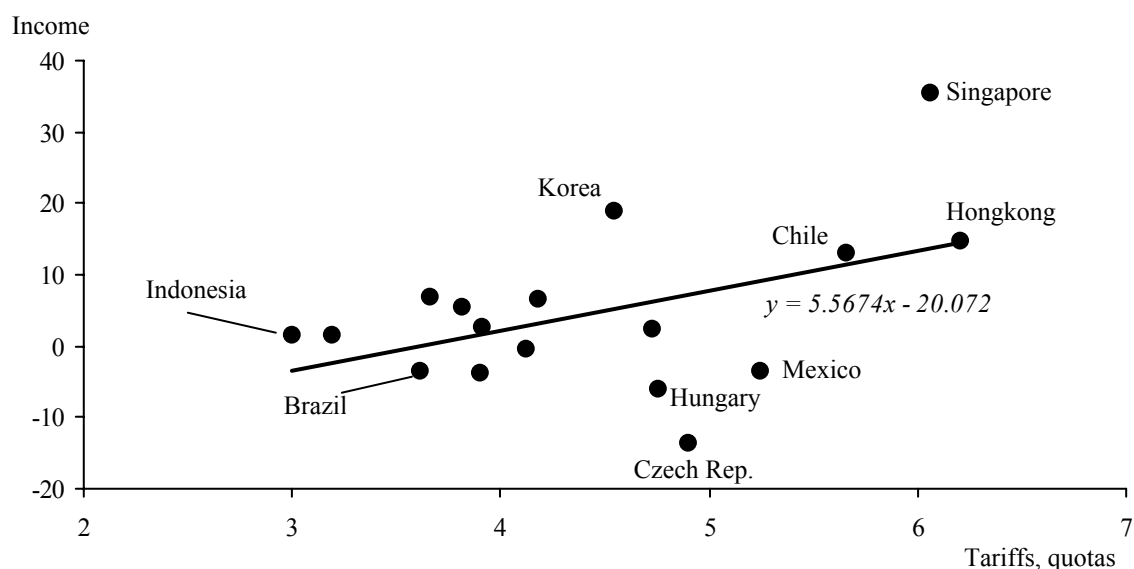
^aChange in per-capita income (PPP), relative to the United States, in 1985–1998 (percentage points). – ^bSurvey results on whether the average number of years of schooling of the labor force is sufficient to support highly competitive companies (1: strongly disagree; 7: strongly agree).

Source: World Bank, World Development Indicators; World Economic Forum, The Global Competitiveness Report.

statistically significant at the 2 percent level. The R^2 of the regression equation in Figure 6 is lower (0.17), but the coefficient of the schooling variable is still significant at the 10 percent level.

Third, using survey results on the trade policy regime of emerging markets, lower import barriers are correlated positively with per-capita income gains. This applies not only to the level of import tariffs and quotas, but also to hidden import barriers. The R^2 s of regression equations in Figures 7 and 8 are 0.22 and 0.18, respectively. The coefficients of the two trade policy variables are of a similar size, and they are statistically significant at the 10 percent level. The correlation results for emerging markets are thus consistent with the view that openness to trade supports income gains.

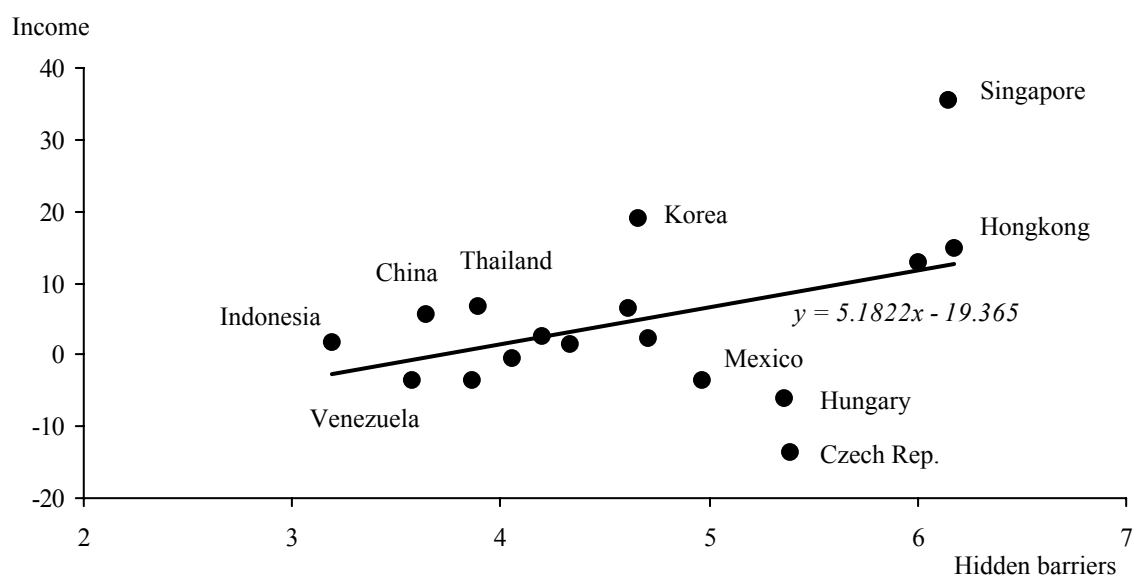
Figure 7 — Emerging Markets: Per-capita Income Growth^a and the Level of Import Tariffs and Quotas^b



^aChange in per-capita income (PPP), relative to the United States, in 1985–1998 (percentage points). – ^bSurvey results on whether the level of import tariffs and quotas is a serious impediment to firms' access to foreign materials and equipment (1: most serious; 7: not at all).

Source: World Bank, World Development Indicators; World Economic Forum, The Global Competitiveness Report.

Figure 8 — Emerging Markets: Per-capita Income Growth^a and Hidden Import Barriers^b



^aChange in per-capita income (PPP), relative to the United States, in 1985–1998 (percentage points). – ^bSurvey results on whether hidden import barriers are an important problem (1: most important; 7: not at all).

Source: World Bank, World Development Indicators; World Economic Forum, The Global Competitiveness Report.

IV. CONCLUSION

In summary, industrial and developing countries do have something in common, even though the easy generalizations offered by the protesters against globalization are in serious conflict with the significant divergences in economic performance within both country groups. High- and low-income countries can benefit from trade liberalization and economic globalization. However, globalization offers a free lunch neither for industrial countries nor for developing economies. The balance of globalization-induced welfare gains and distributional conflicts depends on country-specific patterns of structural adjustment to competitive challenges. National policymakers may be constrained in pursuing economic policies of their own liking in the era of globalization. Yet, policymakers still have important instruments at their disposal to encourage structural change and, thereby, improve the balance of the benefits and costs of globalization.

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