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## NAFTA as Metaphor: The Search for Regional and Global Lessons for the United States

*Raúl Hinojosa-Ojeda and Robert K. McCleery*

The political-economic significance of the North American Free Trade Agreement (NAFTA) for the United States has always been global as well as regional. It was within a global perspective of national security concerns and the stalled Uruguay Round of world trade negotiations that U.S. policymakers in 1990 first decided to move ahead with NAFTA.<sup>1</sup> And it was within a global perspective that most critics of NAFTA focused their apprehensions, sensing it as a commitment to a dubious “neoliberal” global agenda. Indeed, the dividing lines in ensuing controversies about “globalization”—and, in fact, the widespread use of the term itself—were rooted in the NAFTA debate and the lack of closure in its aftermath.<sup>2</sup>

The U.S. debate on NAFTA in the early 1990s continues to have a profound effect, not only on North American policy discussions but also on broader debates about globalization. The NAFTA issue came at a crucial time, as trade between the developed and developing world was growing more rapidly than ever before. NAFTA was the first free trade agreement between the United States and a developing country, and it was the most ambitious anywhere in the world between countries with such extreme differences in income and development. NAFTA promised to provide an important opportunity to ask perhaps the most significant question of the current era in international political economy: What is the impact of accelerating economic integration between countries at very different levels of development? Exploration of this question yields insights into the relationship between efficiency impacts on sectoral output and employment, the growth rates of national income and productivity, and the distribution of income within

and between countries. A well-reasoned analysis of NAFTA could provide important lessons for the United States in formulating future regional and global integration policies.<sup>3</sup>

## THE PUBLIC CONTROVERSIES

Unfortunately, the NAFTA debate quickly became highly politicized and starkly polarized into uncompromising “pro” and “anti” positions. Supporters and critics both sought to use NAFTA as a metaphor for focusing on the benefits or the costs of expanded global economic integration. As the debate began, many U.S. interest groups were only beginning to develop a theoretical understanding and policy position on the relationship among globalization, economic efficiency, and the convergence or divergence of national and international income levels. NAFTA proponents suggested that trade liberalization would produce a boom in U.S. export jobs and a “win-win” growth prospect for North America, with job growth expanding in export industries, pulling up wages, and absorbing the unemployed on both sides of the border. NAFTA opponents focused on fears that trade liberalization would produce a “race to the bottom” in wages, working conditions, and environmental standards, with the United States on the losing end while investment flowed out to Mexico as multinationals exploited Mexican labor. An evaluation, or even a critical discussion, of these metaphors became very restricted, in part because the research agendas of think tanks and some academics began to mirror what was necessary to support one or another faction in the political debate. What was similar is that both sides used simple linear models of causality with overly simple methodologies, supporting similarly simplistic policy responses.

An alternative “third way” position—acknowledging the benefits of integration while emphasizing the need to address income disparities—was drowned out in a polarized political debate. A small number of analysts and policymakers began forging an alternative perspective that simultaneously recognized the costs and benefits and developed a policy framework for “upward convergence” of productivity and incomes. (Ironically, after being eclipsed by partisan views during the Clinton administration, this idea reappeared in the February 2001 “Guanajuato Proposal” of Presidents George W. Bush and Vicente Fox, who declared their intent to “consolidate a North American economic community whose benefits reach the lesser-developed areas of the region and extend to the most vulnerable social groups in our countries.”)

Such an approach, however, requires a more complex theoretical framework, improved methodologies for analysis, and a more flexible and varied set of policy strategies.

The conceptual and policy challenges of North American integration require an analytical framework that simultaneously analyzes trade, foreign investment, migration, and remittances. This framework must also account for two major dynamics that are extremely important in the real world but which are only beginning to be understood theoretically and empirically: (1) the dynamics that produce enhanced productivity growth (through economies of scale, innovation, agglomeration, and so on); and (2) the political and institutional dynamics across borders that engender complementary strategies by social actors (through improved international conditions for long-term capital investment, distribution of gains to workers, a new vision for the state’s international role in providing social investment, proper safety nets, and enhancing investments in innovation and lagging regions).

This chapter reexamines debates about NAFTA and globalization in the light of data before and after NAFTA. We try to set the record straight on what NAFTA did or did not do for the U.S. economy. We also address the larger problem of the underlying evolution of uneven development in North America, driven by what we will define as both positive and negative dynamics of cumulative causation. We show that NAFTA did not create these dynamics, but neither did it significantly alter them. We argue that it is crucial for the United States to understand its national and collective interest in moving beyond NAFTA to foster regional and global economic integration with upward convergence of income and development patterns across countries.

The remainder of our essay has four parts. In the first of these we review the NAFTA debate and analytically deconstruct the various theoretical propositions that policymakers, think tanks, and academics used. This review indicates serious problems in the way trade and integration have been analyzed in the U.S. policy debate and, more importantly, provides insight into the important issues that North Americans need to focus upon as they compare dynamics of integration in different parts of the world and “globalization” in general. The following section offers a brief overview of the U.S. economy in the post-NAFTA period, evaluating the usefulness of the principal economic models that influenced the NAFTA debate and comparing their predictions to the empirical outcomes observed thus far. We seek to help refocus the terms of the NAFTA debate toward more important factors that should have been, and still need to be, the core of research

and policy analysis. We next turn to an empirical review of the major dynamics driving convergence and divergence in North American integration. Our analysis seeks to incorporate a wide range of integration processes and to explain how freeing trade and facilitating investment in the context of labor market distortions can create both positive and negative dynamics across sectors and regions in the United States and Mexico. We conclude with a brief recapitulation of what we have learned from the NAFTA debate, NAFTA-related modeling efforts, and the economic performance of the U.S. economy after NAFTA. We then postulate questions and possible approaches for further research, along with the outline of a discussion of policy implications.

### THE ANALYTICAL DEBATES

The NAFTA debate presaged and continues to mirror a still underdeveloped globalization debate; indeed, the evolution of these debates provided a condensed look at three hundred years of trade theory. Rather than illuminating key issues for policymakers, much of the published research too often tried to reinforce stark positions in the U.S. political debate. Hence much of the “expert testimony” either focused on the wrong issues or finessed difficult conceptual issues to come up with simplistic and quantitatively significant numbers in support of a particular position. Paradoxically, the search for large numbers did lead some researchers into previously neglected but empirically important areas, such as the impact of economies of scale, migration, and investment flows.

Table 1.1 displays four major analytical approaches that emerged in the NAFTA debates: what we call the “mercantilist” approach, the standard trade model (also known as the Heckscher-Ohlin-Samuelson model), the economies of scale model, and a framework stressing factor mobility. Unfortunately, the early stages of the debate were dominated by the “mercantilist” approach, which focused on highly dubious criteria for measuring the impact of economic integration—changes in trade balance and, presumably, corresponding changes in production and employment levels. NAFTA proponents argued that free trade with Mexico would improve the U.S. trade balance, increasing U.S. production and creating American jobs. The underlying implication was that trade is a zero-sum game. Such a position had been forcefully discredited by the critical insights of Adam Smith and David Ricardo, who argued that nations become wealthy through trade due to increased production specialization based on their comparative advantage.

**Table 1.1. Analytical Approaches and Methodologies**

Approach	Predictions	Methodology Used
Mercantilist	Pre-Smithian/Ricardian	NAID Armington methodology (a measure of the limited net relationship between trade and employment)
	Trade Surplus = Job Gain	
	Trade Deficit = Job Loss	
Heckscher-Ohlin-Samuelson (HOS)	Small Efficiency Gains (and adjustments) from trade based on Ricardian comparative advantage	HOS computable general equilibrium (CGE) models measuring comparative static gains from trade
	Small Factor Price Equalization	CGE models testing for income inequality impacts
Economies of scale	Larger gains based on efficiency + trade-facilitated increased scale economies	CGE models incorporating variables from the new international economics
Factor mobility	Large gains/adjustments based on FDI and labor migration/remittances dynamics	CGE models incorporating factor mobility and variables from the new economics of labor migration

Within the mercantilist vein, researchers at the Institute for International Economics repeatedly used a methodology, cited by many U.S. officials, that made the U.S. net gain of jobs a linear function of the U.S. trade surplus with Mexico in the early 1990s, which these researchers predicted would continue to grow at rates similar to the recent past.<sup>4</sup> Although NAFTA proponents would soon find their mercantilist argument discredited by academics’ analytical critiques and ensuing macroeconomic events, a major position for the NAFTA debate had been established. All future studies would have to mention changes in the trade balance and employment levels. In an ironic twist, anti-NAFTA think tanks such as the Economic Policy Institute gleefully utilized the same “pro-NAFTA methodology” following Mexico’s 1994–1995 peso crisis to proclaim the damage to the U.S. economy from NAFTA.<sup>5</sup> Simply reversing the dubious proposition that trade surplus produces “net job gains,” they argued that a large fall in the U.S. balance of trade with Mexico would generate a huge “net job loss.” Furthermore, the United States’ trade deficit *with the world*, clearly

a result of macroeconomic factors, was cited as a cost to society and a source of “unnecessary” unemployment—as if all imported goods, from autos to coffee, and diamonds to zinc—could and would be domestically produced in the absence of trade. Challenging this simplistic assumption, Raúl Hinojosa-Ojeda and associates, applying a partial equilibrium test to the mercantilist proposition with empirical data on the nonsubstitutability of domestic for imported goods, found a significantly lower relationship between trade and employment levels.<sup>6</sup>

In a compelling testament to the fluctuating role of ideas in the policy process, the concepts of comparative advantage and gains from trade had to be reintroduced to the policy debate centuries after their initial development. Trade, it had to be argued again, is not a zero-sum game, and imports (even in consumer goods, which account for only a third of total U.S. imports) do not necessarily displace American production. It became necessary to reemphasize notions of efficiency and competitiveness. If trade with Mexico reduces the cost of auto parts for U.S. auto makers, for instance, more cars could be produced and sold; this could lower total imports and increase exports to Europe or other third markets. Such ideas seemed difficult to grasp in comparison with images of textile workers, garment workers, or steelworkers standing unemployed outside closed factories, blaming “unfair” foreign competition that was “sucking” jobs away.

The standard model used to make the traditional pro-trade arguments through the early 1980s was the Heckscher-Ohlin-Samuelson (HOS) framework, based on Ricardian comparative advantage. A number of mostly academic researchers employed sophisticated empirical tests of this framework with the use of computable general equilibrium (CGE) models. These CGE models, however, yielded predictions of fairly minor changes in trade flows and production levels when applied to the modest tariff reductions associated with NAFTA. These results were derisively termed “positive zero” and were politically rather ineffective; in effect, researchers were emphasizing the likely yet unglamorous fact that NAFTA’s impacts on the U.S. economy would be positive but economically insignificant.

A further problem for NAFTA proponents derived from a key implication of the HOS model called the factor-price equalization theorem, which states that a country’s abundant factor(s) of production will benefit from trade liberalization, but its scarce factors will be hurt. Because unskilled labor is scarce in the United States relative to Mexico, the HOS model predicted a rise in unskilled wages in Mexico combined with a corresponding fall in the United States. Supporters of

NAFTA could then be characterized as insensitive to distribution problems in the U.S. economy, however weak their relationship to NAFTA. Recall that, at the time of this debate, the Reagan-Bush policies of the 1980s had substantially widened the gap between rich and poor in the United States.

A further feature of the HOS model is that gains from trade result from abandoning production of goods in which you have a comparative disadvantage to specialize in products in which you have a comparative advantage. These dislocations, or adjustment costs, were generally finessed or ignored by the pro-NAFTA modelers themselves, but they were examined very carefully by NAFTA opponents. Thus NAFTA proponents using the HOS model faced an insoluble dilemma. Either the potential gains from NAFTA—and the adjustment costs—were trivial, or the gains were substantial but the adjustment costs were substantial as well.

Fortunately for economic modelers seeking evidence of potential gains from NAFTA, the theory they needed had been introduced by Paul Krugman and others in the early 1980s and adapted to computable general equilibrium models in the mid-1980s by Canadians Richard Harris and David Cox.<sup>7</sup> This new international economics, based on economies of scale (EOS), seemed to be just the thing. According to this framework, gains from trade come from two sources: (1) falling average costs, as firms increase their scale of production in response to increased export demand, and (2) gains from increased competition reducing inefficiency due to collusion within an industry. These gains potentially dwarfed those predicted by HOS models. Cox and Harris reported potential gains on the order of 8 percent of Canada’s gross domestic product (GDP) from unilateral liberalization with the world. Similarly, Raúl Hinojosa-Ojeda and Sherman Robinson analyzed the impact of NAFTA on the Mexican economy and found order-of-magnitude differences using EOS versus HOS specifications, without the large displacement effects of pure HOS specifications.<sup>8</sup>

There are two further attractive features of these EOS models. First, there is so little empirical evidence on the extent and magnitude of scale economies by sector that there can be little grounds for criticism, whatever parameter values are selected.<sup>9</sup> Second, adjustment costs can be interpreted differently in EOS models. In HOS models, adjustment costs mean that textile workers in North Carolina who are displaced through international trade must relocate and retrain to make software in Silicon Valley or aircraft in Washington. In EOS models, in contrast, mergers and acquisitions “rationalize” the industry, so the

same workers do the same jobs in the same industry, maybe even in the same factory, but perhaps under a different corporate logo. This type of adjustment seems much smoother and less costly, for both individuals and society.

One critical problem remained. The way was now clear to predict substantial gains for Mexico and Canada from integration with the larger U.S. market, but it was still difficult to make the case that integration with Mexico and Canada would substantially affect either the scale of U.S. production or the level of competition within American markets.

Meanwhile, other researchers were taking alternative tacks. Both HOS and EOS models generally focus on the movement of *goods* rather than *factors of production*. Yet both investment flows and labor flows have historically been very important in North America, especially in U.S.-Mexico economic relations. Understanding adjustments in these flows was seen as crucial to predicting the economic impacts of NAFTA. To the extent that mainstream modelers thought about these issues at all, it was generally to say that rising wages for unskilled workers in Mexico would lead to lower levels of undocumented immigration from Mexico. In contrast, NAFTA opponents seized on the possibility of investment flows from the United States to Mexico to focus on the danger of plant relocation and job loss.

Yet the real insights to be gained from the study of international factor movements involved the growing cross-border dynamics in labor markets and production sharing. Sherman Robinson and others were the first to note that economic dislocations in Mexican agriculture could easily lead to an increase, rather than a decrease, in undocumented immigration to the United States.<sup>10</sup> Their conclusion—that increased migration could be mitigated by long tariff phase-ins and direct economic transfers to the rural sector—has been substantiated by empirically based micro CGE modeling of the village-level relationships between migration, price liberalization, and the impacts of new Mexican rural policies (such as Procampo income transfers).<sup>11</sup> Robert McCleery was the first to predict changes in foreign direct investment (FDI) flows to Mexico and to estimate their impact on wages and employment in the United States.<sup>12</sup> Others introduced international coordination of production, pricing, and sales by multinational enterprises, with the North American auto industry as a case study.<sup>13</sup> As an example of complex positive cumulative causation, a dynamic can emerge whereby international investment flows are increased to take strategic competitive advantage of sectors with scale economies. Indeed, it is

possible that the post-NAFTA pattern of trade has been less determined by tariff liberalization than by the pattern of FDI.

## NAFTA PREDICTIONS AND POST-NAFTA PERFORMANCE OF THE U.S. ECONOMY

We now evaluate the “pro-” and “anti-” NAFTA positions in light of the actual post-NAFTA experience, specifically testing the validity of the major predictions. This exercise is crucial in order to discuss how the economic literature must evolve in order to provide insights into the impact of future initiatives for integration and globalization.

Empirical evidence shows that the theoretical-predicative case against NAFTA was clearly oversold with respect to the U.S. economy as a whole. The claim that NAFTA would lead to a “giant sucking sound,” as investment and jobs left the country for Mexico or as the U.S. developed a trade deficit with Mexico, does not seem to be borne out by the data. The post-NAFTA period in the United States corresponds with the longest continuous economic expansion since World War II. By almost any measure (real income growth, productivity growth, unemployment rate, inflation, and so on), U.S. economic performance was substantially better after than before NAFTA. The unemployment rate fell from nearly 8 percent in mid-1992 to under 4 percent in 2000, before rising to 6 percent in the 2001–2002 recession. FDI into Mexico did increase, but that inflow was dwarfed by the increase of foreign investment into the United States. While Mexico attracted a total of US\$48 billion in new FDI cumulatively from its NAFTA partners from 1994 through the first quarter of 2000, the United States garnered \$276 billion in gross FDI (and \$125 billion net) from abroad in 1999 alone.<sup>14</sup>

Yet the U.S. current account has clearly deteriorated over the past decade. Is the worsening of the trade balance a result of NAFTA? The U.S. current account deteriorated steadily and dramatically through the first quarter of 2001, before beginning to improve as a result of the recession. Similarly, the deterioration was the result of rapid growth (outstripping that of U.S. trading partners) combined with massive capital inflows, particularly from Europe and Asia. Additionally, the dollar strengthened against an average of major foreign currencies during this time, making imports cheaper and U.S. exports more expensive. While these macroeconomic changes may well be driving the

deficits with Mexico and Canada, NAFTA and those deficits have had a minimal impact on the U.S. current account deficit with the world.

Granting more rapid income, productivity, and job growth, has NAFTA led to a worsening of income distribution in the United States? On the one hand, income growth rates were similar for the rich and the poor, worsening absolute inequality. The poorest 20 percent of the U.S. population saw income growth of 15 percent from 1993 to 1999, compared with 14.2 percent for the richest 20 percent. The economic performance in the post-NAFTA period, however, was also much *better* with respect to income distribution than in the Reagan-Bush years. For instance, the proportion living in poverty fell from 15.1 percent in 1993 to 11.8 percent in 1999, although that figure still exceeds the level recorded in 1979.

Perhaps the only clear area of decline, and the one point stressed by anti-NAFTA groups today, is manufacturing employment. This has nourished a public perception that the expansion of trade shifts workers from well-paid manufacturing jobs to low-paying service-sector jobs. Although it is true that employment growth in manufacturing lagged well behind overall employment growth in the economy—0.4 percent to 2.3 percent per year—growth has nonetheless been positive, and the primary reason for the slower growth has been increased labor productivity, not trade.

But as we shall see below, the overzealous pro-NAFTA predictions are not particularly accurate either. While the NAFTA opponents' worst fears clearly have not materialized, only a tiny share of the improvement in economic conditions in the United States can be directly linked to NAFTA. The Clinton administration credited the improved economic performance from 1993 to 2000 to "three interrelated factors ... technological innovation, organizational changes in businesses, and public policy."<sup>15</sup> "Opening markets at home and abroad" is listed as the third of four important policy initiatives. NAFTA, one of several such openings, can thus be given perhaps one-fourth of one-fourth of one-third, or about 2 percent, of the credit—unless we can also link it to technological innovation and/or organizational changes.

### Assessing the Analyses

Keeping in mind that some of the proposed NAFTA liberalizations are still being phased in (for corn, banking, and others) and that others are being held up by legal disputes (Mexican trucks' access to the United States, relaxation of the U.S. sugar quota, and so on), what have

we learned? The short answer is that the ability of economic models and modelers to anticipate the complex interactions between the United States and Mexico, not to mention other global and regional events that color perceptions of those interactions, has been limited. Special features of the U.S.-Mexico economic relationship made any trade theory-based approach incomplete, and thus necessarily incorrect from the point of view of predicting aggregate and macroeconomic trends. Indeed, it would have been surprising if that were *not* true.

But we have enough of a track record with NAFTA to reach preliminary judgments about what *types* of models are appropriate for predicting and measuring economic interdependence between countries with complex cross-border linkages and at very different levels of development. We shall do this below, concluding with some thoughts on how to improve those economic models in light of what we are learning about interdependence from NAFTA.

At the macro level, few bold predictions were made. One study predicted improvements in the U.S. trade balance with Mexico,<sup>16</sup> while another predicted a worsening.<sup>17</sup> Comparing the 1993 through 1999 bilateral trade balance reveals that the U.S. trade balance with Mexico improved only in the first year of NAFTA. In every year thereafter, the United States has recorded bilateral deficits in excess of \$14 billion, in contrast to surpluses in each year from 1991 to 1994.

Only two studies have focused on income distribution. Both predicted that the distribution of income in the United States would worsen, as trade (and additional migration, according to one of the analyses) hurts unskilled workers and helps skilled workers and capital owners. This prediction has been weakly supported by recent experience, although, again, rapid technological change within the U.S. economy—rather than trade itself—no doubt accounts for most of the worsening of income distribution.

Next we consider sectoral impacts. Suppose we consider predicted sectoral increases or decreases of less than 1 percent to be approximately zero. Looking at predicted changes of more than 1 percent, we need to remember what they suggest. These are the predicted partial impacts of NAFTA on the United States, holding everything else constant. We interpret this to refer to the sectors and social groups that will do particularly well or poorly in the post-NAFTA world, relative to the averages in the economy as a whole. For instance, estimated parameters of -4.2 percent for urban unskilled wages and +5.17 percent for food corn output are treated as predictions that wages for urban

unskilled workers would rise by 4.2 percent *less than average* wages post-NAFTA (1994–1998) while food corn production would grow 5.2 percent *faster* than average output.<sup>18</sup>

One standard econometric study considers the impact of phasing in reductions in tariff and nontariff barriers (NTBs) between Mexico and the United States over a period of ten years. Only one bold prediction emerges—that electronic appliance employment (and production) would increase. Thanks in part to quality adjustments that are disputed in other industrialized countries, the production of electrical goods (code 506 in the National Income and Product Accounts of the United States, the closest match we could find) leaped by 70 percent, 50 percentage points more than the U.S. economy. We cannot rule out the basic conclusions of this study, that NAFTA would have little impact on the pattern of U.S. economic growth and employment. Massive increases in two-way apparel trade were also predicted as a result of NAFTA (exports up 42 percent and imports up 59 percent relative to the baseline without NAFTA), and this prediction is roughly confirmed in the data.<sup>19</sup>

In a study commissioned by KPMG Peat Marwick (a pro-NAFTA group), Carlos Bachrach and Lorrin Mazrahi employed a HOS-type CGE model, modified to allow a net capital inflow to Mexico of US\$25 billion. Since all of the additional investment in Mexico is assumed to come from other regions or from a reshuffling of U.S. foreign direct investment, the capital inflow in Mexico has no impact on the United States. Two of its predictions cross the 1 percent threshold: a projected decline in sugar, and growth in miscellaneous manufactures. In fact, sugar production did lag behind overall U.S. growth for 1994–1998, although it exceeded average growth in 1999 and 2000.<sup>20</sup> But miscellaneous manufactures grew slower than average. Thus we could say that this CGE model helped identify sugar as a contentious sector worthy of more detailed study, but it was incorrect regarding miscellaneous manufactures.

A third estimation of sectoral results for the United States simulates the elimination of tariffs and NTBs along with a 10 percent increase in real investment in Mexico (again, with no projected impact on the U.S. capital stock).<sup>21</sup> The model identifies textiles and miscellaneous manufactures as key growth sectors, and glass, nonferrous metals, and electrical machinery as sectors that could be hurt by NAFTA. From 1994 to 1998, in fact, textile production grew 26 percent *slower* than the U.S. economy, and miscellaneous manufactures also failed to match the overall U.S. growth rate; in the meantime, glass, nonferrous metals,

and electrical machinery all grew at least 15 percent *faster* than the U.S. average. Indeed, electrical machinery was the fastest-growing sector of the U.S. economy over that period. With a zero-for-five prediction record and large margins of error, this model was clearly not helpful.

Focusing primarily on agriculture, yet another analysis predicted production gains for the United States in food corn and program crops. Changes in price supports and guarantees, particularly the reduction in support as part of the “freedom to farm” act of 1996, have had a greater, negative impact on these sectors than the projected positive impact of NAFTA. Thus we evaluate these predictions as incorrect in aggregate terms due to events not related to NAFTA. The predictions seemed valid at the time; in fact, policymakers implementing the agricultural reforms widely believed that increasing export opportunities, not just to Mexico but to China and East Asia as well, would more than offset the income losses to American farmers from the decline in subsidies.<sup>22</sup> An analogous study concentrated exclusively on auto and auto parts production and trade.<sup>23</sup> It predicted a negative impact on production, but during the post-NAFTA years U.S. auto production actually grew slightly *faster* than average.

With the possible exception of some agricultural subsectors, therefore, CGE models apparently did not adequately identify any significant production shifts resulting from NAFTA. Two explanations come to mind. One is that these models failed to capture the key elements of U.S.–Mexico economic interdependence. The other is that the impact of NAFTA itself was negligible and was overshadowed by technological, international, and other economic developments affecting the United States.

Our recent research tests these assertions with regressions.<sup>24</sup> Traditional CGE models showed that tariff liberalization impacts were bound to be tiny and could not greatly affect economic disparities in North America. Our post-1994 regression results show that NAFTA tariff liberalization did not significantly predict the composition of trade at a detailed sectoral level, as basic neoclassical theory would predict. In other words, the sectors that grew most rapidly in the United States following the implementation of NAFTA had little correlation with the sectors in which significant trade barriers were reduced. Hence the HOS focus on the impact of reduced trade barriers on trade flows—and, thus, on production levels—seems to have little explanatory power in the NAFTA case.

But EOS models, while doing somewhat better, still explain only about half of the variance in changes in sectoral production. Unbe-

lievably, predictions based on both HOS and EOS models do slightly worse than the prediction asserting that the sectors that would grow the fastest after NAFTA would be precisely those that grew the fastest in the period immediately preceding NAFTA. That hypothesis yields a simple correlation of nearly two-thirds. Should we not do better than this? Probably not, since NAFTA liberalizations had a modest impact on a rapidly evolving economy that was also beset by technological change, policy changes, and multilateral liberalization from the Uruguay Round agreement.

### CONVERGENCE AND DIVERGENCE

The NAFTA debates in general have lacked the theoretical discussion and empirical testing of key dynamics that gave rise to divergent predictions of positive or negative outcomes. Perhaps more importantly, the debates failed to identify the possibility of more complex outcomes when rich and poor countries engage in economic integration. To rectify this shortcoming, we need a framework to analyze empirically what the post-NAFTA experience has taught us about the potential costs and benefits of integration between high- and low-income countries.

In this section, we turn from previous NAFTA debates to an empirical review of the major dynamics necessary to understand convergence and divergence in North American integration. The focus is on the process of uneven development in North America. This we take to be driven by "dynamics of cumulative causation" in which relative incomes can evolve along either positive (convergent) or negative (divergent) paths. The evidence clearly shows that NAFTA did not create these North American dynamics of inequality, but neither did it significantly alter them. If anything, NAFTA appears to have only slightly accelerated both the positive and the negative dynamics of cumulative causation.

Our argument is that what should have been, and what continue to be, the crucial issues for U.S. policymakers are the factors and policies that can transform the pattern of North American integration toward greater growth, development, and income convergence on both sides of the border. The fundamental issue will continue to be the factors driving alternative paths of cumulative evolution in two major areas: (1) investment-production-trade dynamics, and (2) employment-wages-migration-remittance dynamics. Taken together, these are the major drivers of regional income convergence and divergence.

While patterns of positive cumulative causation are clearly evident in sectors throughout North America, these dynamics are neither necessarily sustainable (in terms of incentives for innovation and future productivity growth) nor expanding rapidly enough to be a major source of employment absorption, particularly in Mexico. Negative cumulative causation dynamics linked across national economies continue to produce a drag on low-wage labor markets, reducing incentives for productivity-enhancing investments in low-wage sectors as well as in the entire regional economy. Our analysis points to the need for major policy development efforts directed at both the investment-production-trade dynamics and the employment-wages-migration-remittance dynamics.

### *Cumulative Causation in Integration Theory*

A number of authors have recently explored the theoretical conditions, and offered empirical examples, of very different patterns of integration and development. Masahisa Fujita and others have developed theoretical/numerical simulation frameworks showing that different conditions of initial inequality and factor mobility, combined with differential scale economies and transaction costs, can produce highly divergent dynamic paths of core-periphery integration and development.<sup>25</sup> CGE modelers have also developed alternative scenarios of North American integration and development. Both approaches are based on notions of positive and negative cumulative causation (derived from Gunnar Myrdal)<sup>26</sup> with sets of conditions and processes at an initial point setting off path-dependent developments which, in turn, create constraints on conditions and processes in the future.

The theoretical possibility exists that economic integration can generate a process of positive cumulative causation (PCC). The story goes roughly as follows: (1) integration itself can open wider markets (for both goods and capital); (2) this brings about the possibility of resource reallocation for specialized production to take root in regions of comparative advantage; (3) producers can then take advantage of increased economies of scales; (4) the results are rapid output and employment growth; (5) this then opens the possibility for enhanced growth of both profit and wage income; (6) this facilitates improved productivity and further innovation for both trading partners; (7) this allows for sustained growth of investment and consumption; and (8) the outcome is sustained income growth and upward income convergence on both sides of the border. Further, the process creates the

the transnational region gaining in competitiveness relations around the world. Integration with PCC can generate productivity growth and a regional specialization in joint increased exports to third markets, attracting investment inside the region. The potential is for substantial trade that would dwarf trade diversion.

It is also possible that integration between rich and poor regions will produce a number of dynamics of negative cumulative causation (NCC). One scenario—the richer country gets richer—can follow the following kind of sequence: (1) highly unequal initial endowments in resources and economies of scale favor the rich; (2) this makes the absolute competitive position of the rich such that poor regions cannot develop sufficient scale to be economically viable in order to compete; and (3) resources (labor, capital) are drawn from the poorer region to the richer, widening the gap between rich and poor. This argument is strengthened by the new institutionalists, who would claim that the higher quality of institutions and efficiency in the United States raises the productivity and lowers the cost of investment, outweighing the advantage of low-cost Mexican labor in most economic sectors.<sup>27</sup>

Another NCC theoretical possibility exists—the classic “race to the bottom” scenario, in which sufficiently large differences in “surplus” endowments are combined with low differences in productivity and economies of scale. Here the following occurs: (1) poorer countries draw abundant labor from the rich country (or the rich countries draw abundant labor from the poor countries) in order to produce a more labor-intensive yet less productive choice of technology that are privately profitable yet socially costly in terms of environmental and other externalities; and (2) the result is a negative impact on both rich and poor countries from reduced overall intra-regional income potential and extra-regional competitiveness.

### *Empirical Analyses of Cumulative Causation*

Now we consider the extent of cumulative causation, positive or negative, in the process of North American integration. To do so, we have constructed a specially constructed database. This includes (1) macro data at the economy-wide level; (2) eleven subsectors (based on U.S. defining end-use categories); and (3) a more detailed 39-subsector database (constructed at the most disaggregated level of concordance with published data in the three NAFTA countries). We begin with

a review of cumulative causation dynamics at the macro-national level in North America, turning to a discussion of regional dynamics at the sectoral level.

In the case of North America, what can be said is that elements of an integration process with PCC, as well as NCC, had been operating across parts of the United States, Canada, and Mexico both before and after NAFTA. Economic integration between the United States and Mexico can be shown to have exhibited a similar dynamic of PCC beginning with Mexico's unilateral opening in the mid-1980s, as well as between the United States and Canada since the mid-1970s. There is clearly a common cluster of industrial subsectors in all three countries that are undergoing a very rapid process of transnational industrial restructuring. This has resulted in all three countries experiencing similar characteristics of higher growth in trade, employment, productivity, and wages in specific linked sectors on both sides of the border. The dynamics are led by high growth of foreign direct investment associated with an expansion of intermediate-goods trade for the purposes of transnational co-production of final goods exported throughout North America and the world.

Particularly in light of the exaggerated expectations that the NAFTA debate generated on both sides of the issue, one of the most important findings from the ongoing tracking of North American integration is the lack of fundamental shift in pre- and post-NAFTA patterns of trade, investment, and production. Whereas NAFTA became operational only in January 1994, trade relations within North America had already begun a dramatic transformation in the mid-1980s. Years before NAFTA was contemplated, Mexico underwent a major opening to international trade and investment, which ushered in a period of rapid trade growth, large trade and current account deficits, and substantial capital inflows. The period surrounding the implementation of NAFTA was characterized by a quick acceleration of these previously initiated trends, but there has been a maturation and deceleration of these trends in recent years.

FDI began rising around the start of the NAFTA negotiations, and that rise accelerated post-NAFTA. Yet this FDI level represented a declining share of both U.S. and Mexican GDP. Foreign investment, more broadly defined to include speculative portfolio investments and loans, contributed to the overheating of the Mexican stock market in 1993–1994. Thus, although NAFTA may have created the unrealistic expectations that led to Mexico's dramatic crash, it also seems to have had an effect on Mexico's ability to mount its most rapid macroeco-

recovery (via exports and FDI), indicating the significant power of NAFTA "policy fix."

In general, however, NAFTA does not seem to have significantly altered preexisting differences in Mexico and the United States at the macro and sectoral level both before and after 1994. In terms of the U.S. economy, the pre- and post-NAFTA period represents an export boom (with growth of net imports and capital inflow), modest employment growth, relatively flat productivity growth, and declining real wages, resulting in a net improvement in per-unit labor cost and in Mexico's relative global competitiveness position. The correlation between productivity growth and wage growth in Mexico, though still weaker than expected, is greater than in the United States. Similarly, rapid technological progress has an even stronger tendency to lead to employment losses in Mexico. But in contrast to the United States, we can see a distinct negative relationship between wage growth and employment growth. This implies that Mexico will have a difficult time moving beyond its role as a low-wage complement to U.S. industry while employing its rapidly growing labor force.

In overall terms, the U.S. economy in the post-NAFTA period did very well, actually better than Mexico and Canada in output, real wages, and even employment and productivity. Meanwhile, sectors in which U.S. exports to Mexico and Canada rose had very strong performance in terms of employment. For the United States, it is important to note that in more than two-thirds of the sectors where U.S. imports from Mexico are growing, U.S. employment grew as well. Yet we note that there is a very weak positive correlation in general between productivity growth and wage growth before and after NAFTA. While it is true that this relationship between productivity and wages is more likely to hold in the long run than over the short term, the positive relationship is extremely weak even if we look at the entire 1988–2000 period. We observe no correlation between wage growth and employment growth (but a moderate negative correlation between productivity growth and employment growth). In other words, the strongest relationship between these three variables is that rapid technological progress in a sector tends to lead to a reduction in employment levels.

Similarly in Canada, the defining issue during this period was not NAFTA but the U.S. recession and recovery, which precipitated and accentuated the 1990–1992 recession and inhibited recovery north of the border. The Canadian recession and accompanying manufacturing-sector job decline coincided with the implementation of the Canada–

United States Free Trade Agreement (CUSFTA) and contributed to the fall of the Conservative government. Once in power, the Liberals reversed their electoral position on free trade and embraced the negotiations that led to the inclusion of Mexico in the 1994 agreement. Post-NAFTA data show a continuation of the 1992–1993 Canadian recovery, and by 1998 GDP growth had regained rates similar to the mid-1980s. After rapidly falling during the 1990–1992 recession, Canadian employment levels rose sharply in 1995. They have since grown at moderate levels, slower than during the 1980s and, except for 1995, slower than GDP growth in the post-NAFTA period. After strong growth in 1991 and 1992, Canadian average productivity levels slowed during the mid-1990s and, much like Mexico, sharply decreased in 1995. They have since recovered, weaker than during the early 1990s but generally higher than the second half of the 1980s. After surpassing U.S. and Mexican levels between 1991 and 1994, Canadian average productivity rates have since grown more slowly than in the United States and have exceeded Mexican levels only since 1998. Average earnings lagged during the 1991–1995 period and then recovered during the second half of the 1990s, although not to the same level as in the second half of the 1980s. Canadian international competitiveness was strong during the 1990s (with a positive trade balance throughout the decade) and particularly strong in 1995–1996 and again in 1999–2000. With the exception of 1995, growth in wages consistently exceeded employment growth during all of the 1990s.

### *Patterns of Positive Cumulative Causation*

We examined our 39-sector database (with 25 traded sectors) for evidence of strong or moderate positive cumulative causation (see table 1.2). Note that if the five key variables (output, employment, productivity, wages, and trade) were unrelated, then statistically there should be only one or two instances in which all grew faster than average. Instead, four "strong PCC" sectors have most variables at or above the average annual growth rate.<sup>28</sup> A second group of sectors is presented in which growth in these variables was mostly positive, although not necessarily greater than average for the economy. This group of sectors is said to exhibit moderate positive cumulative causation. While many of these PCC dynamics are shared by all three countries, in this essay we will focus on the import and export dynamics between Mexico and the United States given that much of the NAFTA discussion in the United States has concerned trade with Mexico.

Table 1.2. Positive Cumulative Causation Sectors in the United States (average compound growth, 1994-2000)

	Output (%)	Employment (%)	Productivity (%)	Wages (%)	Exports (%)	Imports (%)
U.S. Average <sup>1</sup>	5.0	0.5	4.5	1.4	14.9	20.2
Electronic and other electric equipment	21.3	1.6	19.3	3.8	16.7	21.1
Industrial machinery and equipment	13.6	1.3	12.1	2.4	14.4	29.0
Nonmetallic minerals, except fuels	7.0	1.3	5.6	0.8	11.2	13.2
Rubber and miscellaneous plastic products	5.5	1.6	3.9	0.6	20.1	21.8
Farms	5.0	0.5	4.4	2.1	11.5	7.1
Chemicals and allied products	4.9	-0.5	5.4	2.9	15.2	17.7
Motor vehicles and equipment	4.6	2.8	1.7	-1.2	15.5	23.9
Stone, clay, and glass products	4.5	1.6	2.8	1.0	16.6	16.3
Fabricated metal products	4.0	2.0	1.9	0.1	15.0	23.5
Miscellaneous manufacturing industries	3.8	0.5	3.3	1.7	8.9	10.6

Source: NAID Center Database.

<sup>1</sup> Average of the twenty-five traded sectors.

Thus positive cumulative causation is clearly observable in certain key sectors of the U.S. economy. But there are additional elements, beyond the variables listed above, that are particularly relevant to the NAFTA debate. It should be no surprise that all leading PCC sectors are in the fastest-growing quarter of the thirty-nine U.S. sectors. But it may come as quite a surprise to NAFTA opponents that most of the sectors listed above have also experienced faster-than-average *import* growth from Mexico. Hence we observe positive cross-border linkages in the PCC sectors, contributing to industrial development on both sides of the border. A final point, equally illustrative of the potential for positive cross-border linkages, is that the leading PCC sectors from the United States have been responsible for more than a quarter of all U.S. FDI in Mexico since 1994.<sup>29</sup>

To summarize the clear but limited pattern of PCC since NAFTA, we see that the agreement has led to production-sharing relationships across the Mexican border. Parts and components are fabricated in Mexico, integrated with knowledge-intensive U.S. components into U.S. designs, and marketed around the world. Thus we observe output, employment, productivity, and wage gains in the very sectors that attract U.S. investment in Mexico and exhibit an expansion in two-way trade. While these PCC sectors account for nearly 43 percent of U.S. exports to Mexico, they employ just 4 percent of the total U.S. labor force. When we further consider the moderate PCC sectors, we still only account for 7 percent of U.S. employment and 11 percent of total output. We turn now to consider the possibility that negative cumulative causality is potentially more important, quantitatively, for the U.S. economy.

### Patterns of Negative Cumulative Causation

Eight U.S. sectors display the spirit, if not the letter, of negative cumulative causality, again more than should occur by chance. They are identified as those sectors displaying below-average growth in output, employment, wages, and productivity, with an absolute decline in at least one variable. All qualify in every respect except that five of the eight have wage growth rates higher than the national average. One hypothesis to explain this pattern is that seniority-based raises in union contracts left layoffs as the only way to adjust the labor market in these sectors when demand slumped and/or productivity declined. However, these are not highly unionized sectors overall. Hence the more likely explanation may be that management has elected to trim pro-

Table 1.3. Negative Cumulative Causation Sectors in the United States (average compound growth, 1994–2000)

	Output (%)	Employment (%)	Productivity (%)	Wages (%)	Exports (%)	Imports (%)
U.S. Average <sup>1</sup>	5.0	0.5	4.5	1.4	14.9	20.2
Food and kindred products	0.4	0.2	0.3	0.8	8.6	16.4
Printing and publishing	-0.6	0.3	-0.9	1.7	10.7	22.1
Textile mill products	-1.0	-3.4	2.5	1.1	26.8	34.1
Other transportation equipment and instruments	-1.6	-1.1	-0.5	1.6	8.5	22.4
Paper and allied products	-2.7	-0.8	-2.0	0.7	12.4	22.8
Apparel and other textile products	-2.9	-6.1	3.4	2.1	13.5	22.6
Leather and leather products	-3.2	-7.1	4.2	2.8	24.8	23.2
Tobacco products	-5.6	-3.5	-2.2	3.0	-14.2	0.3

Source: NAID Center Database.

<sup>1</sup> Average of the twenty-five traded sectors.

construction workers while keeping white-collar jobs. This could explain the fall in employment while average wages climbed and productivity stagnated. Apparel and leather are the two sectors that record the largest percentage employment declines since NAFTA's inception while simultaneously exhibiting increases in relative wages (above national averages) (see table 1.3).

GDP and employment in these NCC sectors have generally experienced moderate to strong declines, contrasted with U.S. average growth rates of 5.0 and 0.5 percent, respectively. Imports from Mexico may have been a factor in a few sectors,<sup>30</sup> but import growth in all NCC sectors combined was close to the economy average of 20.2 percent. Imports grew much more slowly than average in the food and tobacco sectors. Imports grew faster in textiles than in any other sector, yet job losses here were not the highest. Also suggesting a lack of correspondence between imports and economic performance is the fact that both the NCC and PCC sectors exhibited similar import growth. Meanwhile, collectively we see that export growth was not much below average—with the exception of textile mill products and leather and leather products. Furthermore, these NCC sectors contributed 22 percent of U.S. FDI in Mexico—less than the share drawn by the sectors showing PCC characteristics—despite representing a larger share of U.S. output and employment. Hence the negative dynamic in the United States cannot be attributed to either a large surge in imports or an outflow of investment.

The dynamic becomes even more interesting if we consider non-traded sectors such as construction. Boosted by increasing demand in the U.S. economy and a ready supply of low-wage immigrant labor, the construction sector expanded by 4.5 percent per year—slightly exceeding the average growth rate of the U.S. economy, despite falling productivity. The boom in employment (5.4 percent annual growth) may have been caused by a crowding-in of immigrant labor as blue-collar manufacturing jobs contracted in the above eight sectors, excluding the food sector.

This observation regarding the construction industry raises a serious question. Construction is a cyclically sensitive sector, subject to slowdowns when the economy moves into recession and resulting in significant impact on low-skill and immigrant workers in the United States. This expectation seems to be confirmed by a recent study conducted by the Pew Hispanic Center.<sup>31</sup> The study's authors cite unemployment levels for operators, fabricators, and laborers that are higher than national levels (8.7 percent, compared to 5.4 percent for the na-

tion, in October 2001), as well as a higher rate for Latinos (7.9 percent versus a national rate of 5.8 percent in December 2001). At least a portion of this greater vulnerability to recession can be attributed to NCC, enhanced by NAFTA.

### **Observations on North American Cumulative Causality**

Contrary to the pro-NAFTA metaphor, many of the current PCC patterns are not necessarily sustainable in terms of expanding technological innovation and productivity growth throughout the North American economies. Nor are PCC sectors expanding fast enough to be a major employment creator for the low-wage labor markets in the United States and Mexico. Low-wage manufacturing, meanwhile, cannot be a lasting basis for growth given increasing global competition, from which NAFTA has given Mexico (and parts of the United States) a temporary exemption. Mexico must very soon address its ability to find a comparative advantage position based on innovation and productivity growth (product and process innovation), given its present "assembly" role in the industrial integration process. This transition is complicated by the fact that export growth has not extended to small and midsize enterprises, often key sources of innovation. Exports remain dominated by large firms dependent on external financing.

Lack of productivity and income growth in Mexico and its skewed regional concentration can also be a drag on U.S. productivity and income growth. If China and Southeast Asia exhibit stronger productivity and income growth, Northeast Asian producers will benefit in terms of their global competitiveness. Similarly, if Southern, Central, and Eastern European countries enhance their role as complementary producers and trade partners with the European Union core, overall European productivity and competitiveness are enhanced. The United States has gained much from the integration of a select group of PCC sectors across North American economies, but it must recognize that its long-term interests are tied to expanding PCC dynamics on a much wider basis throughout North America.

The United States must also acknowledge that the current pattern of North American integration clearly exhibits NCC dynamics, although it is not based on the simplistic "race to the bottom" anti-NAFTA metaphor. As in the case of PCC, there is evidence of a common cluster of sectors on both sides of the border that share similar characteristics and linked dynamics. These exhibit slower growth in trade, employment, productivity, and wages. They also share immi-

grant labor markets, linking migrant-sending regions in Mexico with immigrant-receiving and heavily Latino regions in the United States.

This low-wage binational labor market also makes up the bulk of employment-displacing effects from NAFTA, including trade realignment and plant relocation. These sectors include, for example, corn production in Mexico and garment production in the United States. Not only are negative employment impacts highest in these sectors, but these low-wage binational labor markets also exhibit the lowest levels of education and training spending. Finding employment to even sustain similar low-wage levels after layoffs is very difficult, let alone attaining a transition to higher-skilled export jobs. The negative pressures on these migration-linked labor markets are compounded by a lack of productivity-enhancing capital outlays, exacerbated by low levels of human and social capital investment. Demographic growth is also highest in rural and urban low-skilled sectors with low social investments, on both sides of the border. Adding to negative causality is that this binational labor market has access to only very limited labor, migration, and political rights, compounding these individuals' inability to demand higher wages and increased social investments for their communities on either side of the border.

Remittance transfers are very substantial for Mexico (nearly matching FDI), but their current role is to maintain basic consumption levels among large segments of that country's poorest communities and to perpetuate external dependence on their family networks in the poorest communities in the United States. Low-wage migration is thus functionally maintained and reproduced, yielding a shortsighted subsidy to the U.S. consumers of low-wage goods and services. Over the long run, this maintains communities in poverty on both sides of the border, as well as high levels of inequality in both countries. The United States must recognize its long-term stake in leveraging the migration-remittance dynamic toward increased financing of productive savings and investments in immigrant-sending and immigrant-receiving regions.

### **CONCLUSIONS**

We believe this chapter highlights what should and should not be the focus of debate between pro- and anti-NAFTA groups, as perhaps between pro- and anti-globalization groups in general. Short-run effects on jobs and bilateral trade balances are irrelevant to the countries involved. The key question should be how to enhance cross-border

complementarities that can lead to mutual productivity growth, specialization, and trade—which, in turn, will lead to income growth and improvements in the quality of life across rich and poor countries. Trade flows and their impacts must be assessed as just one dimension of complex economic relationships, including investment and capital flows, labor flows, and social and institutional strengths and constraints on both sides of the border.

We demonstrate that the NAFTA debate in general displayed a dearth of theoretical frameworks focused on the dynamics of cumulative causation, either positive or negative. One example of complex positive cumulative causation is a dynamic involving increased investment flows to take strategic competitive advantage of sectors with scale economies. One dynamic we reveal is that the post-NAFTA pattern of trade has been less determined by tariff liberalization than by the pattern of FDI. An example of negative cumulative causation, on the other hand, is the dynamic between trade liberalization and increased displacement in migrant-sending sectors in Mexico (agriculture) and low-wage, immigrant-receiving sectors in the United States (garments).

Competition from the rest of the world means low-wage manufacturing cannot be a lasting basis for North America's economic growth, despite the temporary advantage from NAFTA. This directly affects linked producers and suppliers in the United States. For instance, if the garment industry in Latin America is swamped by a wave of imports from Asia after the implementation of multilateral liberalization already agreed to in the Uruguay Round, the exports and output of the U.S. textile sector will plummet. Mexico will soon face a test of its ability to adapt its comparative advantage based on innovation and productivity growth (product and process innovation), moving beyond its current "assembly" role in the regional industrial integration process.

North American integration also exhibits NCC dynamics, but not based on the simplistic "race to the bottom" anti-NAFTA metaphor. A low-wage, binational labor market is absorbing the bulk of employment-displacing effects from NAFTA and increased trade and plant relocation. The negative pressures on these migration-linked labor markets are compounded by a lack of productivity-enhancing physical capital investment, as well as low levels of human and social capital investment. Adding to negative causality is limited access in this binational labor market to labor, migration, and political rights, hindering the ability to secure higher wages and increased social investments in communities on either side of the border.

A slowdown in the U.S. economy would bring to the fore this weakness in the pattern of integration that NAFTA enhanced but did not initiate. The U.S. service sector (primarily construction, personal services, and wholesale and retail trade) might not expand rapidly enough to absorb labor from contracting manufacturing subsectors on both sides of the border, along with offering options to Mexican corn farmers. With this safety value threatened, the unsustainability of the current pattern of integration and growth may be painfully revealed.

Whether proposed integration is regional or global, the same fundamental questions are presented to the United States. What integration scenario is in the best interest of U.S. output and income growth? Can the existing pattern of regional integration be improved to extend the positive and minimize the negative cross-border externalities?

We have merely scratched the surface of these important issues. While we can claim a much better understanding of the key questions and issues than has been exhibited by either pro- or anti-globalization forces in the recent debates, we are still struggling to understand the many interrelated aspects of the economic relationships in North America as modified by NAFTA. Identifying sectors that exhibit PCC and NCC across countries is an important first step toward detailed sectoral studies that dig deeper into the economic, social, and institutional causes of these dynamics.<sup>32</sup> A next step is to design macroeconomic models that reflect these added dimensions of interdependence and can better anticipate the results of economic integration between countries at vastly different levels of development. Such models would be valuable in assessing the impact of Chile's accession to NAFTA and the formation of a Free Trade Area of the Americas. The final challenge will be to design economic and social policies that harness the gains from economic integration while also providing both safety nets and social infrastructure spending to boost wages and productivity levels in the region. Since an economic slowdown would threaten a substantial portion of the income gains of the post-NAFTA period, particularly for the transnational migrant class, the design and implementation of such policies should be a priority. The irony is that years before the Guanajuato Proposal, the NAFTA debate did result in the creation of a \$3 billion institution (the North American Development Bank, or NADBank) that was originally crafted to address these issues but which has failed to be properly implemented by the U.S. and Mexican governments.<sup>33</sup>

Although beyond the scope of this chapter, we believe that a policy framework that could promote positive dynamics would have to har-

ness the potential productivity and income benefits of integration, and at the same time address the adjustment costs of increased integration. Most importantly, this requires broadening the participation of a wide range of economic actors into an emerging integrated economy. Specifically, that will require the support of small and midsize enterprises, together with new private and public investment into low-wage labor markets and marginalized regions. In this way, integration can lead to productivity, income, and consumption expansion. Concerted institutional changes have to be encouraged in support of new accords on productivity, income distribution, and social investment across borders. These will be necessary to sustain integration with both political and economic convergence.

## Notes

1. NAFTA proponents embraced the accord almost reluctantly, as a substitute for more multilateral liberalization and reforms. For example, see the chapter that asks "Should Free Traders Support NAFTA?" in A.R. Riggs and Tom Velk, eds., *Beyond NAFTA: An Economic, Political and Sociological Perspective* (Vancouver, B.C.: Fraser Institute, 1993), pp. 68–73.

2. Specific recent examples of the ongoing controversy include the debates surrounding Permanent Normal Trade Relations for China and its WTO accession, progress or lack thereof on FTAA (Free Trade Area of the Americas), inclusion of labor and environmental issues in the U.S.-Jordan FTA, Seattle and Doha WTO ministerial meetings, and so on.

3. For a review of the NAFTA debate at the time, see Raúl Hinojosa-Ojeda and Sherman Robinson, "Labor Issues in a North American Free Trade Area," in *North American Free Trade: Assessing the Impact*, ed. Nora Lustig, Barry Bosworth, and Robert Lawrence (Washington, D.C.: The Brookings Institution, 1992). On popular debates, see also Mary E. Burfisher, Sherman Robinson, and Karen Thierfelder, "The Impact of NAFTA on the United States," *Journal of Economic Perspectives* 15, no. 1 (Winter 2001): 125–44.

4. Gary Hufbauer and Jeffery Schott, *North American Free Trade: Issues and Recommendations* (Washington, D.C.: Institute for International Economics, 1992).

5. Robert E. Scott, "Fast Track to Lost Jobs: Trade Deficits and Manufacturing Decline are the Legacies of NAFTA and the WTO" (Washington, D.C.: Institute for International Economics, 2001), at <http://epinet.org/briefingpapers/bp118.html>.

6. Raúl Hinojosa-Ojeda, David Runsten, Fernando De Paolis, and Nabil Kamel, "The US Employment Impacts of North American Integration after NAFTA: A Partial Equilibrium Approach" (Los Angeles: NAID Center, University of California, Los Angeles, 2000), at <http://naid.spsr.ucla.edu>.

7. Paul Krugman, "Increasing Returns, Monopolistic Competition and International Trade," *Journal of International Economics* 9 (November 1979): 469–79; Elhanan Helpman and Paul Krugman, *Market Structure and Foreign Trade* (Cambridge, Mass.: MIT Press, 1985); Richard Harris, "Applied General Equilibrium Analysis of Small Open Economies with Scale Economies and Imperfect Competition," *American Economic Review*, December 1984, pp. 1016–32; and David Cox and Richard Harris, "Trade Liberalization and Industrial Organization: Some Estimates for Canada," *Journal of Political Economy* 93 (February 1985): 115–45.

8. Raúl Hinojosa-Ojeda and Sherman Robinson, "Diversos escenarios de la integración de los Estados Unidos y México: enfoque de equilibrio general computable," *Economía Mexicana* 1, no. 1 (1992): 71–144.

9. John Whalley, "Trade, Industrial Policy and Canadian Manufacturing" by Richard Harris (with the assistance of David Cox): A Review Article," *Canadian Journal of Economics* 17 (May 1984): 1–13.

10. Sherman Robinson, Mary Burfisher, Raúl Hinojosa, and Karen Thierfelder, "Agricultural Policies and Migration in a U.S.-Mexico Free Trade Area: A Computable General Equilibrium Analysis," *Journal of Policy Modeling* 15, nos. 5–6 (1993): 673–701, also published in *Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico*, USITC Publication 2508 (Washington D.C.: USITC, May 1992); Santiago Levy and Sweder van Wijnbergen, "Transition Problems in Economic Reform: Agriculture in the Mexico-U.S. Free Trade Agreement," also in *Economy-Wide Modeling*.

11. Edward Taylor and Antonio Yúnez-Naude, "Agricultural Policy Reforms and Village Economics: A CGE Analysis from Mexico," *Journal of Policy Modeling* 21, no.4 (1999): 453–80.

12. Robert McCleery, "An Intertemporal, Linked, Macroeconomic CGE Model of the United States and Mexico Focussing on Demographic Change and Factor Flows," in *Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico*, USITC Publication 2508 (Washington D.C.: USITC, May 1992).

13. Linda Hunter, James Markusen, and Thomas Rutherford, "Trade Liberalization in a Multinational-Dominated Industry: A Theoretical and Applied General Equilibrium Analysis," in *Economy-Wide Modeling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico*, USITC Publication 2508 (Washington D.C.: USITC, May 1992).

14. Data on U.S. international transactions and the dollar from Bureau of Economic Analysis, Survey of Current Business, January 2002 and selected April issues, available on-line at <http://www.bea.doc.gov/bea/pubs.htm>.

15. Council of Economic Advisors, *Economic Report of the President, 2001* (Washington D.C.: U.S. Government Printing Office, 2001).