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## **The North American Auto Industry**

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The auto industry is widely seen as one of the most integrated North American industries. But a series of factors have undermined the competitive potential derived from achieving further integration. NAFTA offered an opportunity that has yet to be fully exploited.

Cross border trade in automotive products in North America increased substantially in the last decade from \$70.9 billion in 1993 to \$158.7 billion in 2003. The integration of the auto industry is shown levels of intra-industry trade reaching 80 to 90% between the United States and each of its two NAFTA partners.<sup>1</sup>

Trade linkages show that Canada and Mexico are largely dependent on their access to the US auto market. Of total North American vehicle production, 16% is located in Canada and 10% in Mexico. Most of the growth in trade in the last ten years resulted from increased imports by the United States, which rose from \$42.6 billion in 1993 to almost a \$100 billion a decade later. Mexican exports increased 400%, reaching \$40.4 billion in 2003 (from \$8.3 billion in 1993); Canadian exports grew 74% from a 1993 total of \$34.3 billion to \$59.5 billion in 2003.

US exports to Canada and Mexico also have more than doubled, from \$28.4 billion in 1993 to \$58.8 billion in 2003. While Canada absorbed much of those exports (\$23.1 billion in 1993 and \$45.2 billion in 2003), US vehicle exports to Mexico exhibited the most dramatic change in trade patterns due to NAFTA: the \$3.8 billion figure registered in 2002 was 38 times greater than the levels reached in 1993 when total value of those exports were only \$513 million. "Mexico was not among the top five destinations in 1993, the year before the NAFTA was enacted, nor even among the top 15. In 1997 Mexico displaced Japan as [US] second best [vehicle] market, taking 9 percent of all U.S. shipments that year, compared with 7 percent for Japan." (Office of Automotive Affairs: 2003). This surge in US automotive exports to Mexico was possible because US firms were able to rationalize and relocate some of their Mexican production to US plants, and

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<sup>1</sup> All statistics are taken from statistics generated by the International Trade Administration, at [http://ese.export.gov/SCRIPTS/hsrun.exe/Distributed/ITA2003\\_NATIONAL/MapXtreme.htm?start=HS\\_newMap](http://ese.export.gov/SCRIPTS/hsrun.exe/Distributed/ITA2003_NATIONAL/MapXtreme.htm?start=HS_newMap)

because of NAFTA, they could export more models to Mexico without being subject to Mexican import and production constraints.

Although the United States is less dependent on exports to their North American partners than the latter are on the US markets, Canada and Mexico absorb 74% of US automotive exports. These exports make the United States "the world's fourth largest exporter of automotive products". Given their smaller market size, Canada and Mexico largely depend on automotive exports to the United States in order to sustain high levels of vehicle production. While vehicle exports only account for 12.5% of total US automotive production, that figure for Mexico and Canada are about 95%.

Regional industry rationalization and specialization is another outcome of the integration process. Since the early 1990s Mexico has exhibited vehicle specialization patterns similar Canada's, with higher shares of mid-size cars, pick-up trucks, and other utility vehicles. Canada also produces full-sized cars while Mexico has recently differentiated from its North American partners as it manufactures and imports small cars mainly for the domestic market. Neither Canada nor the US produces this type of cars. Vehicles fabricated in Mexico include the new Volkswagen Beetle (Puebla), the Daimler Chrysler PT Cruiser (Toluca), the Ford Focus and more recently the Ford Futura (Hermosillo). Other projects include Nissan's redesigned 2001 Sentra and the GM Pontiac Aztek, Buick Rendezvous and the new Suburban/Yukon XL. Some of these products were or still are sole-sourced from Mexico or the Mexican assembly plants are one of only a few North American production sites.

### **A long-term process that preceded NAFTA**

While NAFTA is often cited as the cause of the industry integration on a North American basis, the emergence of a regional system of automotive production preceded the agreement and was the outcome of a complex convergence of corporate and national interests and strategies. The origin of this integrated system was the Canada-US Auto Pact signed in 1965. Regulatory changes in the 1980s boosted industry modernization in Mexico and permitted US vehicle assemblers to include their Mexican operations in new efficiency-seeking strategies aimed at closing the gap enjoyed by their Japanese competitors and stemming significant losses in US market share. These strategies sought to improve product quality and to cut billions of dollars from production and overhead costs. The result, as with Canada earlier, was that the US Big Three invested substantially in Mexico throughout the 1980s and early 1990s.

Trade liberalization allowed firms established in North America to exploit advantages in Canada and Mexico to improve their overall competitiveness in the US. Mexico's strategic advantages – location, automotive manufacturing infrastructure, a qualified labor force, and significant improvements in labor productivity and product quality on par with US levels – explain how it became the North American assembly site for a number of key new vehicle programs. Many of Mexico's vehicle assembly plants are state-of-the-art, including Ford's Hermosillo (1987) followed by Chrysler's Saltillo truck plant and GM's Silao plant dedicated to utility vehicle production. Constructing stamping facilities adjacent to each of these modern vehicle assembly plants represented a major change from past practices when most stampings were imported and illustrate the modernization and integration of Mexican facilities in the North American auto production system.

While some Mexican vehicle assembly plants are highly automated, others, even modern ones, continue to rely on manual labor. For instance Chrysler's plant in Saltillo has only six robots in body framing. In spite of this, many of them "have better labor productivity than comparable US and Canadian plants." (Office of Automotive Affairs 2002). These plants also utilize lean manufacturing techniques and worker involvement in continuous improvement. Weak labor unions in Mexico also enhance flexibility in changing work rules. Naturally, lower labor costs for a qualified work force continue to be a Mexican comparative advantage. Largely due to recurrent economic crisis and deep industrial restructuring, Mexican salaries fell continuously since the 1970s. According to one estimate, in 1994, total hourly remuneration (wages plus benefits) for auto sector workers was \$26.56 in the United States and \$4.05 in Mexico (Studer 2002).

Canada's work force is highly skilled and Canadian plants are often more productive than US and Mexican counterparts (Industry Canada 1998 and 2003). Overall, in the late 1990s, for instance, Canada had a 30% advantage over the United States in direct hourly labor costs and a 5% productivity advantage (Industry Canada 1997). Labor costs of the US Big Three assembly plants in Canada were about 25% cheaper than those in the United States, and 40% of that advantage was due to the government funded health care system. From the assemblers' perspective, this cost advantage and the quality of labor compensates for the high level of unionization that exists in Canada. Exchange rate considerations during the 1990s were also a key factor that made automotive exports to the United States quite attractive.

### **The integration strategies of vehicle manufacturers**

The Big Three's rationalization strategies guaranteed the profitability of their automotive operations in Canada and particularly in Mexico. By focusing on the production of a limited number of vehicles for North American markets, Mexican plants helped enhance economies of scale and quality and reduce costs associated with producing only for Mexico's small vehicle market. The domestic market was then supplemented with vehicles more efficiently produced elsewhere. Furthermore, what was not sold in Mexico could be exported, increasing economies of scale and reducing production costs. A similar rationale has been applied in Canada.

Thus NAFTA, and the booming US vehicle demand after 1993, enabled the Big Three to deepen integration. In the Canada-US Free Trade Agreement (CUSFTA) and NAFTA negotiations, the Big Three demanded and obtained preferential treatment, particularly through stringent rules of origin. They also kept privileges gained in the Auto Pact and the Mexican 1989 Auto Decree. They sought to ensure that Japanese competitors could not use Mexico or Canada as a production platform for exports to the United States. Another goal was to ensure that non-regional producers committed substantial resources before being granted unrestricted access to North American automotive markets.

Not surprisingly, the Big Three coped better than their competitors with the Mexican financial crisis of December 1994. They exported more cars and imported more high-profit and efficiently produced vehicles, even in spite of the drastic fall in Mexican vehicle sales. In 1995 Chrysler actually reported a profit and Ford and GM broke about even; they also managed to gain domestic market share, accounting for about 90% of imported cars and trucks – about 15% of Mexico's market. Furthermore, the drastic decline of the small-car segment translated into big financial losses for Volkswagen and Nissan, which led that segment.

Non-regional producers (Volkswagen and Nissan in Mexico and Toyota and Honda in Canada) suffered because they lacked vehicle production capacity in the three countries and because their suppliers were located outside of the region. They could not take advantage, at least immediately, of NAFTA to rationalize their North American operations.

### **The globalization challenge**

Nonetheless, and despite the rationalization efforts in North America, the Big Three continue to face a strong Japanese competitive challenge. Each Big Three vehicle costs \$1,300 more in overhead than vehicles produced in Japanese plants operating in the US, because of their more generous labor policies that include pension and health care expenses for current and retired workers. Only two Japanese plants (Mitsubishi and Ford Mazda) are unionized, and their workforce is younger and retirement burden are much smaller. Furthermore, NAFTA rules of origin provided some protection for Big Three Mexican and to a lesser extent Canadian production operations. But because the US MFN tariff against third countries was so much lower than its North American partners (2.5% compared with about Canada's 7% and Mexico's 20%), the US continued to be attractive for foreign investment.

Not surprisingly, Mexico followed an active policy of negotiating free trade agreements with the European Union and other countries as well as an automotive agreement with Brazil that reduced tariffs for imported vehicles. This allowed imports of small cars from Europe, Latin America and Asia which represent about 60% of total vehicle sales in Mexico which are not produced in the US or Canada. Thus, while imports of non-NAFTA vehicles accounted for 22.5% of Canada's and 19.6% of the US light vehicle market in 2002, the figure for Mexico was over 30%. This is a very dramatic change in trade patterns, as Mexican vehicle imports from outside the NAFTA region accounted for just 2% in 1997.

Canada was forced through the WTO to remove Auto Pact benefits granted to the Big Three manufacturers in 1965 of importing vehicles from third countries under preferential tariffs. Starting in 2000, Japanese and European vehicle assemblers received the same treatment than US manufactures.

Despite Mexico's and Canada's competitive advantages, US auto firms maintain production levels there at about 10% to 15% of total North American vehicle production. Light vehicle assembly capacity has increased in all three countries since 1993, rising from a total of 16.7 million units to 18.4 million vehicles in 2001. Capacity has grown the fastest in Mexico, rising by 30%, but that increase has been from a relatively small base. Interestingly, the fear that lower wage rates in Mexico would lead to the relocation of US light vehicle manufacturing capacity to sites south of the border did not materialize. US capacity in 2001 was 6% greater than in 1993, but the absolute increase of 714,000 additional units was 64% greater than Mexico's 436,000 units increase. Canada and Mexico also lagged behind other countries in terms of attracting

automotive investments. Between July 1995 and June 1997, for instance, markets receiving the most automotive investment were the United States, Brazil, India, and China, with Canada and Mexico ranking ninth and tenth respectively.

A number of factors—including a political protectionist context in the United States, the existence of costly rules of origin, expensive regulations and different standards particularly between Mexico and its two North American partners—have undermined the competitive potential derived from achieving further integration in the North American auto industry. This situation begs the question of what strategies the North American governments and manufacturers will pursue to ensure the industry's competitiveness, investments and jobs in the future.

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