SHIFTING TERRAINS OF ACCUMULATION: CANADIAN INDUSTRY IN THREE ERAS OF DEVELOPMENT

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Introduction  Within the Left political economy literature, there continues to be a debate about whether Canadian capitalism should be viewed as a dependent formation that has been truncated by excessive reliance on American direct investment, branch plant manufacturing, and technological imports. In a reissue of Levitt’s Invisible Empire, Watkins claims that “the continuing resonance and relevance of this book, thirty years on and counting, is remarkable.” In a recent article, Klassen rejects this view and argues, in opposition to the dependency claims of the New Canadian Political Economy (NCPE) approach, that “The Canadian experience of the new imperialism…has largely tracked and mirrored that of the other advanced capitalist countries.” This disagreement builds on a debate that has continued for almost three decades, which started in the latter part of the 1970s and early 1980s. In that period, a number of writers rejected the claims of the NCPE theorists that industrialization in Canada was truncated, and argued that the Canadian political economy was no different than other economies in following a nationally contained, advanced, or “mature” path of development. The debate was repeated in the latter part of the 1980s and early 1990s through different interpretations of the sources of the Canada-US trade agreement.

A third interpretation, distinct from both of these approaches but drawing elements from them, is informed by the work of the French regulation school and sees Canadian development as resulting from a “permeable Fordism.” Centred on the post-WWII era, Canadian Fordism is under-
stood to include a variety of changes after 1945, such as Keynesian welfare state interventions into the market and new collective bargaining structures tying the growth of productivity to wage gains (following Fordist practices in various advanced economies after the war). It is also defined by a deep integration with American capital and technologies and by a reliance on staple exports to US markets. In an important way, this view overcomes the dichotomous arguments concerning Canada’s dependency or maturity by acknowledging the commonalities with other advanced economies, while at the same time recognizing the distinctive forms of integration with the US economy. This interpretation, however, is limited by a failure to recognize that Canada’s permeable Fordism did not begin after 1945, and that the Canadian version of the Keynesian welfare state was articulated with the particular patterns of Fordism that were established by the early twentieth century. There is also limited recognition of how the patterns of advanced dependent industrialization lying at the core of Canadian Fordism were central in structuring the approach of Canadian capital to continental restructuring in the post-Fordist period that started in the 1970s.

In this paper, I want to build on these insights and focus on the specific character of Canada’s Fordism, but move beyond existing interpretations by stressing how Fordism in the early twentieth century structured developments after 1945 and informed post-Fordist neoliberal developments. First, I will do this by discussing the connections between the two periods, contrasting my interpretation with the influential approach of the regulation school and its dichotomous construction of a laissez-faire capitalism before the war and a regulated capitalism afterwards. Having established the commonalities in the two periods, I will then discuss the important tensions that emerged in the second period of Fordism, which undermined the integrity of this model of development and were related to the Canadian manufacturing sector’s reliance on a domestic market that could not support Fordist accumulation in the same way as in the past—especially in relation to the US economy and to other advanced economies in Europe and Japan that were undergoing their own US-led Fordist development after the war. I will discuss the Auto Pact as a moment of transition between the earlier model of Fordist development, with its reliance on the Canadian domestic
market, and a new form of accumulation that began to dominate the approach of manufacturing capital and the federal state, which was premised on expanding scales of production and productivity by moving in the direction of continental rationalization.

The third part discusses how the initial trends established with the Auto Pact were amplified in the period of neoliberal restructuring leading up to, and after, the 1987 free trade agreement. The movement towards continental rationalization accelerated and Canadian manufacturers abandoned their historic focus on the Canadian domestic market, along with support for tariff protection and domestically centred accumulation strategies. A development pattern was established that combined staple production and technological dependency with new forms of export-oriented manufacturing growth. I argue that, while removing problems associated with relying on the more restricted Canadian domestic market, the new growth strategy created another set of difficulties. For various reasons, the new pattern of Canadian accumulation within a restructured regional space no longer provided the same basis for replicating the forms of advanced development in US industry. The processes of transfer and catching up that underlay the ability of Canadian industry to follow American developments and establish Canadian versions of production in new areas of research-intensive production were attenuated.

By stressing the way in which the initial structuring of Canadian economic development in the early twentieth century carried over into both the period of Fordism after 1945 and the period of neoliberal restructuring that started in the 1970s, we gain insight into common forces that informed the Canadian political economy from the first decade of the twentieth century to the first decade of the twenty-first century. Many discussions about Fordism have analyzed mid-twentieth century developments, so these long-term patterns have been missed. Both sides of the debate about the dependency or maturity of Canadian capitalism also neglect this pattern of change and its underlying sources. The NCPE perspective, because it views Canadian economic history as one long unbroken process of truncated development, does not recognize the initial period of Fordist growth that paralleled advanced industrialization in the United States; does not under-
stand how the post-Second World War (WWII) period of international Fordist expansion brought the Canadian political economy into direct competition with other advanced economies; and does not consider how the period of neoliberal restructuring was distinguished from previous periods of accumulation. On the other hand, the writers who focus on autonomous internal structures of accumulation miss the way in which the specific trajectory of Canadian development, with its deep reliance on processes of transfer and catching-up vis-à-vis US industry, shaped the situation of Canadian manufacturers. This was especially the case in the period leading up to and after the free trade agreement with the United States, when the legacy of previous development patterns limited the possibilities of export and investment expansion in a restructured continental market.

Different View of Fordism Within the Canadian political economy literature, following a well established tendency in international approaches, particularly the French regulation school, Fordism is discussed as a post-WWII development. Analysis of Fordism focuses on its growth in association with a range of developments after 1945, including new Keynesian welfare state measures and collective bargaining regimes, and it is viewed as representing a clear break with previous ways of organizing capitalist growth and development. This break is theorized most explicitly by the French regulation school. A dichotomy is created between market-led formations, which are claimed to have dominated before WWII, and those with significant elements of state interventionism and mechanisms for managing market outcomes, which developed only after the war. In important ways, Fordism is seen as developing in reaction to the “distrust of pure laissez-faire strategies” and as responding to the greater strength of social forces after WWII, which demanded greater regulation of the market after the deep crises of the 1930s and pushed for greater recognition of collective bargaining regimes.

The postwar “Golden Age” is then seen to have resulted from this new configuration of political and economic arrangements that regulated the market or reduced the impact of unregulated market forces in various ways. Boyer and Hollingsworth claim that the growth of the postwar era “was not a victory of pure market mechanisms, but on the contrary the success was
due to the taming of the market by large corporations, unions, and, of course, numerous state agencies.”\textsuperscript{8} This view has been repeated in the Canadian political economy literature. Drache and Gertler, drawing explicitly on the views of the regulation school, claim in relation to Canadian postwar arrangements that “crude competitive capitalism was a thing of the past; a transformation had occurred.”\textsuperscript{9}

But this presentation of the development of Fordism involves a central misconception. The view that Fordism represents a mid-twentieth century development neglects changes in Canada between the 1880s and 1914, particularly in the first decade of the twentieth century, and the deep connection of Canadian economic changes to the intensive development of US Fordism in the latter part of the 1880s and early 1900s.\textsuperscript{10} Contrary to the claims of “untamed markets” and “laissez-faire capitalism” before WWII, the development of Fordism in both the United States and Canada in the early twentieth century involved systematic state interventions and forms of market regulation that were integral to supporting the transformation of the economy. There was also development of concentrated industrial structures that allowed “big business” to manage market outcomes in a systematic way.

In the United States, both the administrative powers of the state and the executive’s role in relation to Congress and the courts expanded under Roosevelt. They were critical in regulating the new structures of mass production being established through the “revolution in production” that occurred in the United States between the 1880s and the entry of the United States into the First World War, through the Federal Reserve Board, the Federal Trade Commission, a new Department of Commerce and Labor, and a strengthened Interstate Commerce Commission.\textsuperscript{11} The new state structures were also important in mediating the demands of various “progressivisms” concerning the “corrupt bargain” between “big business” and the state.\textsuperscript{12} Fuelling the demands of the progressive movements was one of the most intensive periods of mergers and acquisitions in US history, which occurred between 1897 and 1903—structures of industrial concentration that were not altered by the subsequent development of antitrust actions by the US state.\textsuperscript{13}

The Canadian state was also a central actor in supporting the Fordist structures that underlay the “revolution in the structure and nature of
Canadian industrial entrepreneurship” between the 1880s and WWI, particularly in the first decade of the twentieth century. The federal state expanded its role in mediating labour relations to undercut workers’ opposition to the new forms of Fordist work organization, and the provincial state in Ontario moved in a major way to encourage the regional growth of manufacturing at the end of the first decade of the twentieth century through creating a publicly owned transmission system for electricity. Additional support for Fordist growth was provided by the federal state through anticombines policies that facilitated the concentration of capital through mergers and acquisitions. Support was also provided through tariff and subsidy policies that assisted the growth of mass production in specific sectors, and an open-door policy towards the increasing amounts of American direct investment in the manufacturing sector after 1900, as the new forms of transnational capital emerging out of US Fordist development were attracted to the rapidly growing Canadian domestic market. An intensive process of industrial concentration also occurred in Canada that allowed “big business” to control and manage pricing and sales within different regions, and was accepted by the Canadian state as a way of expanding economic efficiency.

Not only were there systematic processes of industrial concentration and managed market structures in the early twentieth century in both countries that were central in establishing the leading sectors of Fordist accumulation, but the sectors and companies created through these processes remained dominant in the period after 1945, and continued to be central in organizing investment, production, and technological change. In his comparison of US industrial development in the early twentieth century and after 1945, Chandler notes that “The review was made easier, indeed it was possible, because, first, the modern industrial enterprise continued to cluster in the same industries and, second, roughly the same set of enterprises remained the leaders in each industry.” This pattern carried over to Canada because of the importance of US transnational firms in Canadian manufacturing. Williams notes that the “growth industries” of the twentieth century in Canada—automobiles, electrical goods, and chemicals—had a heavy US presence by the early 1900s. The role of US capital in the Canadian
economy was reinforced after 1945 as development in the Canadian manufacturing sector returned to the same principles as were followed previously in the early twentieth century. Canadian industry drew on the continued leadership of US capital in key areas of manufacturing through expanded direct investment and extensive reliance on transfers of technology from parent corporations to their Canadian subsidiaries.\textsuperscript{18} The result was that core firms in Canadian manufacturing (e.g., GM and Ford in auto manufacturing; Westinghouse and General Electric in electrical appliances; Imperial Oil in petroleum; Goodyear in rubber; and Sherwin-Williams and Glidden in paints) remained the same, and a deep reliance on technological flows from the United States was reproduced in both periods. This reliance was reinforced by extensive imports of machinery and equipment from the United States by sectors of Canadian-controlled industry, such as steel and sugar, which were also first established in the early twentieth century.\textsuperscript{19} This was in addition to the fact that the specific combination of characteristics that underlay Fordist production after 1945—i.e., high resource intensity; the subjugation of workers to Taylorist forms of work organization and monitoring; continuous flow production sequencing; and much larger production scales using machine tools with applications across various manufacturing sectors—first emerged in a coherent form by the early twentieth century in both the United States and Canada.\textsuperscript{20}

The continuities in the sectors and companies leading Fordist growth in both economies, and the way in which Canadian Fordism closely followed American developments in its leading companies, factory structures, workplace relations, and technological organization, led to similar concentrations of employment in mass production, and stability in the relative levels of Gross Domestic Product (GDP) and productivity in both periods. Concerning employment, the Canadian economy maintained the same position relative to the United States in terms of the role of mass production in the manufacturing sector. As shown in Table 1, employees in Canadian establishments with 500 or more workers as a proportion of overall employment increased to 33.4% in 1949 from 27.3% in 1929, peaked at 35.4% in 1955, settled back to a constant level of 33.2% in 1961 and 1966 and, at the end of the Golden Age period, declined to 30.2% in 1972.\textsuperscript{21}
the United States, employees in establishments with 500 workers and over increased as a proportion from 37.8% in 1929 to 45.9% in 1947, declined to 45.1% in 1954 and 42.7% in 1963, returned in 1967 to essentially the same level as in 1947 at 45.6% and, following the same pattern as in Canada, declined to 41.6% in 1972.\textsuperscript{22} Throughout the period, Canadian proportions remained at between 72.2% and 78.5% of US levels. This compared with a relative proportion of 72.2% in 1929 that was established before the onset of crisis in the 1930s brought an end to the prolonged expansion of mass production over the first three decades of the twentieth century.\textsuperscript{23}

Table 1.
Canada and United States % of Employees in Establishments 500 Workers or More

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<tr>
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<th>Canada</th>
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<tr>
<td>1929</td>
<td>27.3</td>
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<tr>
<td>1949</td>
<td>33.4</td>
<td>45.9</td>
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<tr>
<td>1955</td>
<td>35.4</td>
<td>45.1</td>
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<tr>
<td>1961</td>
<td>33.2</td>
<td>42.7</td>
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<tr>
<td>1966</td>
<td>33.2</td>
<td>45.6</td>
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<tr>
<td>1972</td>
<td>30.2</td>
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The relative level of per capita GDP also was sustained in this period. Postwar industrial growth led to an increase in Canadian GDP per capita as a percentage of the US level, from 77.8% in 1950 to 82.9% in 1973.\textsuperscript{24} This was comparable to the peak level of 83.8% in 1913, reached after the intensive burst of Fordist development in the first decade of the twentieth century.\textsuperscript{25} The level of productivity also increased from 82% of the US level in 1950 to 83% in 1973—not far off the peak level of 87% in 1913.\textsuperscript{26} Canadian relative productivity was higher than that of any other economy.
in Europe or Japan, despite the rapid growth of these economies in the Golden Age period. As was the case in the earlier era of Fordism, the growth was concentrated to the greatest extent in Ontario, where there was expansion in mass production industries, resource industries, and in services.  

**Further Continuities**  In the early twentieth century, structures of mass consumption and distribution also emerged that were similar to those after 1945, even though Keynesian notions of aggregate demand management by the state were not present, there was not the same commitment to welfare state programs, and collective bargaining regimes were more restricted. There is an assumption in the regulation school—mirrored in treatments of Fordism that emphasize the postwar growth of the Keynesian welfare state and of collective bargaining regimes tying productivity gains to wage growth—that nonmarket forms of intervention are essential for establishing the levels of mass consumption integral to Fordist growth. But in relation to US growth in the latter part of the nineteenth and early twentieth centuries, Brenner and Glick note that higher wages and expanding mass consumption were both achieved through the impact of a domestic economy that was characterized by “dramatic increases in mechanization leading to rising productivity, rising real wages, and the explosive expansion of the most dynamic home market in the world at that time.”

Central to this growth was an agricultural sector, particularly in the American Midwest, providing a key source of demand for industrial output. By absorbing labour, it restricted the supply of workers for the expanding manufacturing sectors. Agriculture was an important factor leading to a situation of tight labour markets that supported wage levels capable of providing the foundation for mass consumption. It was not necessary to have extensive collective bargaining regimes or a Keynesian welfare state apparatus supporting a nonmarket “mode of regulation” in order for rising wages to be associated with rising productivity. As in the period after 1945, the critical Fordist connection between productivity and real wages—in which higher wages were paid for out of the productivity gains derived from the application of varieties of Taylorism—could be observed. Between 1880
and 1914, real wages and productivity in the US economy grew in tandem by 75% and 83% respectively.30

A similar process occurred in Canada as the major increases of demand arising from the wheat boom in the Canadian west in the early twentieth century (supported in a variety of ways by state intervention through the National Policy tariffs, state subsidies to transcontinental railway construction, displacement of indigenous peoples, and immigration policies) led to a significant increase in labour demand in central Canada, through what Urquhart calls “an investment boom, a major part of it related directly or indirectly to the settlement of the west.”31 As in the United States, the rise of the agricultural sector based on an independent class of owner/operators further supported wages by restricting the flow of labour to the expanding sectors of manufacturing.32 As in the US case, both productivity and real wages increased rapidly in the latter part of the nineteenth and early twentieth centuries.

Between 1891 and 1911, which covered the most intensive period of Fordist expansion, labour income per employee in constant dollars in the core regions of mass production in Ontario and Quebec rose by 37.1% and 50.6% respectively.33 The increase of labour income corresponded with a major increase in productivity, particularly between 1900 and 1910, when a “radical break with the past” occurred in real levels of gross manufacturing output, manufacturing value added, and manufacturing output per employee.34 In turn, the higher wage levels supported the growth of mass marketing, including department stores and chain stores, which departed fundamentally from the previous smaller-scale organization of retailing and distribution.35 The growth of Fordist industries and mass marketing was thus integrally related to agriculture (without agriculture itself following Fordist principles in its organization). In this respect, there was a difference from the later version of Fordism after WWII, when the role of agriculture in economic growth declined significantly as urban-based concentrations of production became more dominant.

The diminishing role of agriculture in constituting Fordism was not the only shift that occurred. Other changes happened between the two periods, while remaining within common parameters. Canada became a key supplier
of strategic materials to the United States in the areas of energy, forest products, and mining, which replaced wheat and its orientation to British markets as the core source of staple exports. The federal involvement in railway building in the latter part of the nineteenth and early twentieth centuries was replaced by federal support for various infrastructural investments, such as the St. Lawrence Seaway and oil and gas pipelines. The approach by the federal state to regulating labour relations also moved from “ad hoc coercion and conciliation in an unpredictable mixture” to “compulsory collective bargaining.”

Core sources of expanded mass demand also shifted from agriculture-related impacts on investment, consumption spending, and employment to the rising levels of real wages that grew out of the new collective bargaining regime established by the federal state and the provinces, both during and after the war, for the male workers employed in the “resource, mass-production and transportation industries.” But all of these changes remained within the original dimensions of Fordist development established in the first decade of the twentieth century. The characteristics of “permeable fordism” noted by Jenson in relation to developments after 1945 (i.e., resource extraction, imports of capital and technologies from the United States, infrastructural investments by the federal state, “government oversight of the actions of firms and unions in private collective bargaining relations,” and the growth of mass consumption) were all present in the earlier period. Even in the area of labour relations, which had the greatest degree of change in terms of a new apparatus for regulating the structures of collective bargaining in the private sector, the underlying intention in terms of supporting the workplace organizations of mass production through limiting the forms of labour struggle remained the same.

To summarize, the regulationist emphasis on a “crude competitive capitalism” based on an “untamed market” before WWII cannot be sustained. While there was a shift to non-market regulation of demand through Keynesian welfare state programs and collective bargaining regimes after 1945, this did not remove the underlying similarities in the two periods of Fordism. Managed capitalism was established by an early point in the twentieth century in a way that shared fundamental characteristics with the
later Fordist regimes after 1945. The failure to recognize this has led not only to a skewed view of the process of “taming the market,” but to a more general failure to see the continuities between development in the early twentieth century and development after 1945. The movement to Fordism in the post-WWII period is understood as arising from entirely new circumstances, rather than as occurring within the context of pre-existing structures of capitalist growth and development.

A Different View of the Keynesian Welfare State  The Keynesian welfare state measures employed by the federal state after 1945 (considered to be among the most distinctive aspects of postwar Fordism) illustrate this point. Within the Canadian political economy literature, writers working from a position informed by the regulation school and writers who view these measures as forming the basis for a distinct “second national policy” (marking off the process of accumulation after WWII from the earlier first national policy of the Macdonald Conservatives and Laurier Liberals) both neglect to connect these measures with the earlier period of Fordism.40 Canadian Keynesianism did not arise within an entirely new context of policy formation; rather, it was articulated with the ongoing pattern of technological borrowing and reliance on American direct investment established in the previous period. The form of Keynesianism followed in Canada, which was similar to the approach in the United States and focused on stimulating private investment through lower interest rates or tax reductions rather than through deficit spending or redistribution of income from higher to lower income classes, furthered the process of integration into US industrial practices by increasing the incentives for American direct investment in the Canadian economy and increasing the rate of spending by Canadian industry on new fixed capital.41

Similar continuities were apparent with the new social programs created by the federal state. As noted by Campbell in relation to these initiatives, “the anticipated degree of ‘economic redistribution’ was all but marginal. Many of the programs were self-financing or intended to be financed substantially by the maintenance of employment and income.”42 In contrast to the more redistributive programs established in the Nordic welfare states, the
Canadian welfare state was considered a supplement to the main determinants of growth and distribution in the private economy. This orientation built on Canadian Fordism’s previous pattern of development, which shared with its US counterpart similar roots in early twentieth century social formations in which welfare state programs were of much less significance, and core patterns of distribution and demand were not based on forms of redistribution through state programs.

Even though the Canadian welfare state as it developed in the postwar period involved significant forms of state-based redistribution through equalization payments to “have-not” regions and changes to social programs, such as Unemployment Insurance, to provide higher benefits to poorer areas of the country, these initiatives took as given the regional determinants of employment and income and distributed money to different areas in an ex post fashion. They provided a means of legitimizing the federal state and creating greater national unity in the face of the uneven forms of regional development arising from the concentration of Fordist mass production in central Canada, particularly Ontario (a pattern established initially in the first decade of the twentieth century) without altering the underlying sources of this pattern of economic structuring.

Also, the gendered foundations of the Canadian Keynesian Welfare State were connected to the earlier Fordist patterns. Keynesian policies that were directed towards maintaining high levels of employment and supported an expanded welfare state concentrated on male workers, and were premised on notions of the “family wage.” The Golden Age economy was also characterized by deep divisions in the distribution of employment along gender lines. These gender-based constructions furthered distinctions that were already well-established with the development of mass production and mass consumption in the early twentieth century. In relation to clothing manufacturing, which by the 1920s had moved in a major way to mass production in certain areas, Steedman notes that “the basis of women’s work in the clothing industry lay in the social view that their ultimate destiny as wives and mothers made them peripheral to the paid work world.”

The patterns of employment that underlay women’s paid work showed a remarkable degree of consistency from the intensive period of Fordist
development in the first decade of the twentieth century, when the demand for labour in clerical work and in the trade and finance sectors increased, and women, who were slotted into particular positions as typists and stenographers and paid lower wages than their male counterparts, provided an increasingly large proportion of employment in these areas. Between 1931, at the end of the first period of Fordist development, and 1971, at the end of the second period, women's paid work remained focused in clerical, commercial, financial, sales, and service occupations. The gendered dimensions of Fordism in the area of mass consumption, which targeted women in their role as managers of household consumption, also began in the early twentieth century as “captains of consciousness” in the business world “emerged to channel desires for domestic improvement into business profits.”

**Shifting International Position** There were, however, important shifts in the international organization of Fordism after 1945, when the unique position of Canadian industry among advanced economies outside the United States in relation to Fordism changed significantly. These changes began to erode the reliance of Canadian industry on production for the domestic market, which characterized both periods of Fordist development. The restructuring of industry in various areas of advanced capitalism after 1945 was central to this shifting international organization and the growing pressures on Canadian Fordism. In Europe, there were major transfers of American technologies and forms of organization in the immediate postwar period under “the Marshall Plan, the European Recovery Agency, and its successor the OECC (later OECD).” In Japan, new forms of organization of production allowed firms to adapt American Fordism to Japanese economic conditions as part of a systematic drive to expand Japanese exports in the world economy. There was a similar development of Japanese industries embodying Fordist practices that, while departing from American approaches in stressing minimum inventories, just in time production (JIT), and smaller production batches, shared the same focus on “the greatest possible cumulative volume of each product.” Along with the role of American finance in organizing the funding of capitalist expansion, through
both its operations in New York and its growth into postwar Europe, this was a significant development in the construction of a liberal capitalist postwar order in which the United States as the imperial leader systematically disseminated new methods of production, products, and forms of organization to other parts of the capitalist world.\textsuperscript{53}

The process of extending Fordism to other advanced economies reversed the trends that had existed earlier in the twentieth century. Per capita GDP growth rates in 12 leading West European economies averaged 3.93\% between 1950 and 1973, moving substantially ahead of the Canadian rate of 2.74\%.\textsuperscript{54} This was the opposite of the earlier period, when the Canadian growth rate of 3.01\% from 1900 to 1929 was substantially greater than the average rate of 1.70\% in the three leading European economies—Britain, France, and Germany.\textsuperscript{55} A similar reversal occurred in the case of Japan. In the period from 1900 to 1929, Japanese growth was 2.13\%, while from 1950 to 1973 it leapt forward to 8.05\%.\textsuperscript{56} These shifts occurred at the same time that the optimal scales of production in Fordist processes continued to mount. Larger cumulative volumes were needed to justify the higher levels of investment in fixed capital.\textsuperscript{57}

In this situation, the larger absolute size of the US market, the integrated market that was rapidly being created in Europe, and the export-based drive by Japanese industry to expand production volumes, took on greater importance and introduced serious strains into the specific Canadian appropriation of Fordist industry, with its reliance on the domestic economy as the core market for manufacturing. Canadian industry no longer had the unique advantages in relation to American Fordism that had existed in the early part of the twentieth century, the growth of domestic income was now substantially slower than in other advanced economies, and the size of production volumes needed to justify Fordist investments—especially in comparison with the production operations being established in the United States and in other advanced economies—was larger. For all of these reasons, Canadian manufacturing capital, with its primary attachment to the Canadian domestic economy because of the absence of export mandates in the subsidiaries of American transnational capital and the orientation of indigenously controlled manufacturing towards maximizing the degree of
domestic production behind tariff walls, was in a weaker position.\textsuperscript{58}

**Auto Sector Restructuring** The changes made to the Canadian auto industry with the 1965 Auto Pact occurred in direct response to this situation. As noted by Bladen, who headed a Royal Commission on the Automobile Industry, certain dimensions of auto manufacturing, such as body stampings, the machining of parts, and the production of automatic transmissions, were not justified given the more limited production runs in the Canadian domestic market.\textsuperscript{59} The limitations of Canadian auto production were also increased by the growing presence of European car manufacturers who, in contrast to the early part of the twentieth century, were now engaged in a Fordist transformation of their own and were developing sufficient economies of scale in their production operations to expand exports into various markets—including the Canadian one.\textsuperscript{60} This was combined with declining levels of Canadian exports, which in the 1920s had grown on the basis of preferential tariffs in the British Empire to a level that, in per capita terms, was greater than in the United States.\textsuperscript{61} After the war and the decline in the role of empire markets, Canadian auto production returned to the normal pattern and became much more reliant on domestic demand. A peak of 12.5\% of production was reached by exports in 1953, but by 1960 they declined to “one-third of the 1953 level.”\textsuperscript{62}

The federal state made an initial attempt to respond to this situation by establishing a remissions plan in 1963. Import duties in the auto sector were reduced if exports were increased by domestic producers. But this was not sufficient to solve the problems facing the Canadian industry, which required a full integration of Canadian auto production with the larger US market. The Auto Pact with the United States was negotiated in this context, and the auto industry was restructured through rationalizing Canadian production on a continental basis.\textsuperscript{63} The US-based auto firms in Canada were able to move autos and automobile parts between the Canadian and American economies without paying tariffs, as long as certain production safeguards were met. The willingness of American transnational capital to support the agreement and provide assurances to the Canadian state concerning production levels was related to not only the productivity gains
from rationalizing assembly operations in Canada, but also to the existence of lower wages in the Canadian auto industry. As Silver notes, there was increased labour militancy in the United States in the 1930s and 1940s, which led to a shift of investment by US corporations to other parts of the United States, particularly the American South, and to Western Europe. A similar set of motivations operated with the Auto Pact as, at that time in the mid-1960s, Canadian wages in the auto industry were 30% lower than in the United States. Canada thus provided a lower wage site for auto production which, with the Auto Pact, could be treated as part of one continental market.

The outcome of the process confirmed the familiar parameters of Canadian Fordism in terms of technological dependency because the new rationalized operations involved an even greater degree of reliance on American technological capacities. But this outcome should not be seen as evidence of continuing “arrested industrialization,” as is argued by writers who view Canadian development through the prism of a limited industrialization process that is claimed to have its roots in the early twentieth century, or a weak form of manufacturing development arising from the domination of commercial/financial interests once again dating back to the same period. Contrary to these accounts, which argue for a form of truncated industrialization in Canada, the changes made with the Auto Pact renewed a key advanced manufacturing industry in the face of its decline within a different international organization of Fordism. By 1969, productivity in the Canadian auto industry was “estimated to be 10% higher than in the US,” reflecting both an extensive reorganization of established production operations and the addition of new plants with the latest capital equipment. Once again paralleling the experience in the earlier period of Fordist development, new forms of advanced manufacturing and dependent relations with US industry represented two sides of one process, rather than mutually opposed alternatives.

**Shifting to an Export-Driven Strategy** The tensions that underlay auto sector restructuring increased further over the 1970s, and were centrally important in informing the situation of Canadian manufacturers as they
moved over the 1970s and early-to-mid-1980s to export-driven strategies. Problems faced in the earlier period intensified as demand conditions in the domestic market were restricted in various ways. The Canadian economy, along with other leading capitalist economies, no longer experienced the same growth rates as in the postwar Golden Age with the onset of stagflation. Demand conditions in the Canadian economy were lowered further by restructuring in the labour market, as Canadian business over the latter part of the 1970s and early 1980s downsized its operations in a number of areas and, moving to a post-Fordist position, rejected the more accommodating stance towards unions that existed in the Golden Age era. Demand was also undermined by the restrictive monetary and fiscal policies pursued by the federal state, as it moved away from the Keynesian/Fordist emphasis on sustaining high levels of employment in the domestic economy and focused more exclusively on controlling inflation and improving the international competitiveness of Canadian industry by restraining the rate of growth of wages and unit labour costs.

The second underlying tension in Canadian Fordism also extended into the post-Fordist period. The movement to greater reliance on flexible production and its emphasis on smaller production batches did not remove the problems surrounding inadequate scales of production in the Canadian domestic market. Mass production still was underpinning manufacturing processes, but with greater variation in specific design leading to what McMichael terms “mass customization.” The ever more limited growth opportunities in the Canadian domestic market, along with the continuing need to support larger scales of production, strengthened the resolve of Canadian manufacturers to follow the same strategy as in the auto sector and expand into the US market. But this shift occurred with a major difference, as the conditions in the 1960s that allowed production safeguards to be included in the Auto Pact were no longer present in the post-Fordist emphasis on adapting the economy to international market forces without any guarantees concerning nationally based production or employment.

Canadian manufacturers moved, at the end of the 1960s, from a stance that emphasized the role of the home market to a position at the end of the 1970s and early 1980s that focused on trade liberalization within a continental
free trade zone and the negotiation of a free trade agreement with the United States. The Mulroney Tories embraced this position after the Macdonald Commission report in 1985, which supported free trade as a way out of the low levels of economic growth in the early part of the 1980s. When the agreement was implemented in 1989, there was indeed a shift in the orientation of Canadian manufacturing—particularly once the American economy recovered from a recession in the early 1990s. From 1992 to 1996, exports rose rapidly as a source of growth, while domestic demand remained essentially flat. This part of the story supports the arguments of those claiming that the shift to supporting free trade came out of “a strong indigenous capitalist class that defines its interests in terms of a continental economy.”

Another part of the story does not fit with this interpretation, however. Because of the legacy of Canadian Fordism and its reliance on US-based industry, both to organize production in leading areas of manufacturing growth and as a source of new technologies and products, Canadian industry was in no position to embark on innovation-based export growth in competition with US firms in the US market, particularly when the organization of innovation clusters in the Canadian economy was considered. Canadian innovative activity in the crucial information and communications technology (ICT) sector remained highly concentrated in one form of production (telecommunications) and in one firm (Nortel) as it was in the postwar Fordist period. While there were other ICT clusters—such as the Waterloo Cluster with Research In Motion, emerging areas of innovative activity in the west with NovAtel and the Calgary wireless cluster, and in New Brunswick with the development of ICT service providers and software firms—these either remained connected to Nortel (NovAtel’s R&D capabilities was sold to Nortel in 1992), were small in relation to ICT clusters in other economies, or were isolated instances of regional activity that were exceptional within the broader structures of the Canadian economy. The heavy reliance on one firm within the Information Technology cluster reflected a general lack of innovative capacities in the sector. In a study of patenting by Canadian inventors in the United States in the period 1980–94, Trajtenberg concluded that:
Canada seems to be ‘missing the boat’ in terms of the prevailing general purpose technology, Computers and Communications, continuing instead to innovate in traditional fields. Thus, the share of C&C patents in Canada barely changed during this period (from 7 to 9 percent), as opposed to a doubling of the C&C share for all patents (from the same initial base of 7 percent to 14 percent).\(^\text{77}\)

Even with all of its limitations, the ICT cluster was the most important one in the Canadian economy. As noted by Britton, Nortel, which on its own did 21% of all Canadian industrial R&D, was at the centre of the largest technology cluster.\(^\text{78}\) Smaller clusters existed in the areas of energy-environmental technologies and aircraft and parts, but there was low development in the Machinery industry and in the Automation cluster more generally.\(^\text{79}\) The contrasts could not have been greater with the US economy, which represented a core centre of development in high tech manufacturing, particularly the ICT sector.

Reflecting this situation, the Canadian manufacturing industry focused on areas of manufacturing export growth where original innovative capacities were not central and rates of productivity growth were lower. The pattern was illustrated in the latter part of the 1990s, when the ICT sector underpinned a rapid growth of high tech industries and productivity in the United States.\(^\text{80}\) Canadian industry largely missed out on the expansion, while the role of high tech manufacturing in US production increased significantly. The percentage of US output in this area more than doubled, increasing from 17.4% in 1994 to 35.4% in 2000. The Canadian proportion showed much less change, increasing from 12.2% in 1994 to 17% in 2000.\(^\text{81}\) During this period, manufacturing output growth in the two economies was similar, but the composition of output was quite different.

**Further Consequences** The trends established in the 1990s carried over into the first decade of the twenty-first century, as Nortel, the leading performer of industrial R&D in the Canadian economy and the firm at the centre of the ICT cluster, struggled to remain in business after the dot-com bust in 2000. Nortel’s problems culminated with bankruptcy and liquidation in 2008–2009 after the federal state, in a manner that would not have
been repeated in other advanced economies, denied assistance to the company and allowed it be broken up and sold to transnational firms in other countries. As Nortel declined, a major part of overall R&D was removed, both in terms of Nortel's expenditures and the links it had with other companies in Canada—a change that was reflected in rapidly declining figures for Business Enterprise Expenditure on R&D (BERD) as a percentage of Gross Domestic Product (GDP). After peaking at 1.18 in 2004 (a level that was one of the lowest among the advanced economies), BERD as a percentage of GDP declined continuously to 1.04 in 2007, while it continued to rise in the European Union, Japan, and the United States.82

The increase in the Canadian exchange rate in relation to the US currency after 2002, a development fuelled in large part by the increasing reliance on oil and gas staple exports and the perception in foreign exchange markets that the Canadian currency was a “petrodollar,” led to further relative decline. Deteriorating trade balances in key sectors of advanced manufacturing—ranging from pharmaceuticals, office machinery, and computers, to electronics, aerospace, and instruments—were recorded between 2002 and 2008, reflecting these sectors’ reliance on price-sensitive exchange rate conditions.83 The role of resources in Canadian exports continued to rise, with 60% of value-added exports accounted for by resource-based commodities by 2004–2005.84 Continuing well-established patterns after the implementation of the trade agreements in 1987 and 1994, the federal state under the Harper Conservatives, far from confronting the shifts, only reinforced them with a continuing focus on expanding production from the Alberta tar sands and the planned construction of new pipelines sending oil to refineries in the US Gulf Coast.

The trends of declining exports in advanced manufacturing sectors and rising exports of resource-based commodities had major implications for the relative rates of productivity growth in the Canadian and US economies. As the export-driven strategies of Canadian manufacturing capital gathered momentum with the CUFTA and NAFTA agreements, and there was growing divergence in the role of advanced manufacturing in the two economies, an accelerating rate of decline in relative productivity levels was apparent. Between 1994 and 2000, manufacturing productivity growth
rates in relation to the United States diverged significantly, with Canada experiencing the largest relative decline among 12 OECD countries.\textsuperscript{85} Central to the different productivity growth rates in Canada was the smaller size and lower rate of productivity growth of high tech manufacturing industries, particularly the sector producing ICTs.\textsuperscript{86} This trend continued into the first decade of the twenty-first century as productivity growth in manufacturing continued to fall—pulling the overall rate of productivity growth in the economy down with it.\textsuperscript{87}

The declining rate of growth of productivity has created a situation in which Canadian industry must find ways to compensate for its lower relative productivity, through either lower exchange rates or lower relative wages. When the exchange rate appreciates, as in the early 1990s, substantial pressure is created to support the competitiveness of exports by lowering Canadian wages and labour costs in relation to those in the United States. As noted by Robinson, higher interest rates were used by the central bank in the early 1990s to flatten wage growth in a context where relative Canadian labour costs were rising as the exchange rate of the Canadian dollar appreciated.\textsuperscript{88} Pressures to lower relative wages and labour costs are building in the Canadian economy in the current period: the combination of dramatically lower relative productivity and an appreciating dollar create new momentum to engage in a similar process of cost cutting. This scenario has negative implications for the standard of living of Canadian workers, particularly women and racialized minorities who are concentrated in low wage and precarious forms of employment.\textsuperscript{89} It also has negative implications for the region of central Canada, particularly Ontario, which had been the centre of Fordist manufacturing, but no longer has the advantages that existed in the previous Fordist periods.

**Conclusion** The divergence in the pattern of manufacturing growth in the Canadian and US economies led to a major shift in comparison with the earlier periods of Fordist expansion. In the first three decades of the twentieth century, the various economic and political conditions supporting an integration of Fordist capital into the Canadian economy led to parallel developments in the Canadian and US manufacturing sectors. This pattern
was repeated after 1945, when a new set of conditions was created that supported another surge of American FDI into the Canadian economy as part of another round of expansion in Fordist industries. But with the distinct pattern of Canadian exports that developed in the context of post-Fordist continental rationalization, this dimension of Canadian economic development no longer was in place. Canadian manufacturers followed a strategy in the restructured space of the North American economy that led to systematic divergence in the leading manufacturing growth sectors.

Reinforcing this differentiation was the elimination of tariffs and the movement to global commodity chains. In contrast to the previous periods, there was no pressure for US transnational capital to create Canadian production subsidiaries or to license new technologies to Canadian-based firms to avoid tariffs. Canadian domestic demand could be met from US bases or Mexican bases (with NAFTA), or from global production sites that met minimum standards for North American content. This undermined the processes of transfer and catching up that underlay the parallel development of Canadian industry in the previous periods. The impact of this could be seen most clearly in the ICT sector because, unlike in the earlier Fordist periods with the auto sector, there was no broad movement by US transnational capital to establish Canadian production subsidiaries in a core area of technological change and industrial development.

Through 100 years of development, from the first decade of the twentieth century to the first decade of the twenty-first century, and three periods of organizing manufacturing in the Canadian economy, the contours of the Canadian manufacturing sector continued to be shaped by underlying relationships with US industry. In the last era of neoliberal restructuring and continental rationalization, a major break occurred in this relationship, as the previous patterns that supported the parallel forms of manufacturing development in Canada and the United States came to an end within a restructured regional space. While resource exports always formed a central part of the Canadian capitalist terrain, there was a fundamental change in how they were linked with other dimensions of economic growth. The integration of resource exports with advanced forms of manufacturing development in the two periods of Fordist growth was no longer present. Rather,
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a separation became entrenched, as resource extraction no longer was translated into the growth of advanced manufacturing in other regions and sectors of the Canadian economy.

This pattern of change has major implications for Canada's position within the international organization of advanced manufacturing, but it cannot be understood as resulting from a linear trajectory of truncation arising from a “weak” form of industrialization in the early twentieth century, or processes of economic change common to all of the advanced economies. Neither can it be understood as the coming apart of Fordist principles that existed only in the period from 1945 to the early 1970s. Instead, it resulted from a new situation in which dependency and advanced development were no longer linked as they had been in the long period of Fordist industrialization from its beginnings in the early twentieth century, and the processes of transfer and catching up that had played such a major role in Canada's permeable Fordism no longer could provide the same relative levels of development in the transformed regional spaces of neoliberal restructuring.

Notes


4. On one side, it was argued that the agreement grew out of a strengthened indigenous Canadian business class, which saw the agreement as a means of furthering its growing transnational interests in real estate, resource production, financial services, and industrial manufacturing. William Carroll, “Neoliberalism and the Recomposition of Finance Capital in Canada,” Capital and Class 38 (1989), p. 101; and James Richardson, “Free Trade: Why did it Happen?” Canadian Review of Sociology and Anthropology 29/3 (1992), pp. 307–324. On the other side, it was argued that the limitations of dependent development were strengthened further by the agreement, with Canadian business and political elites engaging in a “leap of faith” and attaching themselves even more closely to the US economy. James Laxer, Leap of Faith: Free Trade and the Future of Canada (Edmonton: Hurtig Publishers, 1986), pp. 81–84 and John Warnock, Free Trade and the New Right Agenda (Vancouver: New Star Books, 1988), pp. 86–133.


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19. At the end of the Golden Age period in the early 1970s, 60% of machinery requirements were imported. This was comparable to import levels during the boom years before 1914. Williams, Not for Export, p. 117. Companies such as Stelco and Algoma were established mass producers of steel by the early twentieth century and continued to dominate steel manufacturing after 1945. Craig Heron and Robert Storey, “Work and Struggle in the Canadian Steel Industry, 1900–1950,” in C. Heron and R. Storey, (eds.), On the Job (Montreal: McGill-Queen’s University Press, 1986), pp. 211–212. Sugar companies, such as the Canada Sugar Company and the Dominion Sugar Company, which were formed in the early twentieth century and combined in 1930 under the ownership of Dominion to form one dominant company, then became Redpath Sugars and Redpath Industries Inc., followed the same pattern. Richard Feltoe, Redpath: The History of a Sugar House (Toronto: Natural Heritage/Natural History Inc., 1991) and Richard Feltoe, Redpath: Let Redpath Sweeten It (Toronto: Natural Heritage/Natural History Inc., 1993).


23. US census figures on size of establishments no longer provided any distributions according to the value of annual output. Comparisons with Canadian figures, therefore, are not possible.
26. Maddison, Table E-9, p. 353.
30. Brenner and Glick, p. 69.
35. Monod observes that there was a “dramatic transformation in…consumption, production and distribution in the late nineteenth and early twentieth centuries,” which involved significant changes in mass marketing and consumerism. David Monod, *Store Wars: Shopkeepers and the Culture of Mass Marketing, 1890–1939* (Toronto: University of Toronto Press, 1996), p. 146.
“Canada and the Quest for a National Policy,” Canadian Journal of Political Science 8/1, pp. 44–45. Smiley dates the end of the first national policy to around 1914 because, in his view, its objectives had been met by that time, but notes that other scholars have seen the end as explicitly recognized in 1930 with the transfer of jurisdiction over natural resources to the provinces. This period is then contrasted with a “second national policy,” or “surrogates for a national policy” involving Keynesian Welfare State measures that developed in response to the crisis conditions of the 1930s and took shape over the period after 1945. Brodie, p. 253 and Fowke, pp. 247–258; and Smiley, pp. 46–49.


On the pattern of regional concentration of mass production in the early twentieth century, see Smardon, “Canadian Fordism,” p. 190.


Clement, “Canada’s Social Structure,” pp. 84–85.


Along with a labour relations framework in which management was given untrammeled authority, a key source of the Japanese system was the need to produce a range of products for a smaller domestic market. This led to a focus on “small-batch production and quick changeover of product lines” through long-term networks of suppliers that developed multi-purpose equipment. Mitchell Bernard, “Post-Fordism and Global Restructuring,” in R. Stubbs and G. Underhill, eds., Political Economy and the Changing Global Order (Toronto: Oxford University Press, 2000), pp. 154–155.


As noted by Panitch and Gindin in relation to Europe, “the emulation of US technological and managerial ‘Fordist’ forms (initially organized and channeled through the post-war joint ‘productivity councils’) was massively reinforced by American direct investment.” Leo Panitch and Sam Gindin, Global Capitalism and American Empire (Halifax: Fernwood, 2004), p. 39. Concerning the role of American finance, see Leo Panitch and Sam Gindin, “Finance and

55. Altman, “Staple Theory,” Table 1, p. 247.
56. Maddison, A Millennial Perspective, Table A3-d, p. 21 and Historical Statistics, Table 5c, pp. 558 and pp. 560.
57. In relation to Canadian manufacturing in the latter part of the 1950s, Lougheed noted that “the new technology demands markets of a different shape and magnitude from the old; in particular…the numerical size of the market is a major factor.” Lougheed, p. 41.
58. On this dimension of the organization of Canadian manufacturing capital in the Golden Age period, see Williams, pp. 110–136.
60. Bladen, pp. 11–18.
62. Bladen, p. 11.
66. The limited work that had been done in Canada to adapt American technologies to the specific conditions of the smaller Canadian market was ended, and all R&D and innovation work was located in the home bases of the US-based auto manufacturers. Holmes, “Restructuring in a Continental Production System,” Canada and the Global Economy, p. 249.
67. Clement and Williams claim that with the Auto Pact, “the Canadian industry was surrendered to US companies” as part of a process of “arrested industrialization.” Wallace Clement and Glen Williams, “Resources and Manufacturing in Canada’s Political Economy,” in W. Clement, (ed.), Understanding Canada: Building on the New Canadian Political Economy (Montreal: McGill-Queen’s University Press, 1997), p. 52. Watkins provides a different account stressing divisions within the Canadian capitalist class and arguing that Canadian dependency led to restricted industrialization in Canada as dominant “merchant-cum-financial capital” welcomed “foreign industrial capital to produce a weak path of dependent industrialization.” Mel Watkins, “Canadian Capitalism in Transition,” Understanding Canada, p. 27.
72.. Williams, Not for Export, pp. 145–147.
73. Meric Gertler, “Negotiated Path or ‘Business as Usual’? Ontario’s Transition to a Continental Production Regime,” Space & Polity 3/2 (1999), Figure 5, p. 193.
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82. OECD, Main Science and Technology Indicators: Volume 2009/2 (OECD: Paris, 2010), Table 24, p. 47.

83. OECD, Main Science and Technology Indicators, Tables 72–76, pp. 95–99.

84. Jackson, "Fifteen Years of 'Free Trade,'" p. 231.

85. Bernstein, Harris, and Sharpe, pp. 4–6.

86. One study found that the entire difference in productivity growth rates between Canada and the United States in the last half of the 1990s resulted from this sector. Someshwar Rao and Jianmin Tang, "The Contribution of ICTs to Productivity Growth in Canada and the United States in the 1990s," International Productivity Monitor 3 (2001), pp. 3–4.


90. On the history of this core technology, see Freeman and Louca, As Time Goes By, pp. 301–333.