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Author(s): J. C. Herbert Emery and Ronald D. Kneebone
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Socialists, Populists, Resources, and the Divergent Development of Alberta and Saskatchewan

J.C. HERBERT EMERY
Department of Economics
University of Calgary

RONALD D. KNEEBONE
Department of Economics and
Institute for Advanced Policy Research
University of Calgary

Quand gouvernement canadien, en 1905, a divisé un territoire pour créer les provinces de la Saskatchewan et de l'Alberta, il a fait en sorte que les deux nouvelles entités aient une superficie, une population et un niveau économique à peu près équivalents. Une centaine d'années plus tard, l'Alberta a une population qui est le triple de celle de la Saskatchewan, et son produit intérieur brut est plus de quatre fois plus important que celui de sa voisine. L'établissement de cette frontière constitue un phénomène « naturel » qui peut nous aider aujourd'hui à mieux évaluer l'importance relative des institutions et de la géographie, parmi les éléments qui expliquent le développement différent de chacune des deux provinces jumelles. On croit souvent que c'est le climat politique particulier de la Saskatchewan qui a freiné son développement en comparaison de ce qui s'est produit en Alberta. En réalité, l'apparition rapide d'un secteur manufacturier en Alberta, et le fait que son sous-sol se soit révélé riche en ressources constituent une explication beaucoup plus convaincante.

Mots clés : développement, institutions, politiques publiques, ressources naturelles

Canada's federal government established the provinces of Saskatchewan and Alberta in 1905, making them approximately equal in area, population, and economy. Roughly one hundred years later, Alberta has three times the population of Saskatchewan and a gross domestic product (GDP) that is more than four times greater. The creation of the border represents a "natural experiment" that allows us to assess the relative importance of institutions versus geography to explain the divergent development of the twin provinces. While the perception persists that Saskatchewan's political climate hindered that province's development relative to Alberta's, it is Alberta's early lead in manufacturing, and vast mineral endowments, that present a more convincing explanation for the divergence.

Keywords: Development, institutions, policy, resources

Introduction

In 1905, Canada's federal government established a political boundary that divided the Northwest Territories into two provinces, Alberta and Saskatchewan, making them approximately equal in area, population, and economy. Roughly one hundred years later, Alberta has three times the population of Saskatchewan and a gross domestic product (GDP) that is more than four times greater. It appears that the placement of the provincial border established the conditions for a "natural experiment," one that has now run for over 100 years, in which the importance of institutions can be assessed against the importance of geography in determining the pace and level of economic development. The literature which has addressed this issue through international comparisons finds that geographic factors such as climate, latitude, distance to a coastal port or navigable waterways, and mineral endowments are important for explaining relative income levels and income growth through their effects on transport costs, disease burdens, and agricultural productivity (Gallup, Sachs, Mellinger 1999; Mitchener and McLean 2003; Rappaport and Sachs 2003; Sachs 2003). The literature also suggests that institutional quality provides a convincing explanation for the variation in economic outcomes (Acemoglu, Johnson, and Robinson 2001, 2002; Rodrik, Subramanian, and Trebbi 2004). Disentangling the causal channels of these influences on economic development in international comparisons is difficult due to the number of factors that can vary in the experiment, the small set of countries that are suited to analysis, and the potential endogeneity of institutions and policies to physical geography.

In this light, our comparison of the Canadian provinces of Alberta and Saskatchewan stands to make an innovative contribution to the literature addressing geography and economic development.[1] Unlike comparative studies of national economies, in our study the set of conditions for the provincial economies which satisfy the *ceteris paribus* assumption is large. The provinces share common languages, social norms, currency, financial systems, international trade policies, and structures of governance. The two economies are integrated with a very high degree of mobility of capital, labour, and goods. Both economies are small, open, and dependent upon external sources of capital to develop and exploit their natural resources. Both provinces are distant from coastal ports and are dependent on common rail networks. Finally, the provinces share the same latitude and climate.

What was not known in 1905 was that the location of the border would result in one province, Alberta, receiving the greater share of the endowment of oil, natural gas, and coal found in the region. Beginning in 1947, a series of discoveries indicated that Alberta controlled large pools of crude oil and natural gas.[2] Alberta's early advantage in the form of much larger reserves of oil and natural gas would appear to be an obvious explanation for the difference in the economic development of the two provinces. However, Saskatchewan also contains substantial quantities of natural resources in the form of oil, natural gas, potash, and uranium. In fact, Saskatchewan is today estimated to have 75 percent of the world's reserves of potash, originally discovered as a by-product of oil exploration in the 1940s. Similarly, deposits of uranium, first discovered in the 1930s, are such that Saskatchewan is today the second largest producer in the world.

The other ingredient in the natural experiment is a social-political one. Marchildon (2005, 4) suggests that the border resulted in contrasting identities for the residents of the twin provinces. Marchildon describes the stereotypes of "collectivist-inclined social democrats in Saskatchewan who emphasize security and egalitarian social development" versus the "entrepreneurial 'small c' conservatives ... dedicated to the individualistic pursuit of liberty and prosperity."[3] On the basis of these perceptions, ideology and government policy are often raised as the explanations for the divergence of incomes between the provinces. Thus, Tyre (1962) asserts that ideological and political divergence arising after the

Great Depression was the reason for the economic rise of Alberta, the under-performance of Saskatchewan's economy, and why there are few large corporations in Saskatchewan. The perception persists to this day that socialist policies enacted by Saskatchewan's governments are an important part of the explanation for Saskatchewan's perceived under-performance relative to Alberta's rise.[4]

Political ideology is often cited as an explanation for differences in economic development because, as the experience of many resource-dependent economies has shown, government policies can play a key role in encouraging or discouraging investment. This is especially so for policies introduced early in the development process and regarding economic activities where profits are higher and production is spatially concentrated (agglomeration economies). Tax policies and regulations can encourage or discourage location decisions and in this way give spark to (or extinguish) agglomeration economies. Decisions made early in the development process with respect to the issue of public versus private ownership of resources are also identified as predictors of future economic success.

In this paper, we evaluate the relative roles of influences in the form of political ideology, public ownership of resources, and resource endowments to explain the different economic trajectories of two economies initially similar in terms of economic prospects. Our analysis shows that while the rhetoric of the political leaders of the two provinces may have differed, except for a short time during an important period of their economic development, there has been little difference in the policies pursued by the governments of Alberta and Saskatchewan with respect to the development of natural resources. Any claim that institutions played the key role in explaining the difference in economic development in the two provinces must therefore rest on an argument that differences in policy practiced during that critical period had a substantial and prolonged influence. We examine that possibility and dismiss it in favour of an argument that Alberta's early lead in manufacturing development, and the fact its mineral endowments were discovered first, are the reasons for its economic leadership. In our assessment, geography, not institutions, is responsible for the divergent outcomes of the twin provinces.

We believe that our analysis has implications for two distinct Canadian-policy bodies of literature. First, for the literature that examines the potential for economic gains from the removal of interprovincial trade barriers, and hence a reduction in the influence of provincial borders; the lack of a border effect on long-run development outcomes suggests that the costs of trade barriers may not be large for Canadian provinces (Fox and Roach 2003; Beaulieu, Gaisford, and Higginson 2003). Second, a smaller body of literature that examines provincial borders from the perspective of "optimal" policy areas has not been able to assess whether changing provincial boundaries can be associated with changes in the incomes of residents of the affected political jurisdictions (Emery and Kneebone 2003; Di Matteo, Emery, and English 2006). Our work suggests that there are unlikely to be growth effects associated with a change in, or even removal of, provincial boundaries; so these studies have not, in fact, omitted an important policy effect.

The Natural Experiment from the 1905 Boundary Decision

In 1905, the Canadian federal government set the stage for an interesting natural experiment. The government established the provinces of Saskatchewan and Alberta by drawing a border that divided a prairie region into two halves approximately equal in area, economy, and population.[5] The mineral resources that would prove to be economically important for the provincial economies after the Depression of the 1930s were not discovered in 1905, and the provinces did not own the natural resources within their jurisdiction until 1930. In addition, the populations of the two provinces had shared the same government until 1905, and the location of the border was not set to serve ideological or cultural differences within the populations. The boundary decision satisfies the requirements for a valid natural experiment because of the exogeneity of the boundary location to resource endowments and socio-political factors.

By 1897, Canada's population was expanding through the prairie region of western Canada, a region known at the time as the Northwest Territories. Immigration policy, which was the jurisdiction of the federal government, contributed to this population growth but the responsibility for providing local works and improvements was the responsibility of the territorial government. Predictably, a growing population and the financial problems that came with it led the territories to pursue provincial status. While the economy of the territories was agricultural, considerable diversity in agricultural activity and economic interests existed across the plains. Nicholson (1954) described the southern part of the territories as largely flat, treeless prairie suited to large-scale grain growing and ranching, whereas the land north of this area was rolling, treed, well-watered and suitable to mixed farming and smaller farms. Not surprisingly, such a clear delineation of economic interests by geography resulted in a proposal for the creation of two provinces with a border running east and west. But other proposals were made for the creation of one, two, three, and even four provinces.

From the outset, the establishment of the new provinces reflected two competing principles; efficiency in administration versus the separation of diversified interests.[6] Opponents of the proposal for the establishment of a single province argued that a single province would be too large to efficiently manage, and that interests across the vast territory were too diverse.[7] The creation of one province was also criticized on the grounds that it would be too big to maintain political balances within Confederation (Marchildon 2005, 3). The pace of population growth in the territories after 1896 contributed to concerns regarding the balance of political power across provinces, or perhaps even the maintenance of political power in the existing provinces.[8]

In February 1905, the federal government introduced legislation that created two provinces out of the Northwest Territories. What was apparently a crucial consideration was also a political one: the government held the view that the Northwest Territories were "altogether too large an area to be made into one single province according to the size of the other provinces" (Owram 1979, 277). Despite the fact that there was considerable variation in the geographic sizes of the existing seven provinces in 1905, it was argued that where the federal government had control over the creation of new provinces, it should endeavour to make the new provinces about the same size as those currently in existence (Lingard 1946, 199).[9] A north/south border was positioned that created two provinces roughly equal in size by area (715,000 square kilometres each).

To the extent the territories had been divided to better serve the diverse interests that existed in the west, the placement of the border was somewhat remarkable in that it created two provinces with roughly equal acreages suitable for grain growing, ranching, and irrigation farming (Lingard 1946). From the outset, the position of the border was criticized for having divided the ranching country in the south (Nicholson 1954; Owram 1979). The *Calgary Herald* on 23 February 1905 expressed the opinion that the "dividing line ... is wrong, placed there evidently in an arbitrary manner without consideration and without regard to the physical features of the country or its agricultural and grazing qualities" (Owram 1979, 291).

With respect to the location of the border and endowments of mineral resources that would prove to be important to the provinces after the Depression, the discovery of those resources occurred after World War II. Even if the discoveries had occurred earlier, the property rights to the natural resources within the two provinces, and hence the capacity to use natural resources as a tool for development, were not transferred to Alberta and Saskatchewan until 1930 (Boothe and Edwards 2003, 93-7). As we discuss below, the timing of discovery also post-dates the chosen approaches to resource development in the two provinces, which allows us to interpret subsequent economic outcomes as a consequence of policy.

Ideological Divergence and Convergence

The provinces' shared experiences of economic devastation, drought, and out-migration during the Great Depression impressed upon both their governments the need to diversify their economies away from agriculture.[10] Their initial approaches toward economic diversification would, however, prove to be very different.[11] Under the "populist" Social Credit government elected in 1935, Alberta would respond by enabling the tools of capitalism to better serve Albertans by favouring policies to encourage external private capital to locate in the province. In Saskatchewan, the victorious socialist Cooperative Commonwealth Federation (CCF) party in the 1944 provincial election embarked on an economic program initially favouring nationalization and public ownership. The CCF declared that the resources of the province were to be developed to benefit the citizens of Saskatchewan, rather than external capitalists.

Prior to the discovery of the large oil pool at Leduc in 1947, relatively little crude oil was produced in Alberta, and even less in Saskatchewan.[12] Natural gas was produced in small quantity in Alberta but no substantial quantity of gas would be produced in Saskatchewan until the mid-1950s. Playing a role in shaping public policy in both provinces was the market power of private energy producers. Until the early 1970s, US oil and gas firms, as developers and producers of oil and gas, are generally deemed to have had a great deal of bargaining power (Richards and Pratt 1979; Chastko 2004). The provincial governments lacked the necessary public capital to develop the resource on their own. Further, the risks inherent in oil and gas exploration proved unpalatable for provinces emerging from the debt problems of the 1930s (Hanson 1958; Richards and Pratt 1979; Johnson 2004). Finally, as domestic sources of capital were not well developed, external private capital that produced the oil had credible exit threats.[13]

In Alberta, the Social Credit government, newly formed and newly elected in 1935, sought to diversify the economy by building upon the nascent oil industry that had been established as a result of the small, and by then declining, production of oil in Turner Valley. To do so, it sent assurances to the financial sector and the oil industry that the province would provide every incentive to risk capital, and it established a regulatory regime that emphasized private-property rights and a generous royalty regime (Hanson 1958; Richards and Pratt 1979).[14] In the same year as the discovery of the large oil pool at Leduc in 1947, Alberta's Social Credit government passed the *Mines and Mineral Act* that committed the provincial government to a relatively low maximum royalty rate equal to just 16.67 percent of gross production (Doern and Toner 1984). When the 1950s saw a glut on world oil markets, with the result that Alberta's oil industry was producing at less than 50 percent of potential, the premier tried to impress on the international community that, unlike the Middle East, Alberta was a stable place for long-term investment in oil and gas (Richards and Pratt 1979).[15] To prevent the establishment of federally incorporated pipeline companies in the province, Alberta established in 1954 a joint public-private enterprise, Alberta Gas Trunk Line (AGTL), to gather and distribute gas to export markets. The mix of private and public ownership of AGTL reflected a conscious decision to reject complete public ownership in the form of a Crown corporation.

Initially, the CCF's approach to developing Saskatchewan's natural resources departed dramatically from that of the Social Credit party in Alberta. While the CCF would not win election in Saskatchewan until 1944, in the 1934 and 1938 provincial elections, CCF candidates campaigned on a platform of social ownership of all major industries.[16] At the July 1933 CCF National Convention, the party unveiled its "Regina Manifesto," which stated that the party sought to "replace the current capitalist system" with a social order based upon economic equality.[17] Among other things, it called for natural resources to be developed for the public benefit, and "not for the private profit of a small group of owners [or] financial manipulators" (Zakuta 1964, 162). However, the manifesto made it clear that a policy of outright confiscation would not be pursued (Zakuta 1964, 162).

By 1944, the CCF's Natural Resources and Industrial Development Committee identified the natural-resource sector as the central candidate for social ownership.[18] The committee recommended that the government acquire those mineral rights that were privately owned, prevent further private ownership of natural resources, and plan for the eventual and complete socialization of all natural resources. The 1944 CCF election platform (the *Program for Saskatchewan*) stated that the party would proceed to public development and ownership of the natural resources (Johnson 2004, 44). However, the program made no mention of the committee's recommendation that privately owned resources should be restored to the province. Yet the committee also made mention of collecting royalties and taxes from privately owned enterprises, making it unclear whether full socialization would ever occur.

In the 1944 election campaign, Douglas and his colleagues were forced to defend and clarify the CCF's policy on socialization. The main focus of the party in 1944 appears to have been the development of resources, rather than socialization. The Saskatchewan CCF Committee on Socialization of Industry and Natural Resources stated that "industry should not be socialized for the sake of socialization, but only under certain defined circumstances" (Johnson 2004, 30). Premier Douglas argued that social ownership should be expanded upon when needed to prevent monopoly and exploitation of the public.[19] Douglas believed that royalties and land-rental regulations would be sufficient to capture a fair share of resource revenues.

From 1944 to 1948, the newly elected CCF sought to promote Saskatchewan's economic diversification through nationalization and promotion of secondary manufacturing and natural resources. The 1944 *Natural Resources Act* gave the Minister of Natural Resources power to "acquire any lands or works by purchase, lease or expropriation" as necessary to develop and utilize the resources of the province (Richards and Pratt 1979, 110).[20] The 1944 *Mineral Taxation Act* imposed a tax on undeveloped freehold mineral rights to encourage holders of the rights, which were granted by the federal government, to allow the rights to revert to the province (Richards and Pratt 1979, 110).[21] Failure to pay the mineral tax resulted in forfeiture of the mineral rights to the Saskatchewan government. A resolution adopted by the CCF party at its 1946 convention called upon the Government of Saskatchewan to place oil and natural gas under social ownership, control and operation (Johnson 2004, 129). Similar resolutions were approved in 1947 and 1948. By October 1947, mineral rights in undeveloped areas were seized by the Saskatchewan Department of Natural Resources.

A notorious episode in Saskatchewan history occurred in 1944 shortly after the CCF had won election to power. Imperial Oil, Canada's major oil company, approached the CCF government with a proposal for a long-term contract that would give the company exclusive exploration rights over a large section of the province should it find commercial volumes of oil. While the government's own advisors suggested that turning down the offer would delay exploration and possible industrial development for many years, and that the risks inherent in oil and gas exploration were inappropriate for a provincial government to take on, it nonetheless refused the offer and, as a result, Imperial Oil halted exploration in the province.[22]

Despite the aggressive policies and positions of the CCF in its first term of government, debate over public or private development of resources continued within the CCF and, by its second term in office, the party was backing away from its earlier direction of public ownership. Capital market forces and moderates within the CCF were moving Saskatchewan into the same passive rentier role as Alberta (Johnson 2004).[23] Following its formation in 1946, the Economic Advisory and Planning Board (EAPB) recommended in late 1947 and again in early 1948 that Saskatchewan rely on private development of the province's mineral resources (Johnson 2004, 123, 131). On 1 September 1948, all forfeiture proceedings under the 1944 *Mineral Taxation Act* were stopped, pending the resolution of court proceedings surrounding the Canadian Pacific Railway's action to have the act declared *ultra vires* (Government of Saskatchewan 1950, 29). As a result of this, the Saskatchewan Government passed an Order in Council allowing the return of forfeited mineral rights upon payment of the mineral taxes, with a deadline of 31 October 1950 for revestment applications. Revestment of the mineral rights was completed by 31 December 1951, with 96.3 percent of the mineral rights restored to their original owners and the remainder retained by the Crown (Government of Saskatchewan 1952, 24).

After the 1948 election, and following the Leduc and Redwater oil discoveries in Alberta, the CCF was sensitive to criticism about the relatively slow pace of oil exploration in Saskatchewan. Aware that concessions would need to be made to bring the oil majors like Imperial Oil back to the province, Douglas was by this time sending letters to majors and independents indicating the province "has no intention of either expropriating or socializing the oil industry" (Richards and Pratt 1979, 135-36). By the early 1950s, the CCF had formally abandoned the nationalization option, and by the mid-1950s, the oil polices of the CCF had largely converged with those of the Social Credit government in Alberta.

There seem to have been several reasons for the CCF's change in policy direction. First, the government was losing popularity through its first term. In the 1948 election, the CCF party went from 47 seats to 31; one of the seats lost was that of Joe Phelps, the Minister of Natural Resources and an enthusiastic proponent of nationalization. The position of Minister of Natural Resources went to J.H. Brockelbank, whose ideology was less radical than his predecessor's.[24] By this time too the failure of the publicly owned firms established by the CCF government in 1945 and 1946, firms that competed with existing private firms, had become apparent.[25] Second, the CCF government faced a threat from oil companies in the province that they would move out if the government went through with an agreement over the leasing of Crown reserves that the industry saw as putting the government in the oil business (Johnson 2004; Richards and Pratt 1979, 143). [26] Financial necessity also encouraged the CCF government to converge toward Alberta's policies on and approaches to resource development. American investors sent a clear message to Treasurer Clarence Fines that Saskatchewan government bonds would not be in demand if the CCF did not improve the province's credit position (Richards and Pratt 1979).

Not only were any moves toward nationalizing Saskatchewan's oil resources limited to the CCF's first term in government, it is uncertain whether the government's threat of expropriation was considered credible by investors, and if it was, whether the expropriation risk had a lasting effect on the development of the province's oil resources. It is often asserted, as by Richards and Pratt (1979), that the slower growth of the oil and gas sector was the result of the threat of nationalization from the CCF. This assertion rests on interpreting that slower development as fallout from the CCF's rejection of Imperial Oil's offer in 1944. However, in a 1950 memorandum to Premier Douglas detailing discussions with Imperial Oil about the company's lack of activity in Saskatchewan and prospects for the company becoming more active in the province, senior government officials reported that Imperial identified four reasons for not operating in Saskatchewan since 1945. In order, these were listed as: first, they felt there was difficulty obtaining land; second, there were "more interesting" geological structures in Alberta; third, there was a necessity to place all available funds in Alberta to protect the discoveries that they had made; and fourth, they had a fear of expropriation in Saskatchewan (Black 1950). Johnson (2004) argues that the relatively slower development of the oil and gas resources of Saskatchewan in the 1940s and early 1950s would have also reflected the fact that the vast majority of proven reserves of conventional oil were in Alberta. With Alberta's geological formations having proved to hold commercial quantities of oil, with new oil-services firms established in Alberta to service the newly discovered fields, and with new pipelines being established to transport oil from field to market, it is not surprising that exploration in Saskatchewan may have held less appeal for oil companies.[27]

The sizes and wealth of the two provincial economies diverged dramatically with the Organization of the Petroleum Exporting Countries (OPEC) induced oil boom of the 1970s. This was also a time of dramatic change in Alberta politics, when the newly elected Conservative government abandoned the Social Credit Party's passive rentier approach to resource development for a "public entrepreneurship" approach that was similar to that of Douglas' early CCF governments in Saskatchewan. When he became Premier of Alberta in 1971, Peter Lougheed was able to enact significant changes to Alberta's royalty structure so that Alberta could capture a greater share of resource rent.[28] Further, he promoted public entrepreneurship in the oil and gas sector. On election night in 1971, Lougheed indicated that his most important objective was to take control of Alberta's resources so that resource royalties could finance his "province building" agenda.[29] After 1971, it could no longer be claimed that the government of Alberta remained in a passive rentier role.

Lougheed's activist approach was criticized by industry in Alberta as his government promoted ownership in companies that competed with existing private firms. Perhaps anticipating this criticism, two days after he was elected, Lougheed declared: "We stand for free enterprise—not socialism. We stand for social reform and individual rights—not big government control" (Bunner 2003). Lougheed also took pains to emphasize in 1975 that Alan Blakeney's NDP government's participation in the Saskatchewan economy made Lougheed's own government look "laissez-faire" in comparison (Bunner 2003). In practice, however, the Lougheed government's actions were not radically different from the resource-based public entrepreneurship ideas and policies of the Saskatchewan CCF before 1950. Both Lougheed after 1971, and Premier Tommy Douglas of Saskatchewan after 1944, believed that resource rents could be used to aid the development of other industries to diversify their economies.

How the provincial governments have used their royalty wealth for economic development is also worth considering as it may be important for understanding the differing fates of the provinces. The government of Alberta is perceived to have invested its resource wealth, whereas that of Saskatchewan has not. Richards and Pratt (1979, 273) argue that "to the extent Saskatchewan's resource rents are used to augment public consumption and not as a source of investment funds, the government may merely be retarding an inevitable process of contraction of provincial population and infrastructure as agricultural employment continues to decline." In contrast, Harding (1995) argues that in Saskatchewan resource revenues were used to finance investment and further resource development rather than social-policy initiatives. For example, between 1970 and 1980, Saskatchewan invested its resource rents in several Crown corporations such as SaskOil and the Potash Corporation of Saskatchewan. SaskOil was created to retain refining capacity in the province when private-sector oil refiners announced their intention to close down refining capacity in Saskatchewan and Manitoba, and expand refining capacity in Alberta.

Alberta's reputation for not consuming its public revenues from oil and gas is also overstated. To the extent that resource royalties have been used to reduce income taxes and allow Alberta to finance high levels of public spending without the need of a provincial sales tax (Alberta is the only Canadian province without a sales tax), it would appear that the main role for resource rents in Alberta has also been to augment private and public consumption.[30] Consider also that by 1983, Alberta was including investment income from the Heritage Fund in general revenues and, after the collapse of the price of oil in 1986, the provincial government stopped depositing oil and gas royalty income into the Heritage Fund and instead made these revenues part of general revenues. As a result of these decisions, the provincial government in Alberta had by 2004 saved less than ten percent of all natural resource revenue collected since 1970.[31]

In the 1980s and 1990s, economic circumstances forced still further similarities in the economic policies of the two provincial governments. A crash in oil prices in 1986 would force governments in both provinces to pursue deficit-reduction strategies that were remarkably similar. Kneebone and McKenzie (1999) show that Saskatchewan and Alberta reacted to the fiscal crisis in ways far more similar than different. Indeed, while Alberta is often considered the champion of expenditure cuts and government withdrawal from the economy in the face of the budget crisis, it was Saskatchewan that instituted the larger cuts to program spending due to the province's high debt level. Reminiscent of Clarence Fines' predicament in his first term as provincial treasurer, Janice MacKinnon (2003) describes how she waited anxiously in the early 1990s to hear whether the government of Saskatchewan would be able to borrow from international capital markets. Like Fines, MacKinnon had to convince NDP supporters that it was not feasible under those circumstances to pursue redistributive policies and levels of social spending to the extent that many NDP members wanted. Finally, in a detailed examination of recent economic-policy choices, Emery and Kneebone (2003) conclude that differences in provincial tax and spending policies and differences in industrial policy have been differences only in degree, and are more reflective of differences in income distribution and industrial structure than profound differences in political ideology.

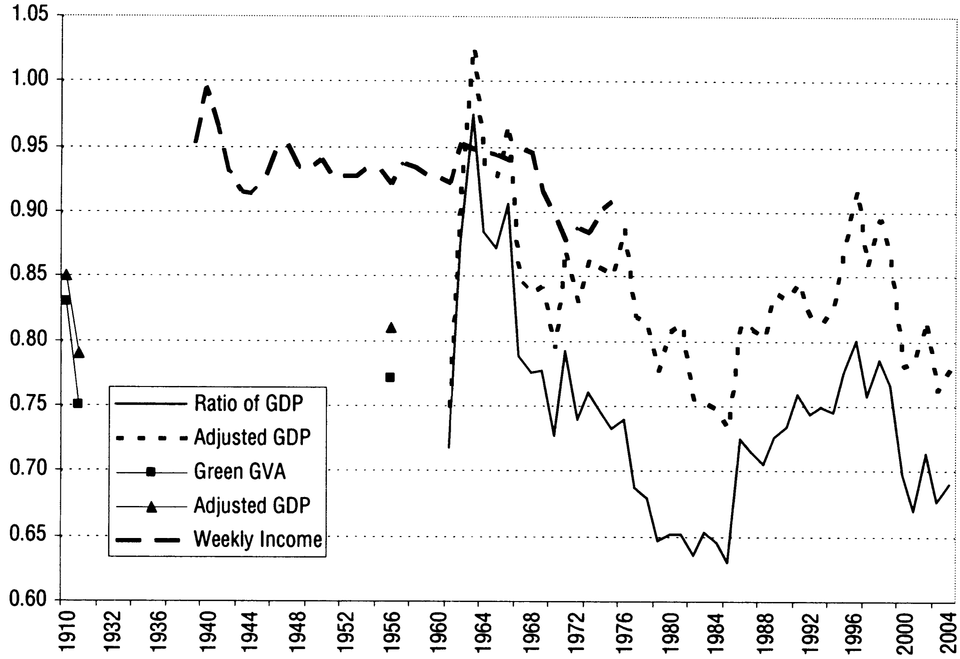
Economic Evolution and Divergence

Did the CCF's policies retard economic development of Saskatchewan's oil resources and consequent economic development? The preceding section makes the case that the CCF experiment with public entrepreneurship was short-lived, and that by the early 1950s the oil polices of the CCF had largely converged with those of the Social Credit government in Alberta. Any claim that differences in institutions were responsible for differences in the economic development of the two provinces therefore rests on an argument that differences in policies during this short period of the late 1940s had substantial and prolonged influences on future decisions by industry. In this section, we seek to identify whether these short-lived policy differences between the two provinces may have resulted in a permanent change in the relative economic performances of the two provinces.

Figure 1 presents alternative measures of per capita incomes in Saskatchewan relative to those in Alberta for the period of 1910 to 2004. From 1929 to 1956, income ratios based on Green's (1971) gross value added (GVA) estimates suggest a slight decline in Alberta's income advantage. Ratios based on average weekly incomes suggest no trend in

FIGURE 1

Saskatchewan's Per Capita Income as a Fraction of Alberta's, 1910-2004



Sources: See Green (1971) for calculations for 1910, 1929 and 1956. Sources of data for the period 1961–2004 are as follows: Nominal GDP, 1961–1980: CANSIM v508957 and v508936. Nominal GDP, 1981–2004: CANSIM v687287 and v6877275.

Weekly Incomes are from Series 57 and 58, "Average weekly wages and salaries, industrial composite, by province, 1939 to 1975, (Leacy 1982). Adjusted GDP and GVA ratios account for the differences in male and female employment and populations in the two provinces. Total male population: CANSIM v469504 and v469189. Total female population: v469505 and v469190. Male population, 15–64 years: v2466964 and v2466327. Female population, 15–64 years: v2467174 and v2466544. Male employment, 15 years and older: v2466999 and v2466399. Female employment, 15 years and older: v2467209 and v2466579. CANSIM population and employment data are for the period 1976–2004. Observations for earlier years were obtained by linear interpolation between values for 1961 and 1971 taken from Leacy (1982).

relative incomes between 1939 and 1970. As one would expect with integrated labour markets, it would appear that Alberta's expansion related to its early oil boom resulted in growth of the size of the economy, but whatever productivity gains were driving increases in per capita incomes were also shared by Saskatchewan.[32] Given that Hanson (1958) estimates that the Alberta oil boom had increased average incomes in the province by 20 percent by 1956, this would suggest that had Alberta not possessed oil, Saskatchewan incomes may have converged with Alberta's.

Provincial gross domestic product (GDP) estimates from Statistics Canada (beginning in 1961) suggest that Saskatchewan enjoyed the benefits of a boom in potash prices during the mid-1960s, a boom which was followed by a price collapse during 1968–1972.[33] The solid line in Figure 1 shows that by the end of that boom and bust cycle, Saskatchewan had again returned to its long-term trend level of GDP; a level equal to roughly 75 percent of Alberta's GDP. From 1972 forward, however, relative levels of real per capita income would be driven by energy-price cycles: Saskatchewan would lose ground against Alberta during energy price booms (1974–1986, 1990–91, 1999–2004) only to catch up again during periods of low energy prices (1987–1989 and 1992–96).

The interpretation suggested by the data on per capita GDP can be misleading, however, because per capita incomes of the two provinces may also reflect differences in demographics. Alberta has had higher labour-force participation rates and lower dependency ratios over time. To account for this influence, the dashed line in Figure 1 shows the ratio of per capita GDPs adjusted for the labour-force participation and demographics (age and sex) of the provincial populations.[34] This measure shows no trend to Alberta's advantage through either the 1950–1970 or the 1970–2001 periods. The gains made by Alberta between 1971 and 1986 were offset by deteriorations in its relative position from 1986 to 1996. Adjusting per capita income to account for Saskatchewan's higher dependency ratio yields the information that the relative productivity of labour employed in the two provinces has remained more or less unchanged over the long run. This would suggest that Saskatchewan's "socialist" policies may have resulted in a higher dependency ratio, but they have not in any obvious way undermined the economy's productive capacity. This conclusion is also in line with Chambers and Gordon's (1966) view that over the long run, natural-resource exports make an economy larger and increase the income paid to the fixed factors of production, but they do not result in increases in per capita incomes. If Saskatchewan's socialist policies have had an effect on the economy of Saskatchewan, then it is most likely to be apparent in the income accruing to the owners of land and natural resources.[35]

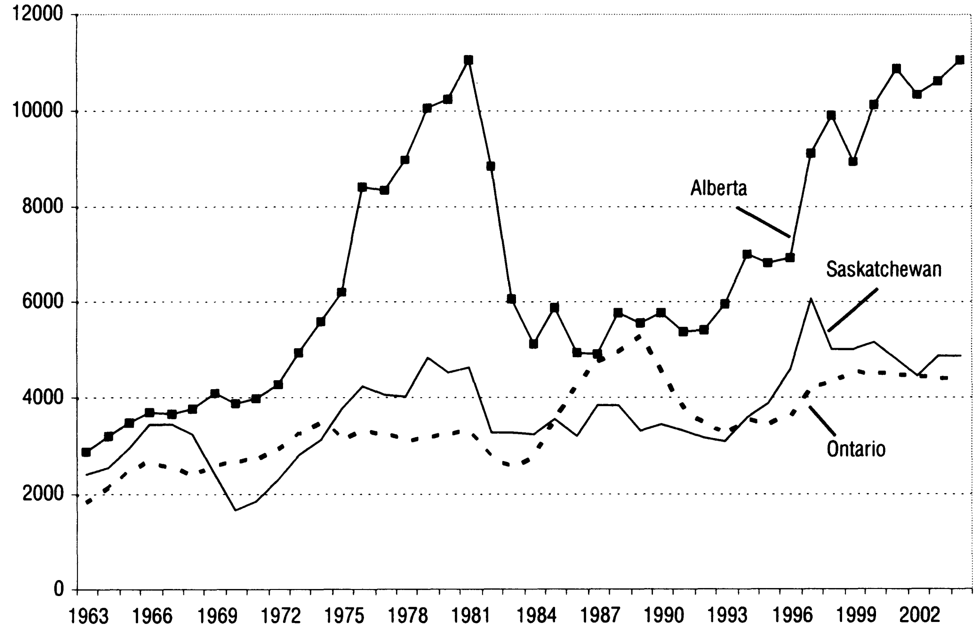
Figure 2 presents a graph showing real per capita levels of private-sector investment in Alberta, Saskatchewan, and Ontario. If Saskatchewan's public policies discouraged private investment, then we would expect to see low levels of private investment in Saskatchewan in comparison to levels in Ontario and Alberta, two provinces governed by reputedly more business-friendly provincial governments.

The figure shows that the level of per capita investment in Saskatchewan up to 1966 is comparable to that in the two other provinces, suggesting that Douglas' socialism had not had an obvious negative influence to that point. Investment in per capita terms fell precipitously after 1969 due in large part to the collapse of potash prices. In addition, in the early 1970s, private-sector oil refiners announced that they would be removing operations from Saskatchewan and Manitoba and expanding in Alberta in order to rationalize production. In Alberta, the impact of the 1973 and 1979 OPEC oil shocks show up in these data as an enormous investment boom that collapsed precipitously due to the combined effects of the 1980 National Energy Program (NEP) and the 1982 recession. It is interesting to note that, other than during the early 1970s, Saskatchewan has generated levels of per capita private investment comparable to those in Ontario.

An effective way of summarizing and comparing the sources of economic growth in the two provinces is to decompose annual rates of growth in GDP into three sources: growth due to additional labour inputs, growth due to additional capital inputs, and growth due to technical progress. Table 1 presents the results of these calculations for the period 1962–2004 and for various sub-periods.[36]

From 1962 to 2004, Alberta's real GDP grew at an average of 5.4 percent per year while Saskatchewan's grew at an average of 3.4 percent per year. During this period, the amount of economic growth accounted for by technical progress was essentially the same in the two provinces. Output growth accounted for by growth in capital inputs was somewhat faster in Alberta (2.7 percent per year) than Saskatchewan (2.0 percent per year), but growth

FIGURE 2
Per Capita Private Sector Investment, Saskatchewan, Alberta, and Ontario (1992 dollars)



Sources: Capital Expenditures, Total Private Investment, 1963–1990: CANSIM v50545, v50326, v49778. Capital Expenditures, Private, 1991-2004: CANSIM v759375, v759368, v759354. Population: CANSIM v469503, v469188, v468558. Consumer Price Index, all items, Canada: CANSIM v737344.

due to expansion of labour inputs was substantially faster (1.7 percent per year versus 0.5 percent). The explanation for Alberta's more rapid economic growth as being mainly the result of faster input accumulation holds for each of the four sub-periods shown in the table. The pre-OPEC oil-boom period of 1962–1970 saw Alberta enjoy a slightly faster rate of output growth, but this advantage was due solely to more rapid input growth as neither province enjoyed growth from technical progress. The 1971–1985 period of high energy prices, when Alberta enjoyed an investment boom associated with the expansion of energy production, generated rapid economic growth for that province, but again this was mainly the product of very rapid input growth rather than technical progress. While realizing significantly slower rates of labour force and capital stock growth, Saskatchewan enjoyed the fruits of a comparable level of technological progress. Since 1986 the pattern has continued: Alberta's faster economic growth is solely due to faster growth in capital and labour inputs as each province has enjoyed similar rates of growth in productivity.

Growth due to technological improvements is similar in the two provinces before, during, and after energy-price booms. Growth rates differ substantially only when Alberta enjoys the benefits of more rapid input growth. Alberta's economic advantage over Saskatchewan, then, depends on that province's ability to attract labour and capital. If Saskatchewan's policies and/or political ideology discouraged capital and labour from locating in that province, then we would expect to see lower rates

TABLE 1
Accounting for Growth in Alberta and Saskatchewan

	Real GDP Growth Rate (%)	*Contributions to Growth by:*		
		Labour Input (%)[a]	*Capital Input (%)*[b]	*Technical Progress (%)*
		Alberta		
1962–2004	5.4	1.7	2.7	1.0
• 1962–1970	6.1	1.9	4.2	-0.1
• 1971–1985	7.9	2.1	3.1	2.7
• 1986–2004	3.0	1.2	1.8	0.1
		Saskatchewan		
1962–2004	3.4	0.5	2.0	0.9
• 1962–1970	4.9	0.7	4.3	-0.1
• 1971–1985	4.6	0.8	1.4	2.5
• 1986–2004	1.6	0.2	1.3	0.1

Notes: The calculations reported in the table assume an elasticity of output with respect to labour equal to 0.55, an estimate suggested by the Conference Board of Canada. The calculations are not significantly different if we instead assume labour's share of national income to be 0.67.

[a]*Labour input* is measured by employment. [b]For each province, *capital input* is calculated as 95 percent of the previous period's capital input plus total expenditures on public plus private capital expenditures. The capital input is measured in millions of 1992 dollars. The initial capital stock for each province was obtained by attributing a share of the estimated capital stock for Canada in 1960 equal to the province's share of personal income in 1960. The estimate of the capital stock for Canada and estimates of personal incomes are from Leacy (1982).

Sources: See Figure 1 for sources on employment. See Figure 2 for sources on capital expenditures and the price deflator.

of input accumulation at all times. This is not what we see in Table 1, particularly with respect to capital accumulation. From 1962 to 1970, Saskatchewan attracted capital at virtually the same rate as Alberta. The greatest difference in capital accumulation occurs during 1971 to 1985, which can be directly attributed to the oil boom in Alberta triggered by the OPEC price shocks.[37]

We interpret the evidence presented in this section as showing that the short-lived policy differences between the two provinces were unlikely to have resulted in a permanent change in the relative economic performances of the two provinces. By the early 1950s, the institutions of the two provinces were essentially the same. What, then, explains the dramatically different economic growth rates of the two provinces since that time?

CORE VERSUS PERIPHERY

We interpret the relationship between Alberta and Saskatchewan as having evolved into an economic core and an economic periphery. Krugman (1991, 1998) describes the geographic concentration of economic activity like manufacturing, and perhaps services, as the product of a three-way interaction between economies of scale in production, transportation costs, and mobile factors of production.

Due to scale economies in production, firms maximize profits by spatially concentrating production. Transportation costs lead firms to prefer to locate near markets and suppliers. Market-size effects also encourage geographic concentration of production since access to markets and suppliers is best where other firms have chosen to locate. Given these forces, economic development is a path-dependent process where growth begets growth.

Krugman provides an illustration of a case with two regions, A and B, of equal size. The economies are based on manufacturing and agriculture, and starting from a point in time where transportation costs between the regions are high; as a consequence, manufacturing activity is equally distributed across A and B. As transportation costs fall, manufacturing will migrate from one region to the other resulting in one of the regions emerging into a manufacturing core, and the other into an agricultural periphery region. As part of this process, labour and capital migrate from the periphery to the core resulting in a larger population at the core, and higher real wages than in the periphery. Which of the two regions will develop into the core is a priori ambiguous. It could be the result of historical accidents, such as the election of the CCF in Saskatchewan in 1944 and its short-term desires for nationalizing natural resources. It is also possible that the establishment of the economic core in one region could reflect some small initial advantages of one region over another; an issue we pursue below.

In 1910, Saskatchewan had the larger economy and population. However, the evidence presented in Table 2 also suggests that Alberta had some important advantages in initial endowments. First, Alberta's greater distance from Manitoba than that of Saskatchewan afforded Alberta producers greater potential protection against the established manufacturing sector in Manitoba. Second, while smaller in population, Alberta enjoyed a higher income per person. By 1929, the wealth of Alberta's endowments compared to Saskatchewan's was clear. In current dollars, the total incomes of the two provinces were equal, but adjusting for cost of living reveals that Alberta had the higher real income. Alberta's population remained less than Saskatchewan's, with the result that per capita income was one-third higher in Alberta.

Table 3 shows that larger mining and manufacturing sectors explain Alberta's income advantage in this early period. Green's (1971) estimates of

TABLE 2
Gross Value Added, Current and Constant Dollars

	Price Index (Toronto 1913=100)	*GVA (in millions of dollars)*			*Per Capita GVA ($)*	
		Current	*Constant*	*Population*	*Current*	*Constant*
1910						
Saskatchewan	113.1	121.4	107.3	487,100	249	220
Alberta	104.0	98.7	94.9	369,200	267	257
1929						
Saskatchewan	156.8	415.0	264.7	921,900	450	287
Alberta	146.4	411.0	280.7	731,600	562	384

Sources: Green (1971); population numbers from Table A-1; GVA estimates from Tables B-2 and B-3. Inter-temporal inter-urban price index values are from Emery and Levitt (2002), using Regina's price index for Saskatchewan and Calgary's for Alberta.

TABLE 3
Gross Value Added (in millions of dollars) by Selected Sectors

Current Dollar GVA	*Total* $	*Mining* $	*Manufacturing* $	*Agriculture* $
1910				
Saskatchewan	121.4	0.3	3.0	74.9
Alberta	98.7	7.4	7.2	34.0
1929				
Saskatchewan	415.0	2.0	18.0	157.0
Alberta	411.0	31.0	34.0	120.0

Percentage Distribution	*Mining* %	*Manufacturing* %	*Agriculture* %
1910			
Saskatchewan	0.2	2.5	61.7
Alberta	7.5	7.3	34.4
1929			
Saskatchewan	0.5	4.3	37.8
Alberta	7.5	8.3	29.2

Source: Green (1971).

GVA by sector show that in 1910, the gap in total GVA between the two provinces was due to the gap in incomes generated in agriculture. Alberta made up a portion of the agricultural gap through larger mining and manufacturing sectors. Across all remaining sectors, the two provinces generated equal incomes. By 1929, Alberta's advantage and importance of manufacturing was substantial, and large enough to offset the higher income from agriculture generated in Saskatchewan.

These observations reveal an important but overlooked aspect of the economic development of the two provinces: Alberta's advantages in mining and manufacturing were present from the outset. The fact that large pools of oil and gas would be found in Alberta prior to their being discovered in Saskatchewan meant that this initial advantage would prove decisive. As Imperial Oil noted in its 1950 memorandum to Premier Douglas, the lack of activity in Saskatchewan was in large part due to oil having been discovered first in Alberta where there were proven to exist appropriate geological structures. It thus made economic sense to exploit those possibilities first. As stressed by Mansell (1987), the oil and gas industry is characterized by high capital intensity, specialized technology, strong forward and backward linkages, and hence large inter-industry multiplier effects. These industries demand massive amounts of capital, a highly skilled workforce, and supply large revenues to government that in turn enables the provision of social infrastructure without a high tax burden. The development of oil and gas, and the industrial linkages developed as a result, were crucial because non-oil and -gas industries would necessarily remain small in both provinces due to the geographic isolation of Alberta and Saskatchewan from large population centres. Alberta's initial lead in manufacturing, and the good fortune of having large pools of oil and gas found there first, were critical determinants in Alberta's subsequent development as the economic core of the western Canadian region.

By the 1950s, the evidence of the core-periphery relationship was becoming clear. Saskatchewan had a larger population than Alberta as late as 1941. However, from 1951 to 1971, while Saskatchewan's population grew from 900,000 to 950,000, Alberta's grew from 900,000 to 1.6 million. From 1971 to 2003, Saskatchewan would realize a net gain in population of only 50,000 people while Alberta's population would increase by 1.4 million. Most importantly, in terms of enabling the realization of agglomeration economies and further industrial development, almost all of Alberta's population growth occurred in urban centres. As early as 1951, each of the two largest cities in Alberta (Edmonton and Calgary) was larger in population than the combined populations of the two largest cities in Saskatchewan (Regina and Saskatoon) and this would remain so thereafter.

Today, the economies of Alberta and Saskatchewan have very different structures. Both provinces have export-to-GDP ratios of 36 percent, and 80 percent of exports are commodities (Roach and Berdahl 2001). Saskatchewan's exports are dominated by wheat, potash, and oil, while 67 percent of Alberta's exports are from oil, natural gas, and coal. While Saskatchewan's agricultural production is dominated by wheat and other grains, Alberta's agricultural production is dominated by cattle production. Saskatchewan is the largest producer of potash in the world. While both Saskatchewan and Alberta produce oil and natural gas, the greater importance of energy resources for Alberta is clear: Alberta is the ninth largest producer of oil in the world and the third largest natural gas producer. Within Canada, Alberta produces 55 percent of Canada's conventional crude oil, and all of Canada's oil-sand production. Saskatchewan is Canada's second largest producer of oil in Canada, producing 20 percent of Canada's conventional crude oil. Alberta has also seen its manufacturing sector develop to the extent that the value of manufacturing output is three times the value of the province's agricultural production; whereas in Saskatchewan, the value of manufacturing output remains below the value of agricultural production.

From 1947 to 1970, Alberta and Saskatchewan were both outposts for American and British corporations. In the 1970s, that changed as domestic control of the "oil patch" and potash production took place. Alberta became home to many large corporations while Saskatchewan created Crown corporations like Potash Corp. and Saskoil. Of the 800 largest (ranked by revenue) corporations in Canada in 2002, 205 of the largest 800 corporations had their headquarters in one of the four western provinces: with 90 located in Alberta, 76 in British Columbia, 15 in Saskatchewan and 24 in Manitoba (*National Post Business* 2003).[38] Alberta's large corporations are dominated by the oil and gas sectors with Energy (28), Utilities (10), and Oil Field Service (10) accounting for over half of Alberta's large corporations. Saskatchewan has very few large corporations and, amongst the five largest that it has, two are potash-fertilizer producers, one of which was a Crown corporation until it was privatized by the Conservative government of Grant Devine in the 1980s (McLean 1999; MacKinnon 2003). The largest corporation in Saskatchewan is Federated Cooperatives Ltd., and the third largest is the Saskatchewan Wheat Pool.[39]

Conclusion

In 1905, the Canadian federal government set the stage for an interesting natural experiment. The government established the provinces of Saskatchewan and Alberta by drawing a border that divided a prairie region into two halves approximately equal in area, population, and economy. Throughout their histories, the two provinces have consistently elected governments of seemingly very different political persuasions; right-of-center in Alberta and left-of-center in Saskatchewan. From equal beginnings, the political boundary has come to define two very different economies. What role has the difference in political regimes made possible by the border played in determining the divergent outcomes of the two economies?

We have found that while the rhetoric of the leaders of the two provinces may have differed, in practice there has been little difference in the policies pursued. As one would expect in small open economies with integrated factor markets, financial constraints and market forces limit the ability of socialist governments to be public entrepreneurs. While the perception exists that Saskatchewan socialism helped caused Alberta's eventual dominant position, ultimately, Saskatchewan's fate is really one of natural economic evolution in the presence of falling transport costs and agglomeration economies. Alberta's early lead in manufacturing development, and mineral endowments, were the seeds of its economic leadership.

Notes

[1] Our study follows a similar strategy to McLean and Taylor's (2001) comparison of the economic development of Australia and California over 150 years.

[2] It was known at that time that Alberta contained large tracts of oil sands. However, it would not be until the 1980s that producing bitumen from the oil sands would become economically viable (Chastko 2004).

[3] Marchildon (2005, 4) describes these stereotypes as crude and potentially misleading representations of provincial character but "widely held by many inside and outside the region."

[4] MacKinnon (2003, 19) suggests that many business people and right-of-centre politicians feel that the socialists in Regina rather than oil in Alberta have had more to do with Saskatchewan's perceived under-performance. MacKinnon cites Colin Thatcher, former Saskatchewan MLA: "The CCF-NDP has been a curse on the province of Saskatchewan and have unquestionably retarded our economic development, for which our grandchildren will pay."

[5] The 1916 Census of Prairie Provinces reports 1906 populations of 257,763 for Saskatchewan and 185,412 for Alberta. See Canada (1918, xiii).

[6] Supporters of a single, large province included Frederick Haultain, the first premier of the Northwest Territories, who campaigned for the creation of a single province between Manitoba and British Columbia. The logic behind the establishment of only one province was that as a single government had administered, effectively, the entire area of the Northwest Territories from 1897 to 1905, there was no reason that the territory could not continue to be efficiently managed without division. In Haultain's opinion, proposals to divide the territories into more than one province reflected nothing more than ambition of certain cities to be provincial capitals and the establishment of two provinces would "simply double the government, double the legislature, and double every expense as it would be necessary to double all the institutions which we need at the present time ...." (Owram 1979, 185).

[7] Clifford Sifton, a Liberal Member of Parliament and at one time the Minister of the Interior, believed that the western and eastern portions of the territory were characterized by different industrial conditions. Hence the territory would be best served by two local governments and two legislatures (Owram 1979, 316). Ranching interests in the southwest portion of the territories expressed concern that legislation that benefited the eastern and northern parts of the territories where the growing of cereal crops was the dominant activity would be harmful to cattle and horse ranchers in the southwest. Thus, these interests sought the complete severance of the stock country in the southwest and the mixed farming country of northern Alberta from the grain-farming areas of southeastern Alberta and Saskatchewan.

[8] In 1905, a Member of Parliament from Quebec expressed the fear that one province extending from the Manitoba border in the east to the Rocky Mountains in the west would "soon become overgrown and devour its creator" (Lingard 1946, 202). In this sense, the creation of two smaller political entities was reminiscent of British colonial policy after the American Revolution that maintained the view that small, separate colonies would show less independence than large ones. Nicholson (1954, 20) provides the quote about the creation of the Loyalist colonies: "The object ... was to govern by means of division, to break them down as much as possible into petty,

isolated communities, incapable of combination, and possessing no sufficient strength for individual resistance to the Empire."

[9] The veracity of this argument apparently had a short shelf life. The subsequent extension of the provinces of Quebec and Ontario in 1912 to include areas of 1,545,788 and 1,072,713 square kilometres respectively made each considerably larger in area than the two new provinces.

[10] The drop in farm incomes was large in both provinces but greater in Saskatchewan relative to 1926 values. This could reflect the extreme reliance on wheat production in the Saskatchewan economy as highlighted by Marchildon (2005), and it could reflect that the drought during the 1930s was more severe in Saskatchewan than in Alberta, particularly in the south of the province in the Palliser's triangle region (see Kerr and Holdsworth 1990, plate 43).

[11] Political histories of the two provinces often suggest that reactions to the Great Depression reflected the biases and principles of the immigrants who settled the rural areas of the two provinces (Lipset 1968; Richards and Pratt 1979; Wiseman 1991; Gibbins 2001). In Saskatchewan, relatively large numbers of eastern European and British Fabians settled in rural areas and their socialist sympathies would embed a provincial political culture that provided support for an interventionist provincial government. In Alberta, fundamentalist Christians, Ontario Tories and Americans were said to have determined the political culture of the province; these immigrant groups stressed to a greater degree than those in Saskatchewan the role of the individual over the state. Thus, in Saskatchewan the Depression was interpreted as showing that outside forces—both economic (the collapse of world trade and grain prices) and natural (drought)—were largely responsible for individual circumstances and this reinforced the judgement that a collective approach was required to answer them. In Alberta, while a similar experience was had, the interpretation was different; the problem of the Depression was the failure of economic institutions, in particular the financial system. The emphasis on individual responsibility in Alberta required that the Depression be explained by a failure of institutions, not the need for collective action.

[12] In 1947, one million cubic metres of oil were produced in Alberta, mainly from the Turner Valley area. This was less than six percent of the amount produced in 1955. In 1947, only 83,000 cubic metres of oil were produced in Saskatchewan (Canadian Association of Petroleum Producers 2008). Prior to 1930, Alberta mined substantial quantities of coal. Coal production dominates the value of mining reported in Table 3. See Boothe and Edwards (2003) for a discussion of the importance of coal production for the province.

[13] It is also important to remember that in the 1950s, when development of oil deposits in western Canada began in earnest, private oil and gas companies were far more hostile to government involvement in the industry than has been the case since the 1970s. Doern and Toner (1984) relate how in 1954 the project to construct the TransCanada pipeline ran into financial difficulty. The federal government agreed to provide financial support that could have given it equity ownership in the company. Gulf Corporation, whose Canadian subsidiary was to supply 40 percent of the gas to TransCanada, had established a policy of refusing to sell gas to a company controlled, or potentially controlled, by government. Consequently, the agreement to supply gas to TransCanada was threatened with cancellation. Rather than challenge Gulf, the federal government provided financial aid to TransCanada by creating a Crown corporation to finance the most expensive part of the project.

[14] The failure of the Canadian financial sector, concentrated in central Canada, to finance local firms in the hunt for oil and gas, reinforced the sense that the Canadian financial sector and Canadian institutions were failing Alberta.

[15] Similar statements are still being made today in the face of political uncertainty in the Middle East, Nigeria, Venezuela, and elsewhere.

[16] In 1938, the CCF ran second in terms of popular vote and won ten seats despite fielding candidates in only 30 of 52 ridings. In the 1944 election, the CCF would sweep to power winning 50 of 55 seats.

[17] See pages 1 and 2 of the "Regina Manifesto" reprinted in Zakuta (1964, 160-69) and Richards and Pratt (1979, 101). The Depression had instilled in the CCF leaders the idea that capitalism had failed. Production was for profit and not for human need, and these two objectives could not be reconciled. Further, the CCF leaders believed that private corporations refused to produce to meet public need unless the returns were unreasonably high. The CCF's solution to this was a new economic

order, a planned economy that placed three key industries under public ownership or direction. These industries were the banking and finance corporations; other industries and services essential to economic planning; and the natural-resources industry, the profits of which should go back to the people (Johnson 2004, 29).

[18] According to Johnson (2004, 43-44), the CCF's Natural Resources and Industrial Development Committee advocated that the development of resources should take place under public instead of private control.

[19] Douglas argued that Canadians already had experienced social ownership in the form of the national railway, provincial telephone, and electrical services, etc. (Johnson 2004, 30-31).

[20] Joe Phelps, the Minister of Natural Resources, began plans for the development of government-owned factories, including a pulp mill, a woollen mill, a brick yard, a show factory and a tannery (Johnson 2004, 68).

[21] Approximately ten percent of Saskatchewan's mineral rights were owned by private firms or individuals. The stated reason for the *Mineral Taxation Act* was to "compensate the people of the province for the depletion of these alienated minerals" (Government of Saskatchewan 1948, 37).

[22] However, several independents, including Husky Oil, continued to invest (Richards and Pratt 1979, 134).

[23] The moderation of the CCF in Canada from 1933 to the 1950s had been described as the "becalming of a protest movement" (Zakuta 1964; Whitehorn 1992). The party's official stand on the role of social ownership versus private enterprise moved from a prohibition of capitalism in 1933 to the aiding and encouraging of private business to fulfill its legitimate function in 1948. The distinction between the CCF and the "old parties" diminished further through the 1950s (Zakuta 1964, 74, 87-88).

[24] It is also the case that CCF "moderates" did not have enthusiasm for these early attempts at nationalizing industry and resource development. Richards and Pratt (1979) and Johnson (2004, 92) attribute these ambitious policy directions as primarily driven by Joe Phelps, the Minister of Natural Resources in the CCF's first term of Government from 1944–1948. Johnson (2004, 62) describes Phelps as "fanatically loyal to the CCF platform and ideology," and he stood in contrast to principled yet practical cabinet ministers like Douglas, Fines and J.H. Brockelbank.

[25] In the two years following its election in 1944, the CCF government established a brick-manufacturing plant, a shoe factory, a tannery, a fish-processing and marketing board, a timber board, a fur-marketing service, a box factory, a provincial bus company, and a sodium sulphate mine (Richards and Pratt 1979, 112).

[26] In March 1954, the Saskatchewan government entered into a "farm-out" (an arrangement whereby the owner of a lease assigns some portion, or all, of the lease to another company for drilling) agreement with Cooperative Refineries Limited, creating a loud outcry in the oil industry. The government was warned that private oil could withdraw from the province unless reassured that the agreement did not establish a precedent for government investment in production and development. The CCF government retreated, and the agreement was changed into a royalty agreement that removed the offensive joint venture features (Richards and Pratt 1979, 185).

[27] In a similar vein, Hanson (1958) describes how the development of the Redwater oil discovery in Alberta drew resources away from the further development of the Leduc oil field. This in part reflected the shortage of equipment for drilling in the late 1940s and early 1950s. Thus it is by no means surprising that drilling and other resources would not go to Saskatchewan until the bigger fields in Alberta were further developed. Hanson (1958, 99) further describes how drilling in Alberta slowed down after 1951 as exploration and development efforts moved into Saskatchewan where some successes had been occurring.

[28] Soon after the election of his Conservative government, Lougheed set to work to increase the royalty rate in place during the 36-year reign of the Social Credit party. Effort was made to maintain the sanctity of the original contract agreed to by the Social Credit government of 1949 by changing the maximum royalty rate only on remaining oil reserves. This had the effect of raising the royalty rate from 16.67 percent to 23 percent of gross production.

[29] Lougheed's Conservative government promoted the development of forward-processing of oil and gas into petrochemicals, and after 1975 it saved 30 percent of government oil revenues in the Alberta Heritage Savings

and Trust Fund. Lougheed's governments created and owned significant shares of the Alberta Energy Corporation, AGTL and Syncrude to encourage the creation of local capital and to aid the development of oil and gas entrepreneurial talent in Alberta. In 1974, Lougheed's government also acquired controlling interest in Pacific Western Airlines and moved its headquarters to Alberta amid rumours that the government in neighbouring British Columbia planned to take the airline over. In 1973, the government announced that it would acquire 20 percent of the Saskatchewan-based Inter-Provincial Steel Company (IPSCO), a producer of steel pipe used for oil and gas pipelines.

[30] Alberta would seem to fit Ross's (2001, 327-28) characterization of governance in resource-rich economies. Governments use low tax rates and generous spending to relieve pressures for political accountability.

[31] Sources: *Alberta Budget* (various years) and *Alberta Heritage Savings Trust Fund 2003-04 Annual Report.*

[32] See Chambers and Gordon (1966) for a discussion of the growth impacts of primary products for export. See Coe and Emery (2004) for evidence of integration of provincial labour markets before 1950 and after 1970.

[33] The price collapse was due to the combined effects of a declining world demand for potash and the disintegration of the potash cartel that had maintained high potash prices with prorationed production across members. Saskatchewan's government was named as a co-defendant in antitrust action in the US (Richards and Pratt 1979).

[34] Following MacLean's (1993) work on California in the 19th century, the per capita GDP of each province is multiplied by the following term:

$$\frac{Male\ Population_{it}}{Total\ Population_{it}} \cdot \left(\frac{Males, 15-64_{it}}{Male\ Population_{it}} \cdot \frac{Male\ Employment, 15^{+}_{it}}{Males, 15-64_{it}} \right)$$
$$+ \frac{Female\ Population_{it}}{Total\ Population_{it}} \cdot \left(\frac{Females, 15-64_{it}}{Female\ Population_{it}} \cdot \frac{Female\ Emloyment, 15^{+}{}_{it}}{Females, 15-64_{it}} \right)$$

[35] Boyce and Emery (2005) demonstrate that in a dynamic version of the Chambers and Gordon (1966) model, the only effect of poor policies and institutions is on the income of the resource owner. Emery and Winter (2007) find no evidence that the CCF policies reduced the value of land-lease sales for oil exploration and development in Saskatchewan. They argue that the CCF had no long-term negative effect on the development of Saskatchewan's oil and gas resources.

[36] The use of this methodology requires an assumption that output is determined by the application of labour and capital to a production process affected by a certain level of technology. The production process is assumed to exhibit the property of constant returns to scale and it is assumed that the sensitivity of output to input growth rates is constant over time. Those assumptions are reported in the notes to the table. In this approach, growth due to technical progress is measured as a residual.

[37] With projections that Alberta's endowment of conventional crude oil and natural gas would be depleted by 50 percent between 1970 and 2000, it is interesting to speculate that Alberta may only have 30 years or less to live off of its energy resources and so continue its advantage over Saskatchewan (Conference Board of Canada 2003).

[38] The 100 largest corporations had revenues from \$2.76 billion to \$37 billion in 2002; the 101st to 200th largest had revenues between \$1.2 billion and \$2.76 billion; and the 201st to 800th ranked corporations had revenues between \$0.269 billion and \$1.2 billion. In BC, Forestry (with 12 head offices) and Services (with nine head offices) are the dominant sectors for head offices. In Manitoba, Farm (with six head offices) is the largest single sector.

[39] Saskatchewan also lacks large subsidiaries with no entries in the Top 100 Subsidiaries in the *National Post FP500* rankings, while Alberta has eight entries, British Columbia five, and Manitoba four.

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