

BRIAN MULRONEY
AND THE ECONOMY

Still the Man to Beat

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INTRODUCTION

A Prime Minister's reputation is enhanced by economic prosperity. But if the resulting prestige is warranted, it should be for more than just being there while good things are happening. A first class leader improves the situation inherited from the previous government, and outperforms contemporaries in other nations. In an earlier study, we ranked Brian Mulroney as the best Prime Minister in Canadian statistical history because, more than any other recent leader, he made Canada a better, richer place than he found it. Moreover, his record was better than was his American competition—an achievement that eluded other Canadian Prime Ministers. But our essay *Mulroney by the Numbers* in which we objectively ranked Canada's post WWII Prime Ministers was completed in November of 1993. Canada's current Prime Minister is regarded as having a good economic record. After all, Canada is running a surplus, and it boasts low inflation. How does Mr. Chretien stack up against his predecessors? When all the numbers are examined, Mr. Chretien's accomplishments aren't enough. Mr. Mulroney remains the man to beat.

EARLIER RESULTS

Our initial work employed a measure called the "misery index," designed by the left-leaning American economist Arthur Okun, and later refined by right-thinking Robert Barro. In its simplest form, the index is the sum of just two "outcome" rates, inflation and unemployment. As elaborated by Barro and ourselves, more variables are added: interest and exchange rates, taxes and deficits, income distribution, growth and productivity. In our earlier paper, and in this one as well, we "normalize" the Canadian data against parallel American numbers, to remove the locomotive and caboose effect. As Barro did for U. S. Presidents, we ask if each P.M.'s numbers improved upon or fell behind the values inherited from the immediately preceding administration. We alter relative weights given to each element in the list, and we experiment with alternative ways of measuring some of them. No matter how we sliced, diced or chopped the numbers, Mr. Mulroney came out on top, except for some debatable comparisons with the post-WWII data for Mr. St. Laurent. The key table, as it appeared in our original paper is reproduced below, along with notes describing alternative weighting schemes, measurement and dating issues as well as an explanation of why we discount, to a degree, the St. Laurent ranking. In any case, the margin between St. Laurent and Mulroney is small, while the difference between either of them and anyone else is significant.

TABLE 1

	dp/dt (i)	unem (ii)	.% (iii)	-.Y (iv)	Indx.1 (v)	rank.1 (vi)	Indx.2 (vi)	rank.2 (viii)	XC.H (ix)	Indx.3 (x)	rank (xi)
St. Laurent 1949-57	-11.42	1.23	1.18	-1.58	-10.19	1	-10.59	1	.15	-10.44	1
Diefenbaker 58-63	-1.74	1.66	.97	0.14	-0.72	3	0.76	4	5.06	5.82	5
Pearson 64-68	1.41	-1.45	1.66	-1.69	-0.05	4	-0.07	3	-0.05	-0.12	3
Trudeau I 69-78	2.66	1.89	2.52	-0.92	4.56	6	6.17	5	-4.53	1.63	4
Trudeau II 80-83	0.92	2.02	1.58	2.65	2.94	5	7.17	6	3.07	10.24	6
Mulroney 85-93	-0.14	-1.99	-3.98	1.64	-2.13	2	-4.47	2	-3.43	-7.9	2

TABLE 1 (extension)

	tax & def (xii)	Y .dist (xiii)	final score (xvi)	final rank (xv)	alt tx &.def (xvi)	alt final index (xvii)	alt final rank (xviii)
St. Laurent 49-57	0	0	-10.44	1	0	-10.44	1
Diefenbaker 58-63	0	0	5.82	3	0	5.82	5
Diefenbaker 61-63	5.45	1.251	2.52	4 *	3.49	9.31	5
Pearson 64-68	5.79	1.19	6.86	4	1.88	2.95	3
Trudeau I 69-78	16.25	.46	18.34	5	1.05	3.14	4
Trudeau II 80-83	77.0	-.55	86.70	6	3.04	12.74	6
Mulroney 85-95	10.14	.27	2.51	2	-1.39	-9.02	2

- (i) dp/dt is the change in the rate of inflation. It is defined as CPI average inflation rate during term, less rate in final year of previous term.
- (ii) unem. measures the change in the rate of unemployment. It is measured by the average unemployment rate during term, less rate at end of previous term.
- (iii) % is intended to capture the change in interest rates. It is the change in long-term government bond rate from beginning to end of term.
- (iv) -Y is the shortfall in GDP growth. Is the long term average real compound GDP growth rate, less the average growth rate during term.
- (v) Index1 is the first measure of relative political-economic Prime Ministerial performance. It is the familiar Simple Misery Index; it is the sum of my measures of the change in unemployment rate and the change in the inflation rate; that is, (i) + (ii) = (v).
- (vi) RANK1 is the Simple Misery Index Ranking (1 is best).
- (vii) Index2 is an Expanded Misery Index number as suggested by Robert Barro; it is the sum of the initial index, plus interest rate change and GDP growth shortfall; that is, (vii) = (v) + (iii) + (iv).
- (viii) RANK2 is the Expanded Misery Index rank (1 is best).
- (ix) Xrate is the average exchange rate during the term in office of the relevant Prime Minister divided by rate in final year of previous terms.
- (x) Index3 is an expanded Misery Index Number. It is the sum of the Barro misery index number and the exchange rate change; that is, (x) = (vii) + (ix).
- (xi) RANK 3 is the expanded Misery Index ranking (1 is best).
- (xii) tax & def is intended to capture the degree to which the growth of taxes and deficits exceeds the capacity of the economy to pay. We assume that misery increases if the rate of growth of taxes and deficits exceeds the growth rate of national income. The variable used is an index of income growth during term in office (it is a comparison of first and last year's income index) deducted from the change in an index of the tax and deficit total over the same period, both variables as reported by the Fraser Institute. This measurement gives perhaps too much weight to taxes and the deficit. We have another index below.
- (xiii) Y .dist measures the change in the distribution of income that occurs during a prime minister's administration. We assume that movements toward greater equality are good, and that movements towards more inequality create more misery. The variable we use it the average annual worsening (it enters with a positive sign) or bettering of income distribution during each PM's term of office, measured by average change in standard deviation of personal income distribution as reported by the Fraser Institute.
- (xiv) FINAL INDEX is a measure of all elements of misery: inflation, unemployment, slow growth, falling exchange rates, high interest rates, increased inequality, higher taxes and greater deficits.
- (xv) FINAL RANK shows the ranking of all prime ministers on the basis of all the elements of misery we have discussed. The key result is the robust quality of Mulroney's high standing, and the equally strong indication that Trudeau's record is a bad one.
- (xvi) Alternative tax and deficit proxy. This measure has several parts: for each year of a prime minister's term of office, the annual percentage change in pre-tax income is subtracted from the annual percentage change in taxes and the

deficit. This difference is then averaged for all the years in the PM's term. Both income and taxes plus the deficit are as measured by the Fraser Institute. In other words, on the average over the years of the Mulroney government, the annual percent increase in the income index was 1.38% faster than the average annual percent increase in the Fraser index of taxes plus the deficit.

- (xvii) This is the alternative final performance index, using the measure discussed just above for the tax and deficit element of misery, and using all the other measures previously discussed for inflation, unemployment, growth shortfall, exchange rate weakness, income inequality and interest rate pressure.
- (xviii) Alternative final ranking. Once again, Mr. Mulroney comes out second: he would likely be first on this ranking if we could have found consistent data for income inequality and tax and deficit increases during the St. Laurent era: Mr. Mulroney is so close to St. Laurent that even a little backward movement on either of these two performance statistics during the St. Laurent years would have moved Mr. Mulroney to the first rank. It seems indisputable that Mulroney's rank on these performance statistics is high, and Mr. Trudeau's rank is low. Dates for terms of office are approximate, and refer to dates of statistics, not exact terms in office. The missing years are the short reigns of Clark and Turner (and Kim Campbell below), for which there is insufficient data to run comparable tests. Besides, it seems unlikely that policies having a lifetime measured in months could have the same kind of effects as those implemented by typical Government terms in office, lasting years. The dates we use to apportion the Turner hiatus between Trudeau and Mulroney are not the best ones for Mulroney, who for example, using a different dividing line, could be said to have reduced inflation by 6.2 full percentage points, putting him further ahead in the rankings. Source: Federal Department of Finance, Ottawa.

* *Dief falls to 4th: His rank changes if midterm data for tax, deficit and distribution are used, and old 4 (Pearson) becomes 3.*

What do the numbers from our earlier study show? Brian Mulroney presided over a general fall in interest rates that lasted more or less his entire time in office. Inflation took a beating during the Mulroney years, dropping to about 1.6% in his final year. Mr. Mulroney, unlike Mr. Chretien, inherited a troubled economy from Mr. Trudeau; interest rates and inflation were sky high.

For example, in the 1981-82 recession, short term interest rates peaked at 22.75%. (The average short rate over all of 1981, according to IMF data, was 17.82%). By the end of 1992 short rates were 4.84%. Over the same period, long rates fell by half: from 15.22% (the highest in the entire factual record provided by the Bank of Canada) to 7.84%. The dollar was worth 81 cents in 1982: it was worth 83 cents in 1992. The inflation challenge facing Mr. Mulroney at his taking office was daunting. Prices rose 10.9% between 1981 and 1982. (As measured by the IMF GDP deflator, inflation was 8.51%). By the end of the Mulroney era, things were better. Between 1992 and 1993 the price level increased only 1.8%: it was an order of magnitude improvement. (Measured by the IMF GDP deflator, inflation as Mulroney left office was 1.38% per year). Among PMs for whom there is a statistical record, only St. Laurent has significantly better inflation-recuperation data than Mulroney, but his record is a consequence of the end of the World War II, the recovery from which went on all over the world, without special help from Ottawa. On the other hand, Mulroney supported Mr. John Crow, the anti-inflationist head of the Bank of Canada, who, in our opinion, was pushed out by Mr. Chretien. The excellent inflation record established early by Gordon Thiessen, Crow's successor, became less distinguished by the end of his term. The 4.7% rate of inflation annualized for the three months prior to Mr. Thiessen's recent resignation can be interpreted as a Chretien failure, a reversal of the Mulroney record of inflation reduction.

Mulroney's record on unemployment reduction is good. The average level of joblessness during his time in office was two percentage points lower than during the last year of the Trudeau administration. Mulroney's performance on the growth indicator, however, is sub-par, mainly because of the 1990-1991 worldwide recession and partly due to date selections: (it is possible to argue he is on the long run average for growth, depending on how the Turner dates are handled) but Trudeau II is much worse, far and away the worst in the data set. Mr. Mulroney's growth performance in table 5 below, where his record is compared with per capita GDP growth in the USA, is excellent, the best of the critical trio: Mulroney, Trudeau and Chretien.

Mr. Mulroney also does well when the average annual growth rate of real per capita GDP (IMF data corrected for the exchange rate) is the criteria. During the Mulroney years, the value of this growth measure was 1.24%. Chretien's value is negative: -0.13%, while Trudeau's (for the second term) is even more negative: -1.36%. However, the Trudeau value is better when the average is calculated for both terms: it becomes 1.42. However, neither Chretien's nor Trudeau's score for this variable, (it does not appear in our tables) using the criteria of the paper, is as good as Mulroney's. Following Barro, we always ask if any particular PM's score is better or worse than his predecessor's. Since Trudeau's predecessor, Pearson, has a much better score for this variable than he does (Pearson's average annual growth in per capita exchange rate corrected GDP is 3.6%), Mr. Trudeau's number (calculated at $3.6 - 1.42 = +2.18$ "misery units") is seen as a failure to live up to his inheritance. In contrast, Mr. Mulroney either betters the per capital income number he inherits (when the calculation is made in terms of Trudeau's second term, Mulroney scores $-1.36 - 1.24 = -2.6$ "negative misery units"), or he falls behind only slightly (using the entire Trudeau era's score, Mulroney's number becomes $1.42 - 1.24 = 0.18$ "misery units"). Recall that positive misery numbers are bad, and negative ones are good. By the standard of measuring up to the inherited state of affairs, Mr. Chretien's numbers for per capita income growth are not good at all. Chretien's score is $1.24 - (-0.13) = 1.37$ "positive misery units"). By the Barro scoring method used in the paper, Mr. Mulroney has a better record (+0.18 or -2.6) than either Trudeau (+2.18) or Chretien (+1.37) in terms of the growth rate in per capita real income.

The Canadian dollar had good international buying power while Mulroney was in charge, but Chretien and Trudeau made things worse. Few would deny that Mr. Trudeau's policies in particular were profoundly worrisome to the community of international investors. The worst value-of-the-dollar performance (prior to the disaster of Chretien) was turned in by Diefenbaker, who deliberately devalued the dollar. Luckily for Canada, Dief's long battle with James Coyne, who ran the Bank of Canada at the time, did little permanent damage to the dollar or to our other basic performance indicators. Dief did not turn in a steady or even a balanced

performance. His relative ranking falls from three to four and then five as we added the additional performance variables of growth shortfall, interest rate increases and exchange rate declines to the initial misery index.

Although Louis St. Laurent does have the top score, he failed to earn as much of it by his own efforts as Mulroney can claim he did. St. Laurent's score comes from the tailing-off of war-time inflation, a North America-wide phenomenon: If St. Laurent's inflation score is set at the average of all PM's scores, his rank falls to 3.5 and Mulroney moves up to first place.

And now consider the lowest scorer (Chretien will do even worse below), and think about the facts behind his numbers. Mr. Trudeau alienated Western Canada and infuriated foreign investors by confiscating property rights in energy resources and abrogating private contracts (particularly if they reached across international borders. Like too many economic nationalists, Trudeau took short run advantage from knowing that foreigners can be robbed more easily than folks who vote locally.) The long run consequences—run-away inflation, a free-falling dollar, sky-high interest rates, and worsening unemployment—all presented Mulroney with serious structural problems that took a long time to resolve.

TABLE 2 :
A COMPARISON OF AMERICAN AND CANADIAN SCORES

Administration	(from Barro)	interpolated USA expanded misery index	Canadian expanded misery index
Truman II 1949-52, (St. Laurent 49-57)		-2.3	-10.5
Eisenhower I 1953-56 (St. Laurent 49-57)		3.2	-10.5
Eisenhower II 1957-60 (Diefenbaker 58-63)		2.1	0.8
Kennedy-Johnson 1961-64 (Diefenbaker 58-63, Pearson 64-68)		-2.7	-0.1
Johnson II 1965-68 (Pearson 64-68)		1.2	-0.1
Nixon I 1969-72 (Trudeau I 69-78)		1.6	6.6
Nixon-Ford 1973-76 (Trudeau I 69-78)		8.2	6.6
Carter 1977-80 (Trudeau I 69-78 Trudeau II 80-83)		8.4	7
Reagan I 1981-84 (Trudeau II 80-83, Mulroney I 85-91)		-4.3	7.5
Reagan II 1985-88 (Mulroney I 85-91)		-3.7	-3.4
Bush 1989-1991 (Mulroney I* 85-92)		0.8	-3.9

Canadian economic performance is powerfully influenced by conditions in the United States. Does it follow that Canadian Prime Ministers cannot claim to have much independent effect? Table 2 provides an answer. Here, American and Canadian misery is plotted against American Presidential dates. American and Canadian miseries move together. It seems policies in the large nation dominate policies in the smaller one. Nonetheless, during the Trudeau years the Americans outperformed Canada, while during the Mulroney years, Canadian misery was less painful than that experienced by the Americans. In table 5 below, Mulroney also did better against the USA than did Chretien. It seems a PM's policy makes a difference.

In areas of leadership, not easily measured with numbers, Mr. Mulroney undertook innovative policy actions, free trade and the GST, intended to bring about economic efficiency by generating more competition, assuring more rational domestic relative prices while increasing the tax system's transparency. These policies were not just in contrast with those of the opposing party; they ran counter to the prevailing view of Canada's political orientation. We mention this not to praise or blame Mr. Mulroney, but to argue that the consequences of such innovation can reasonably be said to be a state of affairs that would not have come into existence had the "ordinary" political/economic evolution of Canada gone forward instead.

U P D A T E D S T A N D I N G S

Table 3 updates the table we produced last time by adding Chretien. The PMs before Pearson are gone, since their relative performance is no longer at issue. Small changes are made to the ranking measures. The changes were made partly to show how robust Mr. Mulroney's top rank is, and partly to make the statistical form of each measure more uniform. As you see, Mulroney's rank is unchanged—Chretien comes in a full order of magnitude behind him, dead last in the ranking, behind even Trudeau.

**TABLE 3 :
THE MAIN UPDATE**

	infl	unem	grow Y	%	X rate	product	score	rank
Pearson 64-68	1.55	-1.45	-.47	.66	-0.04	2.31	2.56	2
Trudeau I 69-78	2.74	1.91	.81	1.5	-4.34	-2.12	.5	4
Trudeau II 80-83	-.47	2.38	2.22	3.09	4.64	-1.10	.86	3
Trudeau average	+1.135	+2.145	+1.51	+2.29	+1.15	-1.56	+5.67	4
Mulroney 85-93	.12	-1.82	3.12	-2.99	-2.99	4.45	-.11	1
Chretien 94-00	1.4	-2.08	1.84	-.84	10.08	6.48	16.88	5

We do not go back before the time of the Pearson government, because we have covered that ground in tables 1 and 2, and because we are using updated data, some from new sources and not available for earlier years. Indeed, the Pearson era is not fully covered in table 3, nor will it be in some of the following work either, due to various data shortfalls. To see Pearson and earlier PMs in context, see tables 1 and 2.

DATA SOURCES AND ISSUES

The variables in table 3 are typically measured as the average annual rate during a PM's term minus the "inherited" rate, which is the annual average for the previous government. In table 3 we use "national" estimates for the data, usually from Cansim, Statistics Canada or the Bank of Canada. In contrast, in table 5 below we use IMF definitions for the variables used to compare Canada with the USA. The hope thereby is to have consistent and comparable numbers. Various Chretien-claimed current advantages (e.g. a lower rate of inflation than the Americans', better interest rates or more prudent government finance) are smaller or absent altogether when IMF data tests the comparison.

Our Canadian government statistical services offer a rosy picture of current conditions. Mr. Chretien is insistent in reminding us of the high ranking given Canada in certain United Nations' calculations. Our status in the UN data is a result of an extreme under-weighting of economic variables, so much so that, for example, our current per capita exchange-rate corrected GDP figure, which is less than two-thirds the American value, is a difference without a distinction. It is possible that Canada's official number crunchers keep a weather-eye on the public relations dimension of critical calculations—or it seems their Cabinet Ministers

do. This possibility may explain the recent hot debate over Statistics Canada's revision of its first estimates of our recent and dramatic loss of productivity relative to the USA. The first estimate showed a relative productivity shortfall on our part that was 2.44 times larger than does the revised figure. (The revision continues to show a large gap between Canadian and American economic productivity). Whether the new numbers are more accurate or not, they are less embarrassing to the current government.

PRODUCTIVITY

What about the productivity debate? As widely reported, Canadian productivity relative to the USA has been falling for some time. Mr. Trudeau's score here is better than his usual one, because measured Canadian productivity vis-a-vis the United States improved a bit in his time, after falling in the Pearson years. (The precise numbers will appear below). It is possible however that Trudeau's good productivity numbers are caused by the extraordinary improvement (from a certain point of view) in relative energy prices which took place after 1973. In the Trudeau years we were "blue-eyed OPECers". We profited—at American expense—and handsomely. About 25% of US energy imports (including gas and electricity) originate in Canada, and we maximized our export prices in concert with the OPEC oligopoly. The monetary gain made our energy sector look extremely productive. Of course, the artificial increase in oil prices and the accompanying monopolistic world-wide cut-back in energy supplies made everyone poorer, ourselves included. All kinds of dubious "investments" were made, from over-insulated houses and too-small cars in the private sector to oil sands schemes and giant hydro projects in the public sector. Other, older investments were depreciated to zero well before their time as entire industries dependent upon energy inputs redesigned production and closed factories. The effort proved unnecessary once real energy prices stabilized. Recent disturbances in the energy market demonstrate once again that the true cause of energy shortages is monopoly power, not natural scarcity. Nonetheless, energy "investments" and disinvestments made since 1973 have gone into the statistical record. The result is an exaggeration of Canada's productivity in the years right after the first oil crisis, and a diminishment of our real productivity afterwards.

In any case, the entire energy crisis and aftermath was engineered abroad. While Mr. Trudeau's government looked more productive during the height of the OPEC interlude, he cannot be blamed or praised for the situation. Indeed, the lagged effect of Mr. Trudeau's aggressive anti-Americanism and economic nationalism (not unconnected with his willingness to benefit from the intense American need, at the time, for imported energy), when added together with an entire family

of enacted policies reflecting Trudeau's faith in Big Government, may have permanently diminished Canada's long-term productivity. If so, Mr. Trudeau's over-all effect upon our relative (lack of) productivity was ultimately negative, rather than having the slightly positive impact we show in the tables below. The trouble is, the data in this paper are all more-or-less immediate. The model-building needed to examine the lagged effect suggested above has not been done.

Statistics Canada has two estimates of the productivity lag we are discussing. Tables 3 and 6 employ the current revision. According to the earlier estimate, covering the period 1961 - 1993, where productivity in 1961 is arbitrarily set equal to 100 "points" in each country, the average annual Canadian productivity lag (which develops fairly early) over the entire 32 year interval is 4.097 points. The aggregate number of these "productivity points" lost by Canada in this critical race with the USA, by the old estimate, is 135.2. The numbers say we would have enjoyed well over a year's worth of extra income between 1961 and 1993 had our productivity kept pace with the Americans' rate.

Statistics Canada revised its first productivity figures—possibly because the story they tell is so disturbing. The new data run from 1961 to 1996, and show an average annual productivity shortfall of "only" 1.678 points, which, when added up, show a total loss of "only" 47.2 points over the entire span. This may be interpreted as a six-month income give-up for every Canadian, distributed over 35 years. If this new number is more palatable to the Ministers in the Chretien government who ordered the re-calculation, so much the worse for them (and us). A better expenditure of political capital would be to face up to the likely cause of our lagging productivity—high taxes and heavy-handed government—as did Mr. Mulroney when he advanced his arguments for free trade, transparent taxes and constitutional adjustment.

There is another problem with the productivity numbers. They only extend to 1996 (as already indicated). But the paper's other data run to 1999 or 2000. This difference makes a good comparison between Mr. Mulroney and his successor difficult to devise. (The danger is, Mr. Chretien may look worse than he really is.) Making the best of all these productivity issues in terms of the paper's purpose—ranking Canada's Prime Ministers—is difficult, but one last measure is worth taking. If we divide the American annual productivity index number by the parallel Canadian value, (i.e., take the ratio of the American productivity index over the Canadian index for each year) we obtain the degree of Canadian productivity lag relative to the USA in percentage terms. This ratio for the Pearson years averages 102.27, and for Dief. (from 1961 forward) it is 99.78. During the entire Trudeau period (what we have called T1 and TII) the ratio was 99.87 (meaning that Canada's productivity was better than America's during his tenure by an annual average of .13 of one percent). Mr. Mulroney's annual average was 102.557, and

Mr. Chretien's (up to 1996) was 107.102. These scores mean that Mulroney and Chretien both lagged behind U.S. productivity, by 2.557% and 7.102% respectively.

Using the ranking rule (reference PM's score minus his predecessor's score) adopted throughout this paper, the productivity lag misery score for each PM for whom some predecessor data is available is as follows: Pearson is +2.451, Trudeau (I and II together) is -2.357; Mulroney is +2.68 and Chretien is +4.544. It is the most problematic ranking variable for Mr. Mulroney, and it is for this reason we have spent so much space discussing it. This single "misery component" however, does not affect Mr. Mulroney's aggregate standing. Rewriting the final three rows and the last two columns of table 5, (a bit out of order) we create table 5.5 immediately below. This table is another version of the face-off among Trudeau, Mulroney and Chretien: as always, Mr. Mulroney wins.

TABLE 5.5

	productivity gap as shown in text above (x.ix)	Aggreg.* "misery" shown in table 5 (x.x)	pre-productivity				after-productivity			
			ranking with stock market		ranking without stock market		ranking with stock market		ranking without stock market	
			score	rank	score	rank	score	rank	score	rank
Trudeau average	-2.3578	+17.95	+17.95	3	+4.36	2	+15.59	2	+2.002	2
Mulroney 85-93	+2.687	+2.24	+2.24	1	-6.19	1	+4.93	1	-3.50	1
Chretien 94-96	+4.5443	+12.55	+12.55	2	+8.19	3	+17.094	3	+12.734	3

* aggregate misery (see table 5) is the degree to which Canada falls behind the American record in respect of inflation, unemployment, stock market valuation, exchange rates, and excessive government.

Just as in 1993, Mr. Mulroney does best of all tested PMs when up against the tough standards set by the USA. The Pearson score (a good one) can not be used in table 5.5, since the IMF data in the rest of the table begins in 1964, preventing us, not from observing the Pearson values, but from running his numbers against his predecessors, to say nothing of being unable to calculate the aggregate misery score shown in column x.x above. The 1993 paper did run Mr. Mulroney's record vis-a-vis the USA against all post-WWII PMs. The key results of that calculation are displayed in table 2 above. Mr. Mulroney did as well in that exercise as he did in table 5.5.

INCOME DISTRIBUTION, TAXES AND DEFICITS, THE STOCK MARKET AND ANOTHER MULRONEY FIRST

In Table 4 below, we add a tax and deficit factor to the work of Table 3, along with an income distribution measure and a measure of Canada's investment climate relative to the USA. We define the tax and deficit as well as the distribution elements a bit differently from last time, because the exact parallel data, previously obtained from the Fraser Institute, is no longer available. This time the underlying income distribution is measured as it was in our previous paper, in standard deviation terms, but there are four rather than just three income divisions in the underlying data, supplied by Cansim. In the table below, income distribution using the four income class division is not available for Pearson or Trudeau I. To fill in that gap, readers may look at Table 1 above, where income distribution using the three income class division is used to rank the PM's up to Mulroney. We are satisfied with the results we get beginning with Trudeau II, utilizing the four income class division, since the table shows, as did the extension to Table 1, Trudeau having a positive effect upon income distribution. Note that Chretien has a negative effect, in comparison with Mulroney. That is, the "worsening" of income distribution during Chretien's term was four times worse (relative to the previous administration) than was Mulroney's.

The tax and deficit number this time is the familiar "tax freedom day" (in terms of percent of the year) as calculated by Fraser (including the deficit). The exact tax and deficit misery number is equal to the number of percentage points (i.e. one + percent is one + unit of misery) by which a PM's average annual rate of TFD growth exceeds the former administration's average. In Tables 5 and 5.5 more standard data is used, that devised by the IMF, to measure the "excessive" growth of government in Canada. "Excessive" is defined as annual Canadian government spending growth relative to annual per capita growth in Canadian GDP. We ask if that ratio is in excess of the same ratio in the USA, and compare each PM's numbers with his predecessor's. Mulroney's tax and deficit score is behind Chretien's using TFD data, but Mulroney is 'way out front when IMF data are employed. (See Tables 4, 5 and 6).

The relative investment climate is measured in terms of the degree to which American stock markets outperform Canada's. If we set the Dow and the TSE averages in 1961 at 100, and then calculate the end of 1999 value for each (correcting for the exchange rate), the TSE is 744.84 and the Dow is 1504.58. If you had invested \$100 (US) into Canada in 1961, it would be worth US \$744.84 by end of 1999: alternatively, that same money invested in the USA in 1961 would be worth US \$1504.58 at the end of 1999. The ratio is 2.020004296, meaning that each dollar of Canadian gain would be matched by over two dollars of

American gain: that is, you would have about one dollar and two cents MORE profit for each dollar earned in Canada, had you instead invested in the USA over the period 1961-1999. The measure we use in the table calculates the time distribution of that extra dollar and two cents, in terms of cents per year. We determine the rate, in cents per year, at which the Canadian investment is falling behind the American. We average that rate for each PM's term in office. Our "investment climate" factor shows the rate of loss for each PM since Pearson relative to (the calculation is the previous PM's average cents per year fall-behind rate minus the current PM's rate of relative loss) the rate of loss for the preceding administration. (Data shortages mean the Pearson measure is inadequate). As the reader can see, Mr. Mulroney comes out ahead of Chretien and Trudeau II in terms of this investment climate measure.

Mr. Mulroney out-scores Chretien in terms of income distribution as well. The total score, including all nine ranking variables introduced so far, puts Mulroney in the lead. In comparison to Chretien, Mulroney is behind in only two cases (income growth in Tables 3 and 6 and tax and deficit control in Table 4). But Mr. Mulroney has the best record for per capita income growth relative the USA as well as the top score for control of government spending relative to the economy in Table 5. Moreover, in table 6 Chretien's lead disappears when the data is lagged one year. It is reasonable to claim that it has been Mr. Mulroney's policy initiatives, especially free trade and the tax rationalization represented by the GST that should take substantial credit for the income growth currently being enjoyed by the Chretien government. That income growth makes deficit control much easier than it would otherwise be. Trade-induced growth means more tax collections, and fewer demands on the public purse for artificial income support. In Mr. Mulroney's case, rather than inheriting the consequences of good economic management, he had to contend with the damage done by Mr. Trudeau's spendthrift, anti-trade and anti-foreign-investment policies.

TABLE 4

	tax & deficit	Y dist.	investment climate	score	final rank
Pearson 64-68	-.142	+1.19	-.04	+3.56	3
Trudeau I 69-78	-1.17	+.46	-.003	-.213	2
Trudeau II 80-83	+6.34	-.67	+.08	+16.61	5
Trudeau average	+2.58	-.105	+.0385	+8.18	4 (of four)
Mulroney 85-93	-3.76	+.07	+.048	-3.752	1
Chretien 94-00	-5.91	+.33	+.101	+11.4	4 (includes TI & II)

Neither has Mr. Chretien kept up with American competition: unlike Mr. Mulroney, who, as our previous study showed, comfortably outperformed his U.S. opposition, the Chretien government trails the records set south of the border in nearly every category, as will be evident in Table 5 below.

CANADA AND THE USA: PRIME MINISTERS AND THE ECONOMIC LAG

Canada has lagged behind the United States for a long time. Since 1961 Canadian productivity in manufacturing has fallen behind America's by between 9.4% and 13.3% (depending on whether the revised or the original StatsCan productivity data are used). Our price level has risen between six percent more and twenty percent more than theirs. If both CPIs are set at 100 in 1961, Canada's is now 590.374 and the Americans' has become 557.190; if the IMF's definition for the GDP deflator is used to measure relative inflation, Canada's deflator rose from 100 in 1964 to 532.8777 in 1999 and the Americans' moved from 100 to 443.4429 over the same time. Using still another data set, the average annual inflation rate in Canada is .167 percentage points higher than in the USA between 1961 and 1999.

The burden of government upon our taxpayers has risen 80% more than theirs. Using IMF data, the average annual growth of government spending between 1964 and 1999 exceeded the average annual growth of per capita income by 121% in Canada, while the excess in the United States was "only" 22%. The Fraser Institute's "Tax Freedom Day" measure of government burden shows an increase from one-third to one-half in government's share of income between 1961 and 1999, while a similar American calculation by the Tax Foundation shows a much smaller American increase: from 29% to 35.7%.

According to IMF data, between 1964 and the present, our average annual unemployment rate was 29% higher than theirs (7.74% versus 6.01). Using Canadian data (Cansim) and USA data (BLS), the aggregate number of percentage points of excess Canadian unemployment between 1961 and 1999 was 64.76. In other words, over the past thirty-eight years, we could have earned an extra two-thirds of a full year's national income had we been able to hold our unemployment rates to the same low level as the Americans did. Our per capita real growth rate lagged behind theirs by over a full percentage point per year. According to IMF data, between 1964 and 1999 American real per capita GDP growth averaged 2.313%, while ours averaged a much smaller 1.004%.

Between 1961 and 1999, the average annual real Canadian interest rate was a significant .92 percentage points higher (3.79% versus 2.87%) than the US rate, suggesting to us that Canada was viewed by world investors during that time as a more risky place than the USA. As cross-border shoppers know, the Canadian dollar has lost a third of its value since 1961: an American dollar cost \$1.013 Canadian dollars in 1961. At the end of 1999, the cost had risen to \$1.4858 Can. Perhaps because Canada has trailed the USA so dramatically in so many other economic dimensions, the US stock market has risen twice as much as ours since 1961. That is, investors earned over two dollars in the American market for every one dollar earned in Canada over the period.

Let us now look more closely at the structure of Canada's economic lag behind the United States, and measure, for some key values, the particular rate at which the Americans gained ground. We asked the question: "Which Prime Minister had the best record in the sense of falling behind at the slowest rate?" Once again, Mr. Mulroney wins the contest, as the table below shows. Because of data limitations, and because our main purpose is to rank Mr. Mulroney against his main Liberal adversaries, Trudeau and Chretien, we limit our ranking to those three. As before, the calculations are in "misery points," where a positive score is bad, a smaller score is good, and a negative score is better.

TABLE 5

	per cap	excess	excess	excess	exchange	stock	score & ranking		score & ranking	
	gdp growth gap USA-Can	growth in Can Govt	Canada inflation	Canada unemploy	rate decline	market fall-behind	with stock market	without stock market	score	rank
Trudeau I 69-78	0.47	+4.76	+1.12	+61	+6603	-.21	+6.47	-	+6.26	-
Trudeau II 80-83	+.83	+1.91	-.02	-.067	-.6022	+27.39	+29.44	-	+2.05	-
Trudeau average*	+.18	+3.335	+.55	+2715	+.02905	+13.59	+17.95	3	+4.36	2
Mulroney 85-93	-2.01	-1.72	-1.42	+1.49	-2.53	+8.43	+2.24	1	-6.19	1
Chretien 94-00	+2.44	+2.086	-.61	+.949	+3.32	+4.36	+12.55	2	+8.19	3

* rank shown as Trudeau average

All the data in Table 5 comes from the IMF, and is calculated by them to be consistent so that nation-to-nation contrasts may be reliably made. As in the other tables, variables are calculated as the average of annual measures (each measure being a difference between the relevant annual American and the Canadian data points) for each PM's term, measured as a difference from the preceding PM's average. For values which are "bads" like inflation or unemployment, the previous PM's number is subtracted from the "score" obtained by the referenced PM, so that the resulting misery measure, reported in the table, has the desired characteristic of being positive (more misery) when the referenced PM makes matters worse. For variables which are "good" like a growth rate, the referenced PM's value is subtracted from that of the previous government's. Once again, a positive score would show the referenced PM has a short-fall in attainment of the "good" when compared with the record made by his predecessor. This technique, used in the 1993 paper too, is patterned after one proposed by Robert Barro.

THE STOCK MARKET

The stock market score is calculated a bit differently in Table 5 than in Table 4. Table 4 traced the time distribution of the extra dollar and two cents an investor would have earned in the US stock market (over the earnings in the TSE) for each US dollar invested throughout the period 1961-1999. In table 5, we measure the difference in annual percentage gain in the Dow versus the TSE, for each PM rated, against that same annual difference in the preceding PM's term. Both stock market measures, that of Table 4 and Table 5, give the same general result; Mr. Trudeau was one of the worst things ever to happen to the Canadian investment climate. In fact, his showing is so bad, we calculate Tables 5 and 5.5 with and without the stock market variable, precisely because including it is so devastating to the Trudeau record. Moreover, the two order of magnitude range in the stock market score, a range created by the negative effects Mr. Trudeau's policies seem to have had on investor confidence, (especially so for American investors), makes the stock variable almost too potent as a ranker. For this reason, the stock market variable in Table 4 has a low absolute value. Remember, in Table 4 it measures the annual distribution over 38 years of only one extra dollar and change in lost earnings.

In any case, the wide range of stock market scores and their large year-to-year volatility did suggest it would be appropriate to calculate one ranking in Tables 5 and 5.5 without employing stock valuations. Notice that this nuance does change Mr. Trudeau's relative standing, putting him ahead of Chretien, but it does not come close to threatening Mr. Mulroney's placement at the top of the ratings.

B I G G O V E R N M E N T

What about "energetic" (or over-eager) government? It is possible to interpret the paper's results as support for the hypothesis that Canada does better with less government. The American economy has enjoyed a prolonged boom that began with President Reagan. Although American Republicans no longer occupy the White House, and, as well, Mrs. Thatcher and Mr. Kohl are no longer in office, the G7 center-left leaders who have displaced them all seem to share, in part, President Clinton's view that "the era of Big Government is over". But the post-Reagan strategy of getting the government off the back of the domestic economy is not Trudeau's nor Chretien's. In contrast, Mr. Mulroney interrupted Ottawa's Capital "L" Liberal tradition with a long moment of free-market reform. His innovations, in particular Free Trade and more transparent taxes, have remained in effect and, arguably, are responsible for much of the economic success Canada has enjoyed since.

Our earlier study showed that Mulroney's was virtually the only time since the end of the St. Laurent government during which Canada outperformed the U.S. in terms of the misery index we then used. The data we explored in this study show clearly that during Mr. Mulroney's time in office, Canada's economic indexes lagged behind America's much less than they did during the tenure of Chretien or Trudeau. The data also show (see Table 5) that only Mr. Mulroney gets a negative misery score (which is good) for the "excessive growth of government" variable. It is a policy which worked. Certainly the opposite strategy, practiced by Chretien and Trudeau, both of whom have positive (bad) and quite similar misery scores in Table 5's "excessive government" column, seems to have negative consequences.

L A G S

When do the policies of an incoming government take effect? Do data collecting dates match up with politically relevant dates? What about short-lived transitional figures like Clark, Turner and Campbell? Others might quibble with our decisions but, just as in our original work, Mulroney's top ranking does not change no matter how these choices are made. Key data is reported below in two forms, one using numbers which begin in the same year as that in which the year-end incumbent is elected, and the other employing a one-year lag. As in the other tables, Joe Clark's data is used as the previous government's when TII is calculated separately from TI, (although he is not ranked) and Kim Campbell numbers are combined with Mulroney's.

How long until policies start working? when do they stop working?

As in table one, and following the lead of Okun and Barro, these numbers are the value of the variable in the last year of the previous government's term minus the average value of the variable during the tenure in office of the government whose score is being calculated. A positive number for the final score is "bad", indicating more misery. As suggested above, we report the data in two ways, the first assuming a government's policies take effect quickly, the second assuming a one year lag

TABLE 6

	Trudeau (I & II)		Mulroney		Chretien	
	TI is above, TII is below					
	current	one year lag	current	one year lag	current	one year lag
Exchange rate	-4.34	-4.75	-2.99	-8.99	10.08	4.64
(as a misery number)	4.64	6.055				
(minus is good)						
Income growth	.81	.87	3.12	.41	1.84	.41
(as misery)	2.22	1.22				
Interest rates	1.5	.72	-2.99	-1.44	-.84	-1.96
(as misery)	3.09	1.02				
Unemployment	1.91	2.62	-1.82	-1.15	-2.08	-.84
(as misery)	2.38	2.95				
Productivity lag	-2.12	-2.4	4.45	4.44	6.48	7.78
(vis-a-vis the USA)	-1.0	.9				
(as misery)						
Inflation	+2.74	2.93	.12	.26	1.4	-.7
(as misery)	-.47	-1.73				
Net score						
(negative=good)	(TI=) +.5	-.01	(M=) -.11	-6.47	(C=) +16.88	+9.33
	(TII=) +10.86	+10.41				

Summing up the elements employed in this lagged versus unlagged misery index, shows Mr. Mulroney to be once again a better P.M., in economic terms, than either Trudeau or Chretien. Had we included other measures of economic performance—the aggregate burden of government upon the economy, the investment climate vis-a-vis the American securities market for example—Mr. Mulroney's

record would be even better.

Instead of hammering away at these straight economic measures, we decided to look at relative accomplishments in the area of economic "justice" and equity. To cut to the finish, Mr. Mulroney takes the prize here too.

Because of the way the data used below is recorded by Statistics Canada, we will once again be forced to adjust the dates in office. Mr. Trudeau's term will now be defined as 1980 to 1985, Mr. Mulroney's as 1984 to 1994 and Chretien's from 1994 to 1996. Note that this allows a one-year lag for new policies to kick in.

FAMILIES AND QUALITY OF LIFE

In the Mulroney years average real annual GDP income per capita (IMF data) increased 1.24%, compared with Trudeau's (second administration) negative showing of (-)1.17% and Chretien's slightly better, but still negative showing of (-).13%. The annual rate of change in per capital family income for Trudeau, Mulroney and Chretien was, respectively, -.09%, +.26% and +.1%.

Across a wide range of "quality of family life" variables, Mr. Mulroney's record is better than either Trudeau's or Chretien's. During the Trudeau years, inflation in health and personal care ranged between 9% and 12%. On the other hand, consumer inflation in Mulroney's time was largely confined to tobacco and alcohol. Since Chretien took over government, tobacco and alcohol have actually fallen in price—a mixed blessing indeed for most low income, troubled Canadian families. Elderly persons living alone experienced a 5.84% annual drop in real purchasing power during the Trudeau years (1.57% average annual increase in gross money income minus the 7.41% average annual Trudeau inflation rate), as compared with a 3.8% diminution during Mulroney's government (.61% annual gross money income increase minus an average inflation rate of 4.41%) and a 1.04% annual rate of loss since Chretien took office (a .44% increase in annual gross money income, minus a 1.48% average inflation rate.) Gross and net-of-inflation income for elderly families shows a similar pattern. (+.29% minus 7.41% = -7.12% in the Trudeau years, +.18% minus 4.41% = -4.23% for Mulroney's time, and +.23% minus 1.48% = -1.25% since Chretien took over.) Chretien has an edge here, but it may be in part due to the falling inflation rate he inherited from Mulroney, who in his turn had to deal with the runaway prices of the Trudeau legacy. Trudeau's average inflation rate was .3 of a percentage point worse than the one he inherited; Mulroney reduced by 2.6 percentage points the high rate passed on to him by Trudeau; Chretien did lower the average Mulroney rate, but by only .2 of a percentage point. Moreover, inflation in the last Mulroney year, about

1.6%, was much less than Chretien's current number of 4.7%. Lone parent families fared well under Mulroney's government: only during his time in office did their real, after-tax income grow—it actually fell during the competing administrations of Trudeau and Chretien. Women were hit especially hard under Chretien and Trudeau, doing much better during the Mulroney era.

**TABLE 7:
SINGLE PARENT FAMILIES AFTER TAX REAL
INCOME ANNUAL PERCENT CHANGE**

Income type	Trudeau	Mulroney	Chretien
Total annual	-1.37	+23	-1.42
Female total annual	-1.35	+45	-2.24
Female, no earner annual	-.63	+1.19	-.81

Low income families fared better under Mulroney than they did during either the Trudeau or Chretien administrations. The number of families earning less than \$20,000 a year in 1996 dollars dropped by 1% in the Mulroney era, but their number rose by .75% and .9% respectively during the Trudeau and Chretien years. Families in the lowest quintile saw their real after-tax earning rise 3.65% under Mulroney: but they experienced losses of 1.22% and 3.47% during the tenures of Trudeau and Chretien. Only the top income quintile of Canadian Families saw an increase in real after-tax income during the Chretien years. They showed a 1.94% gain, in contrast to diminutions of 3.47% and 1.66% for the poorest and the middle class income quintiles. Among two-parent families, only those with two or more income earners showed positive after tax income gains during Mr. Chretien's time in office.

A W E A K N E S S ?

What is the weakness in this analysis? Economists like models in which it is possible to distinguish events "caused" by conscious, intentional policy from those "caused" by nature, or by the necessary unfolding of an automatic or pre-existing evolutionary process. Building such a model for the Canadian economy is beyond the scope of this paper's ambitions. Big models of the necessary sort are no longer being constructed by other scholars in any case, since the elaborate

mathematical equations making them up do not generate accurate predictions when "turning points" occur in the economic, political or social context of the real world being modeled. Any such model would have to "know" what the alternative history of Canada would have been had the electorate chosen a different string of PMs (and their policies) from the sequence actually chosen. There is no way to test the accuracy of such conjectural history, nor is there any way to choose among the many possible alternative histories that might have been. Moreover, the technique used in this paper has a respectable history of its own. Not only have Okun and Barro used it, but two quite similar studies have been published (since the 1993 predecessor of this paper) by the Cato institute in Washington, one ranking Mr. Reagan against some of his antagonists, and the other producing a "scorecard" to grade the relative success of American state governors. Whether correctly or not, most voters, political party activists as well as members of the press, use outcome-based data to classify the successes and failures of national leaders. Even in the supposedly rational, objective valuation process occurring every day in the stock market, and according to the sophisticated analysis regularly published by the "best minds" in the financial community, economic and business leadership ability is commonly graded on an outcome basis.

It is exactly because the Mulroney policy record is in contrast to the practices of previous governments, that his relative success can fairly be ascribed to that difference. If the methodology of science can be applied to political economy at all, this rule is the most fundamental one: if there occurs a significant change in the preconditions to a long-standing set of circumstances, and following upon that change in preconditions, the circumstances change significantly, it may reasonably be inferred that the altered preconditions were part of the cause of the change. So while this paper does not build a model, it does present an argument.

WHY IS CHRETIEN LAST?

Under Mr. Chretien, the dollar is lower than it has ever been in all of Canadian history, our productivity relative to the American's is worse than at any other time in the past 35 years (data ends in 1996), our 1999 per capita annual GDP is a mere \$19,110 US, compared with \$32,484.94 US south of the border, our real long term interest rate is one-half a percentage point higher than the Americans (not inconsiderable, since the rates are not high: 3.5% in the USA and 4.02% here). The real short-term American interest rate is also lower than ours, at 2.64% there in contrast with 3.21% here. Our 1999 unemployment rate of 7.62% contrasts sharply with the American rate of 4.28%, suggesting that our much-bragged-about inflation numbers (according to the IMF, 1.56% for Canada in 1999 versus an American figure of 1.47%) reflects a "cool" economy, rather than high quality policy.

CONCLUSION

Our findings may come as a surprise to many. We are not denying that Canada currently has some things going for it. We have, for the moment at least, stopped adding to our outstanding Federal debt (although unfunded government liabilities for entitlements like pensions are growing). Prices are more stable than they were in the bad old 70's and 80's. But our measure of success requires more than that. We have subjected every PM in statistical history to a rigorous test: did they make things better than they found them? Did they do better than their main competitors in Washington? Did things get steadily better or slowly worse under their leadership? Did they make changes to Canada that paid off in a lasting way? When we devised and applied measures that tested our postwar political leaders according to these criteria, we found that Mr. Mulroney ranks very high indeed: he inherited a lot of trouble, he fixed most of it, he did quite well even when measured against a successful American President, and he left a legacy that continues to pay dividends. According to the statistics we used to measure these accomplishments, Mr. Mulroney didn't just do well – he outperformed everyone else, saving the special case of St. Laurent.