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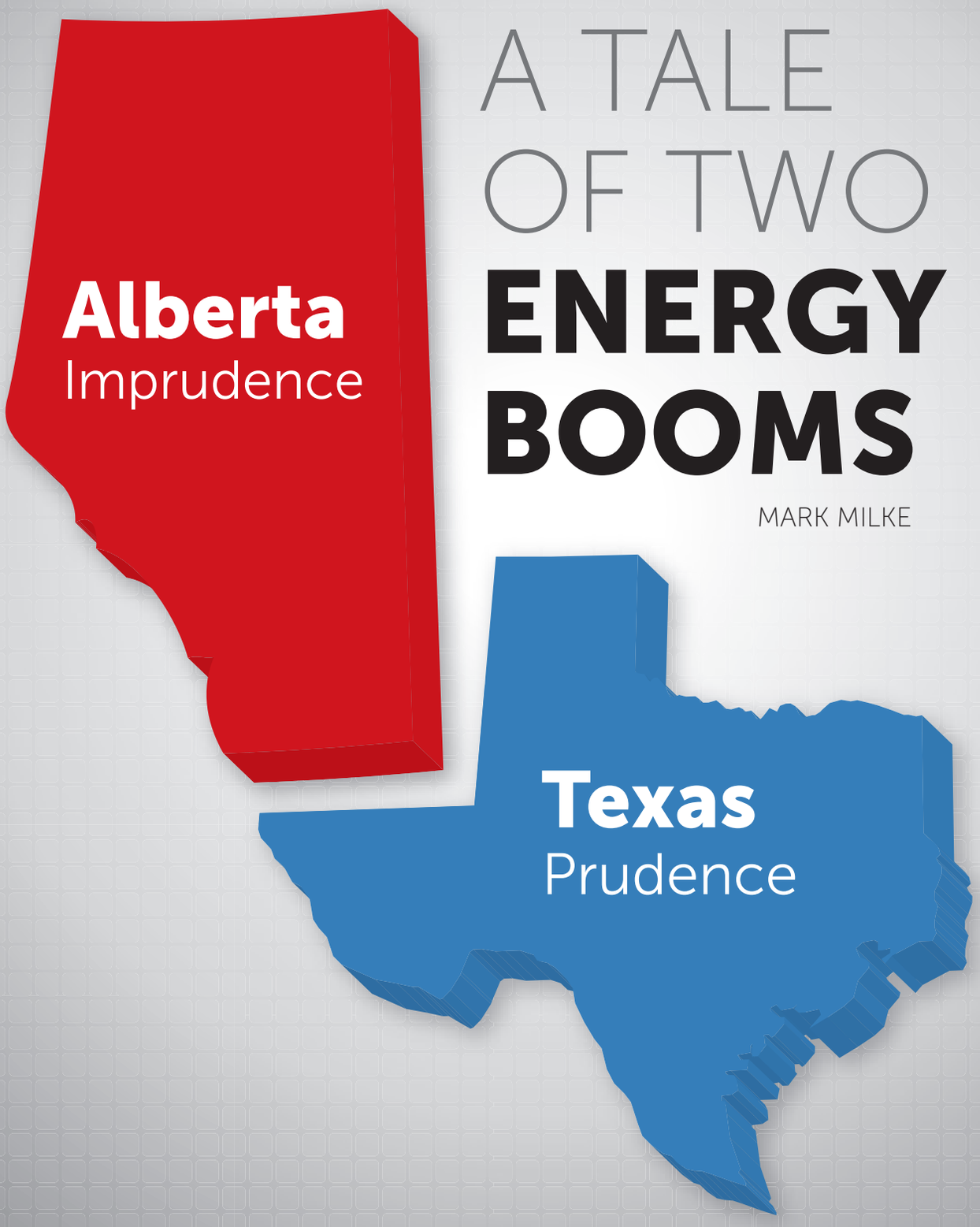
A TALE OF TWO ENERGY Bbooms

MARK MILKE



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by Mark Milke

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Executive summary

Non-renewable resource prices, especially oil prices, and associated revenues to governments have fallen significantly over recent months. This is not the first time such gyrations in oil and gas prices and then government revenues have occurred. Recent events then provide an opportunity to explore the economic and fiscal ups and downs of two jurisdictions, Alberta and Texas, both well known for their oil and gas sectors (26.8 percent of GDP in Alberta and 11.0 percent in Texas), and to compare how they performed through resource price fluctuations.

This report analyzes the economic and fiscal records of Alberta and Texas with the goal of answering two questions: Which jurisdiction performed better economically, and which performed better on fiscal measurements?

The economic records of Alberta and Texas reveal that both have experienced similar rates of real GDP growth from 2001 to 2013 (3.2 and 3.1 percent respectively, averaged annually). Texas performed better on real per-capita GDP growth (1.2 percent on an annual average, compared with Alberta's at 0.9 percent over the period), and also does better when real GDP per worker is examined. However, by most economic measurements—total employment growth, private sector employment growth, unemployment rate, and population growth—Alberta has performed better than Texas. Also, as of 2013, Alberta had significantly higher per-capita GDP, at $75,605, compared with Texas, at $64,450 (Canadian dollars).

On balance then, Alberta has had the better economic record. That meant Alberta's government could have had a superior fiscal record. More people employed, higher employment growth, and lower unemployment equate to more personal income taxes collected and lower demands for provincial social assistance, for example. All of that should have made balanced budgets more possible.

However, Alberta's fiscal record has been generally poor in comparison to Texas since the year 2000. On fiscal measurements, Alberta has had significantly larger government expenditures relative to the economy (an annual average of 13.1 percent of GDP in Alberta; 9.0 percent in Texas), higher public sector employment growth (2.8 versus 1.1 percent growth on average

annually), and much higher per-capita government spending on an annual average ($8,607 per person in Alberta; $4,952 per person in Texas).

Even accounting for differing responsibilities in Texas and Alberta, the *growth* in per-capita government spending illustrates relative Texan prudence and Albertan imprudence. Between 2000/01 and 2012/13, Alberta's per-capita government spending rose by 69.5 percent, compared with a 59.5 percent rise in Texas. Such significantly higher expenditures and public sector employment growth meant that once resource prices declined dramatically it was more difficult for Alberta to achieve a balanced budget in comparison to Texas during and after the last recession. From 2008/09 to 2012/13, as a percentage of GDP, Texas recorded one deficit (in that first year). It has recorded a surplus in every year since. In contrast, Alberta did not record a single surplus in any of those five years.

On average, Alberta demonstrated a better fiscal record on just one important fiscal measurement: net public debt relative to GDP. However, Alberta's fiscal position (its net assets) have been in decline since 2006/07, whereas Texas stanched the bleeding in 2010/11. Simply put, if Alberta continues to perform poorly on the other above-mentioned fiscal indicators, it is only a matter of time until that favourable indicator for Alberta—net public assets/debt—is also eventually lost to Texas.

Introduction

Two resource economies, two different government spending patterns

Since the millennium, energy and natural gas prices have weakened, soared, crashed, strengthened, and then crashed once again. Between 2000 and 2013, the years examined in this report, the price of one barrel of oil (West Texas Intermediate, on a monthly average) has ranged from a low of US$19.39 (December 2001) to a high of $133.88 (July 2008). Natural gas prices (dollars per thousand cubic feet on a monthly average) have ranged from a low of US$2.04 (April 2012) to a high of $11.78 (July 2008) (US Energy Administration, undated a, undated b).

This study will examine two jurisdictions where resource extraction is responsible for a significant share of each entity's economy, the Province of Alberta and the State of Texas. In both jurisdictions, energy has provided employment opportunities, income growth, and population growth.

One previous study (Clemens, Emes, and Di Matteo 2014) analyzed ten energy-producing provinces and states and found that Alberta did relatively well before the last recession on selected fiscal indicators such as an avoidance of budget deficits, but that it has not fared as well in the years since the 2008/2009 recession.

This study will more narrowly focus on just the Alberta-Texas comparison, with the goal of answering two questions: How do Alberta and Texas compare on measurements of economic performance and on measurements of fiscal performance? Expressed differently, given the similar performance of the two economies, how do Alberta and Texas compare on measurements that governments have some control over—government expenditures, and related measurements such as public sector employment growth, deficits and debt?

Measurements and outline

This study will first outline the similar economic performance of Texas and Alberta. Measurements here include oil and gas activity as a percentage of GDP, real GDP growth, population growth, real per-capita GDP growth, total employment growth, private sector employment growth (public sector employment growth is noted here as well to keep employment statistics together), unemployment rates, and real GDP per worker.

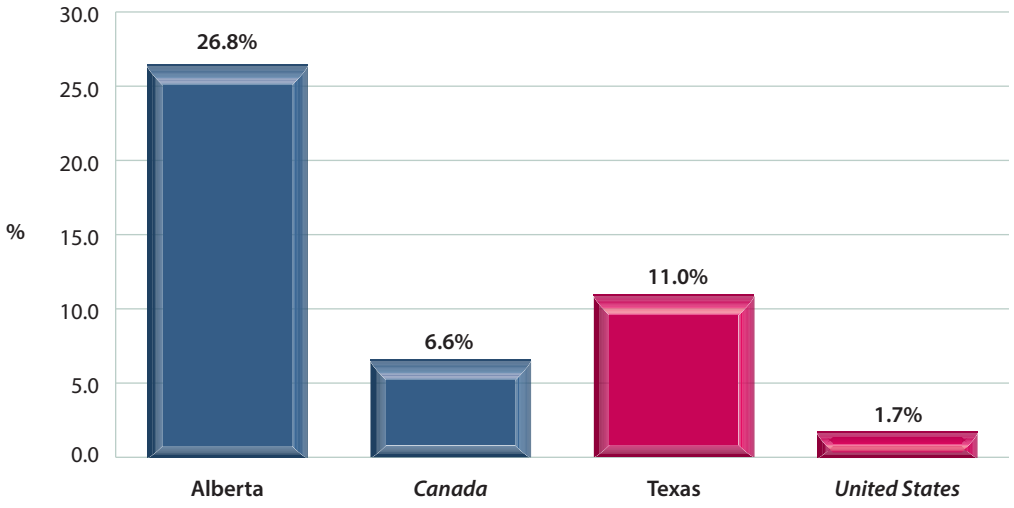
Second, this report will analyze the Albertan and Texan fiscal records. Measurements here are per-capita surplus/deficit by year, net public debt as a percentage of GDP, per-capita government expenditure, and the ratio of government expenditures to GDP.

All figures that follow in this report have been converted to Canadian dollars. Also, the years analyzed in this study are from 2000 to 2013 inclusive, unless otherwise noted. Comparator measurements of growth begin in 2001, i.e., the statistic for GDP growth is identified as 2001 given the comparator year is 2000.

The Texas and Alberta economies compared

Figure 1: Oil and gas activity as a share of the economy

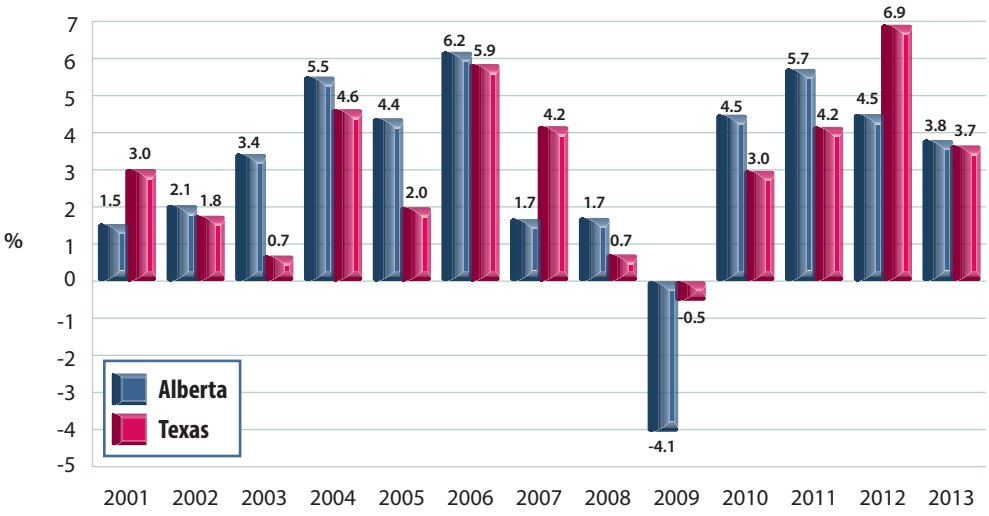
Oil and gas activity both form a large part of the Alberta and Texas economies. As a percentage of GDP, oil and gas activity amounted to 26.8 percent in Alberta (6.6 percent of the Canadian economy). In Texas, oil and gas activity amounted to 11.0 percent of that state's economy (1.7 percent of the US economy).



Sources: Statistics Canada, 2015a, 2015b; US Bureau of Economic Analysis, 2015a.

Figure 2: Real GDP growth in Alberta and Texas

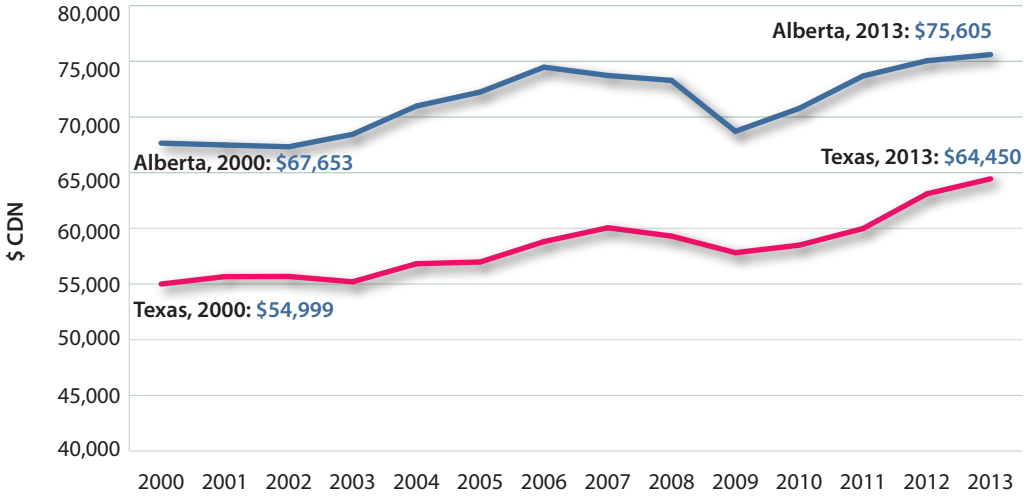
The Alberta and Texas economies performed broadly similarly over the 2001–2013 period, with average annual real GDP growth of 3.2 percent in Alberta and 3.1 percent in Texas. Interestingly, Alberta's economy experienced a much more severe decline in the last recession. In 2009, Alberta's economy shrank by 4.1 percent, compared with a comparatively modest 0.5 percent decline in real GDP in Texas.



Sources: Statistics Canada, 2014a; US Bureau of Economic Analysis, 2014a, 2014b; International Monetary Fund, 2013.

Figure 3: Real per-capita GDP; Alberta tops but Texas gaining

In the years examined (2000 to 2013), Alberta demonstrated a significant advantage over Texas in per-capita GDP. In 2000, per-capita GDP in Alberta was $67,653, rising to $75,605 by 2013. The growth in Texan per-capita GDP followed the same trajectory but started from a lower base. In 2000, per-person GDP in Texas was $54,999, rising to $64,450 by 2013. In 2000, Alberta's per-person GDP advantage was $12,654; by 2013, the gap had narrowed slightly to $11,155.[1]

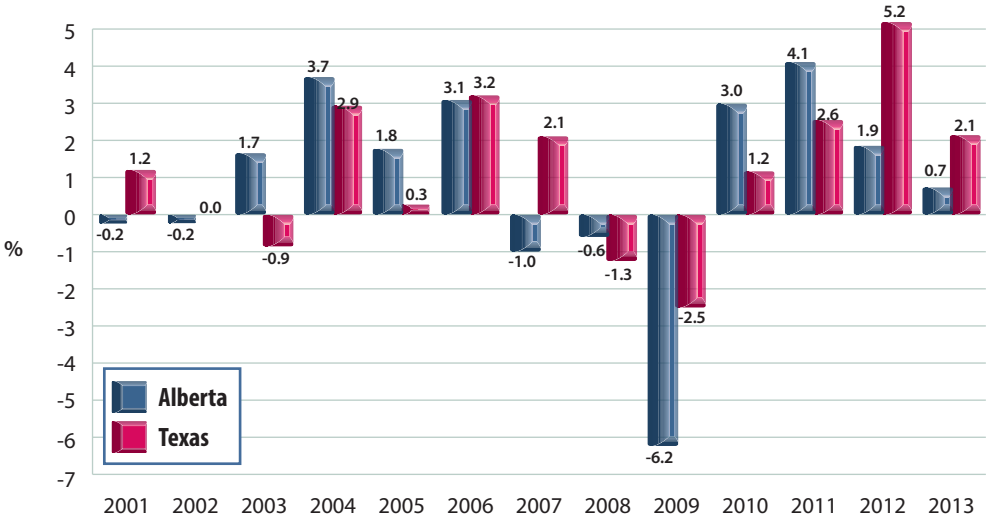


Sources: Statistics Canada, 2014a, 2014b; US Bureau of Economic Analysis, 2014a, 2014b, 2014c; International Monetary Fund, 2013.

1. All figures in this study are in real Canadian dollars unless otherwise noted.

Figure 4: Real per-capita GDP growth in Alberta and Texas

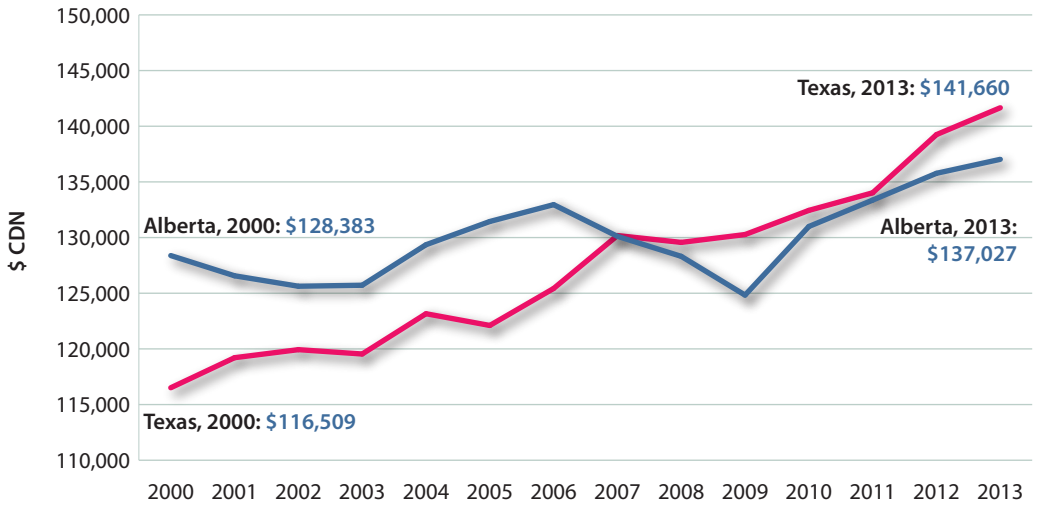
Between 2001 and 2013 (2001 growth rates vis-à-vis 2000), the average annual growth in real per-person GDP was 0.9 percent in Alberta compared with an annual average of 1.2 percent in Texas. Alberta's occasional declines in GDP have been sharper than those in Texas. In Alberta, the sharpest decline in real per-person GDP occurred in 2009 (-6.2 percent); the highest year-over-year growth rate was 4.1 percent (2011). In Texas, the sharpest decline in real per-capita GDP was in 2009 (-2.5 percent); the strongest growth year was 2012 with a 5.2 percent rise.



Sources: Statistics Canada, 2014a, 2014b; US Bureau of Economic Analysis, 2014a, 2014b, 2014c; International Monetary Fund, 2013.

Figure 5: Real GDP per worker; Texas soars past Alberta

The only measurement where Alberta and Texas switched positions over the 2000–2013 period concerns real GDP per worker. This is significant as it is a measurement of productivity—and it tells us that Texas has simply boomed. In 2000, real GDP per Alberta worker was $128,383; in Texas, the figure was $116,509, or $11,874 below Alberta. By 2013, real GDP per worker was $141,660 in Texas and $137,027 in Alberta—a $4,633 advantage for Texas.[2]

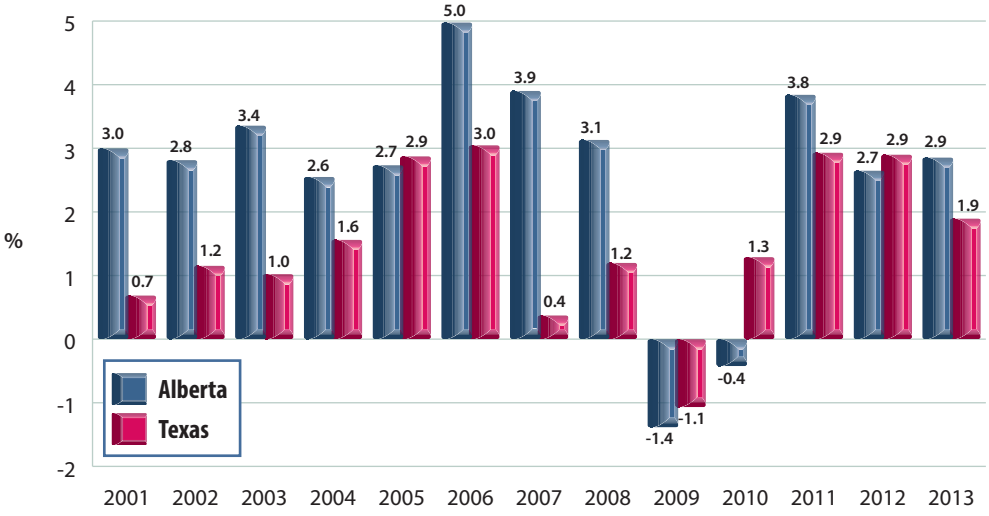


Sources: Statistics Canada, 2014a, 2014d; US Bureau of Economic Analysis, 2014a, 2014b, 2014c; US Department of Labor, various years a, various years b.

2. To some extent, the results illustrated in figures 2 through 5 reflect differences between extensive and intensive economic growth. Extensive economic growth refers to changes in GDP that are a result of the expansion of the quantity of inputs. For instance, increases in population increase the labour input in GDP. Intensive growth, on the other hand, refers to economic growth that comes about through increases in efficiency, meaning that the economy can produce more from the same level of inputs due to innovation or other technological improvements. Extensive growth may also be a precursor to intensive economic growth. For a discussion of extensive vs. intensive economic growth, please see Irmen (2005).

Figure 6a: Total employment growth; Alberta significantly stronger

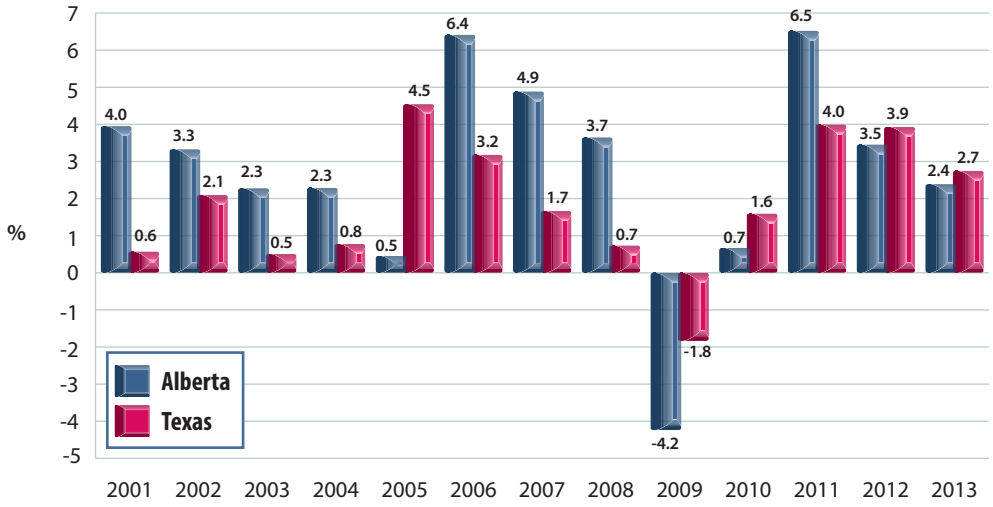
In most years, both Alberta and Texas recorded employment growth, though Alberta's was notably stronger. Between 2001 and 2013, total employment growth averaged 2.6 percent in Alberta and 1.5 percent in Texas. The strongest year for employment growth in Alberta was in 2006 (5.0 percent). The sharpest decline in employment was in 2009 (-1.4 percent). The strongest year for employment growth in Texas was 2006 (3.0 percent) with the steepest decline in 2009 (-1.1 percent).



Sources: Statistics Canada, 2014d; US Department of Labor, various years a, various years b, various years c.

Figure 6b: Private sector employment growth; Alberta significantly stronger

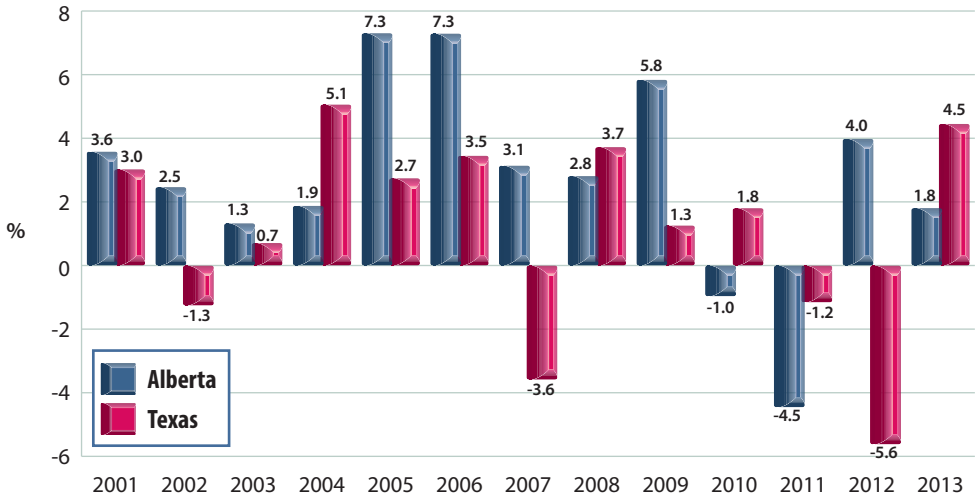
Private sector employment growth was stronger in Alberta than in Texas, on an annual average between 2001 and 2013. Alberta's annual average growth rate in private sector employment was 2.8 percent, whereas the annual average for Texas was 1.9 percent. The strongest year in Alberta for private sector employment growth was 2011 (6.5 percent) and for Texas, 2005 (4.5 percent). The sharpest decline for private sector employment was in 2009 for both Alberta (-4.2 percent) and Texas (-1.8 percent). Notably, however, Texas has outperformed Alberta in the post-recession years.



Sources: Statistics Canada, 2014d; US Department of Labor, various years a, various years b, various years c.

Figure 6c: Public sector employment growth; Alberta 147 percent higher than Texas

Of relevance to the next section on fiscal records, public sector employment growth was significantly higher in Alberta than in Texas. Between 2001 and 2013, Alberta's average annual growth in public sector employment was 2.8 percent, almost two and a half times the 1.1 percent annual average annual rate of growth observed in Texas. Alberta's growth in public sector employment was thus 147 percent higher than that of Texas, on average, annually between 2001 and 2013. Alberta's highest years for public sector employment growth were 2005 and 2006 (7.3 percent in each); in Texas it was 2004 (5.1 percent).[3]

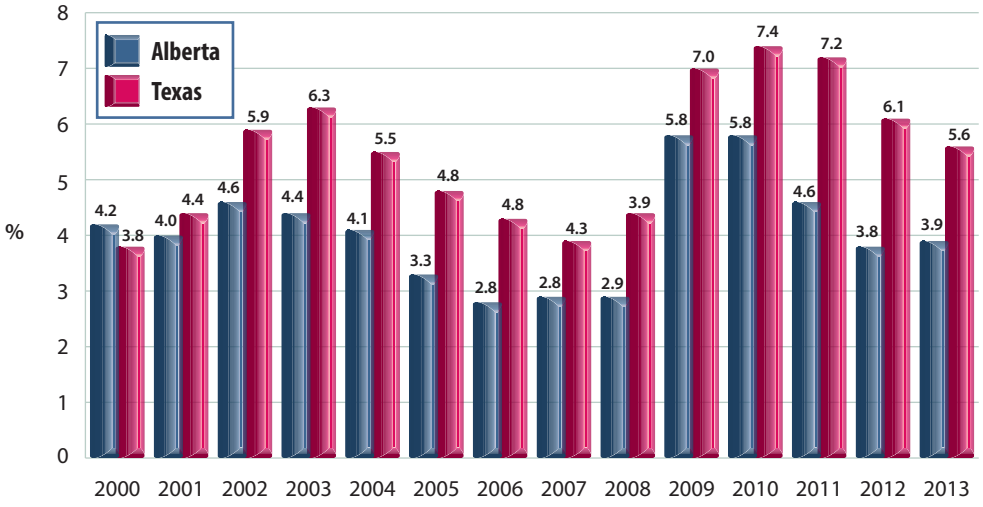


Sources: Statistics Canada, 2014d; US Department of Labor, various years a, various years b, various years c.

3. Some of this high public sector growth is attributable to relatively higher population growth in Alberta, but a comparison of the growth in per-capita government expenditures over the 2000/01 to 2012/13 period demonstrates that Texas restrained its public service growth relative to Alberta even after accounting for population. Per-capita expenditures grew by 69.5 percent in Alberta compared with 59.5 percent in Texas (figure 10).

Figure 7: Unemployment rates; Alberta consistently lower than Texas

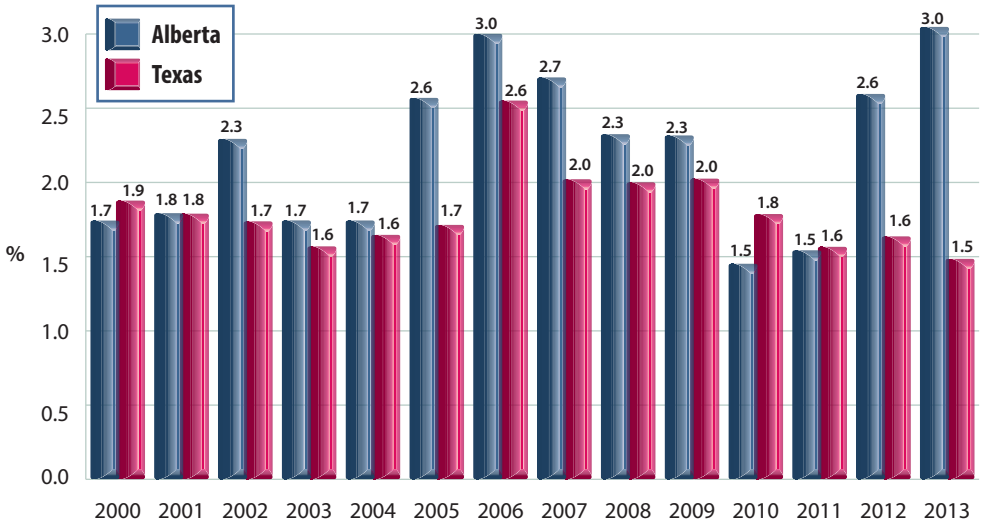
Alberta's unemployment rates were consistently lower over the measured years. On an annual average, Alberta's unemployment rate was 4.1 percent compared with Texas at 5.5 percent. The highest unemployment years for Alberta occurred in 2009 and 2010 (5.8 percent) while the highest year in Texas was 2010 (7.4 percent). The lowest unemployment year in Alberta was 2006 (2.8 percent); for Texas it was 2000 (3.8 percent).



Sources: Statistics Canada, 2014c; US Department of Labor, various years a, various years b.

Figure 8: Percentage change in population, 2000–2013

Both Alberta and Texas grew in population between 2000 and 2013. Alberta's total increase in population was 1,003,001, a 33.4 percent increase in that period. In Texas, the population grew by 5,503,694 people, or 26.3 percent. The annual average population growth rate was thus higher in Alberta (2.2 percent) than in Texas (1.8 percent). The highest increases in population in Alberta occurred in 2006 and 2013, with 3.0 percent growth in population in each of those years. In Texas, the greatest year-over-year increase took place in 2006 (2.6 percent).



Sources: Statistics Canada, 2014b; US Bureau of Economic Analysis, 2014c.

Summary of the economic record

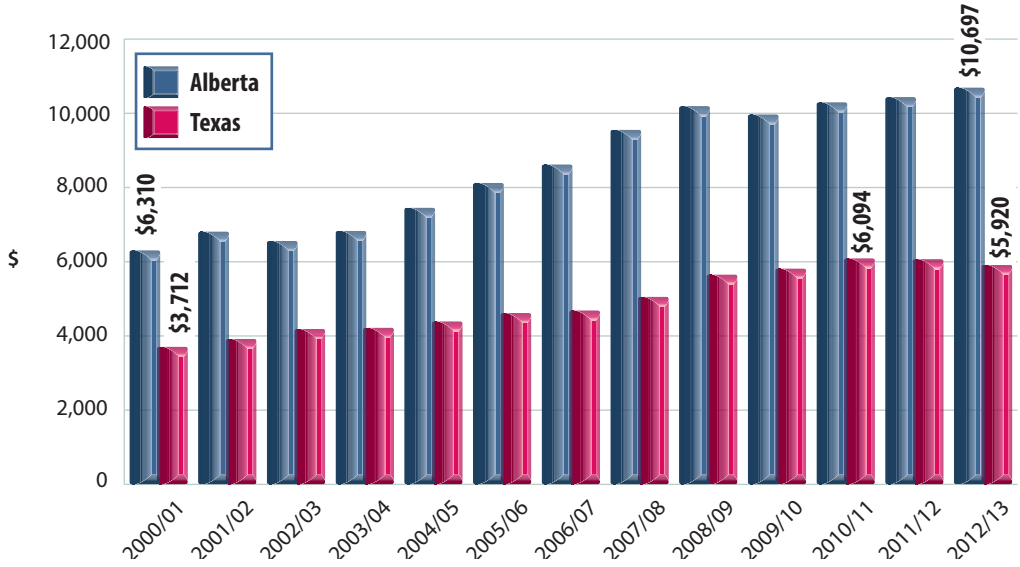
The economic record of Alberta and Texas reveals that each experienced similar rates of real GDP growth from 2001 to 2013 inclusive. During that period, Texas' real per-capita GDP growth was higher. Texas also did better when real GDP per worker is examined, catching up to and surpassing Alberta. By most other economic measurements though, Alberta has performed better than Texas: on total employment growth, private sector employment growth, unemployment rates, and population growth. Thus, on balance, Alberta performed better economically.

Alberta and Texas: A fiscal comparison

As the next measurements show, Texas' fiscal record has mostly been superior to that of Alberta, even though it recorded slightly slower GDP growth, significantly slower employment growth, significantly slower private sector employment growth, higher average annual unemployment rates, and a lower proportion of the state's working age population employed.

Figure 9: Per-capita government expenditures

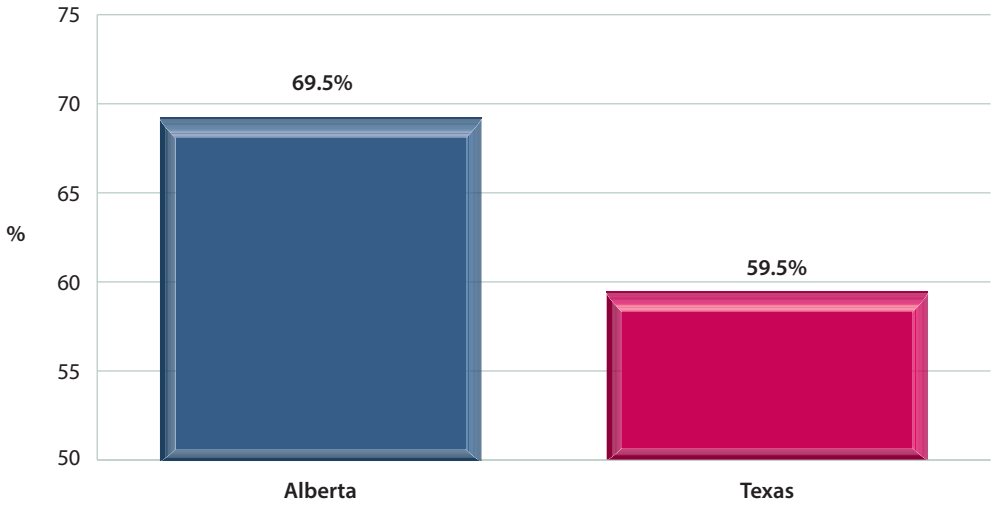
Alberta's per-capita government expenditures have been significantly higher than those of Texas between 2000/01 and 2012/13. Alberta spent $8,607 on average, while Texas spent $4,952. Alberta's per-person spending ranged from a low of $6,310 (2000/01) to a high of $10,697 (2012/13). In Texas, it ranged from a low of $3,712 (2000/01) to $6,094 (2010/11).



Sources: Canada, 2014; Statistics Canada, 2014b; US Census Bureau, various years a, various years c, 2012b, 2013b; International Monetary Fund, 2013; US Bureau of Economic Analysis, 2014c.

Figure 10: Growth in per-capita government expenditures

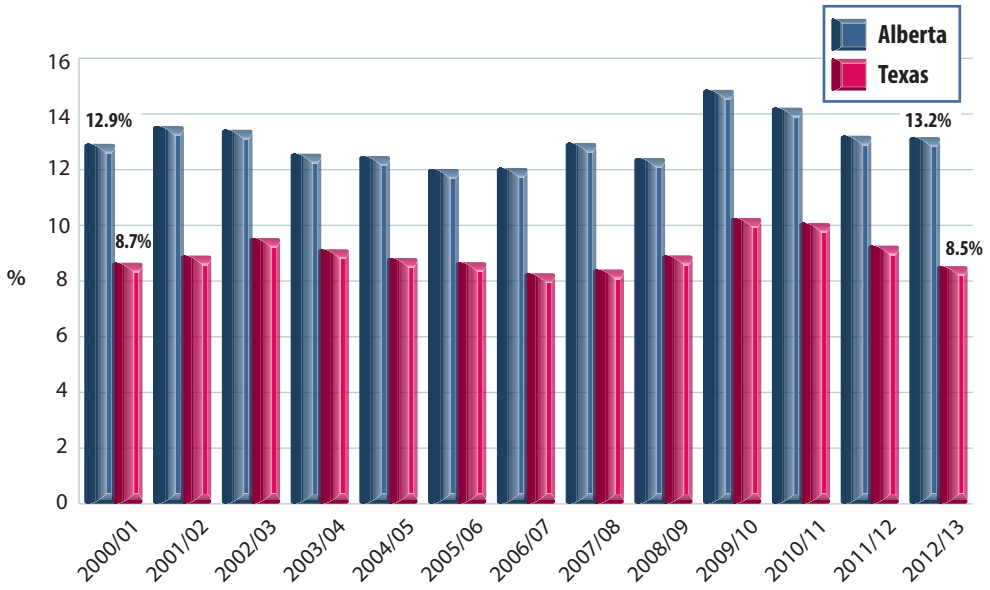
A revealing statistic to note in conjunction with the above figure is the *growth* in per-capita government expenditures. Given that there may be unique responsibilities in Texas or in Alberta that could affect per-capita spending, it is helpful to consider the growth in such spending. That, at a minimum, is one way to see if Alberta or Texas has more carefully controlled spending despite any unique responsibilities that might exist for one or the other. Here, Alberta's per-capita expenditures rose from $6,310 in 2000/01 to $10,697 in 2012/13, a 69.5 percent rise. In Texas, per-capita government spending rose from $3,712 per person in 2000/01 to $5,920 in 2012/13, or a 59.5 percent increase.



Sources: Canada, 2014; Statistics Canada, 2014b; US Census Bureau, various years a, various years c, 2012b, 2013b; International Monetary Fund, 2013; US Bureau of Economic Analysis, 2014c.

Figure 11: Government expenditures relative to the economy

Alberta's government expenditures relative to GDP have been consistently higher than Texas'.[4] As an annual average between 2000/01 and 2012/13, government expenditures relative to GDP were 13.1 percent in Alberta and 9.0 percent in Texas—or 45 percent higher in Alberta than in Texas. The pattern is consistent over all the years examined: Alberta government expenditures have taken up a larger percentage of its economy in every single year relative to Texas.

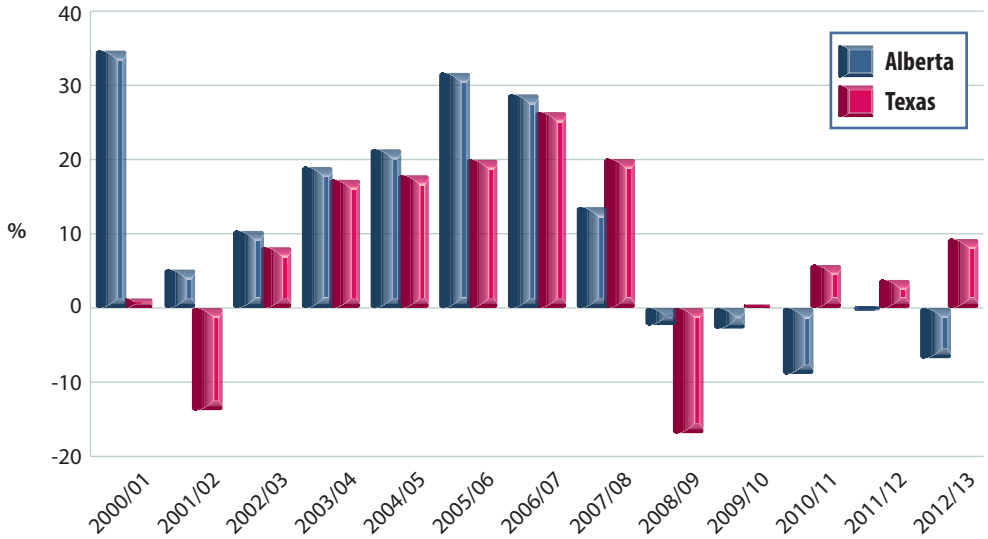


Sources: Canada, 2014; Statistics Canada, 2014e; US Census Bureau, various years a, various years b, 2012b, 2013b; US Bureau of Economic Analysis, 2014a

4. It might be asserted that higher public (government) health care expenditures in Canada explain the difference between state and provincial expenditures. However, using national averages (provincial and state breakdowns are unavailable), adjusted for purchasing power parity, the United States spends more than Canada per person on public health care. In the most recent year available (2012), health care expenditures through government amounted to $4,160 per person in United States and $3,224 per person in Canada (OECD, 2014; US dollars, in purchasing power parity). All of the years relevant to this study, 2000 and after, show the same result according to the OECD data: Higher per-person spending by government in the United States as compared with Canada.

Figure 12: Provincial and state surplus/deficit as a percentage of total government spending[5]

Alberta has performed better than Texas on average in this measurement. Between 2000/01 and 2012/13, Alberta produced an annual average surplus that was 11.1 percent of total government spending compared to Texas with an annual average surplus at 7.7 percent. However, Alberta's better record here results entirely from pre-recession surpluses. In contrast, Texas recorded a deeper one-year deficit in 2008/09 (as a percentage of total government spending) and none since, while Alberta recorded only deficits.

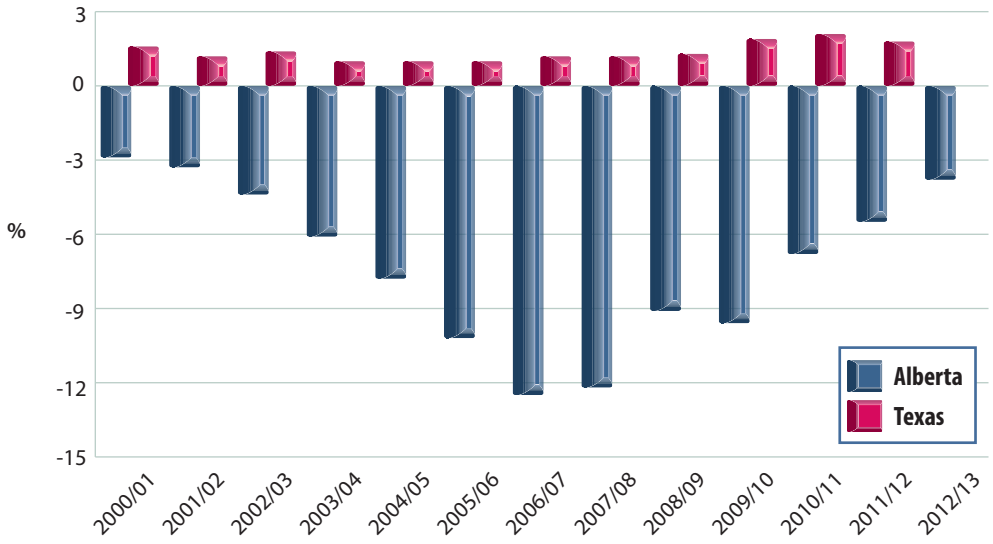


Sources: Canada, 2014; US Census Bureau, various years a, various years b, various years c, 2012a, 2012b, 2013a, 2013b.

5. Note that this report uses broad definitions of government spending, which means that state surplus/deficit (and other indicators) may seem unusual to those who normally calculate only "general fund" figures. As the focus of this report is to compare Alberta's performance to that of Texas, we have chosen to base our analysis on the values which best represent Alberta's fiscal performance. For Alberta this means using consolidated revenue, spending, and hence surplus/deficit. Using a broad definition for the provincial government requires we do the same for the comparator jurisdiction.

Figure 13: Net Public Debt Relative to GDP

Alberta is in a better position on net public debt. Over the period examined (2000/01 to 2012/13 for Alberta; 2000/01 to 2011/12 for Texas), Alberta's net public debt has been -7.2 percent of GDP. In other words, Alberta has recorded net assets. In contrast, Texas' net public debt has averaged 1.4 percent of GDP. However, as with several other indicators, pre-recession and post-recession numbers reveal a more recent pattern. Alberta enjoyed its best year here in 2006/07 and has been in decline ever since (in essence, whittling away at its net assets). Texas increased its net public debt after 2006/07, but arrested that decline as of 2010/11.



Sources: Canada, 2014; Statistics Canada, 2014e; Urban Institute-Brookings Institution Tax Policy Center, 2015; US Census Bureau, 2006; US Bureau of Economic Analysis, 2014a.

Conclusion

Alberta's economic record has mostly been better than Texas

The economic records of Alberta and Texas reveal that they have experienced similar rates of real GDP growth (3.2 and 3.1 percent respectively, averaged annually). Texas has the advantage on real per-capita GDP growth (1.2 percent on an annual average compared with Alberta's 0.9 percent growth), though Alberta's real per-capita GDP was still significantly higher than Texas' in 2000 and again in 2013, albeit with a slight narrowing between the province and state over those years. Texas also has performed better when real GDP per worker is examined, and has surpassed Alberta on that measurement.

On most other economic measurements, however, Alberta has performed better than Texas: on total employment growth, private sector employment growth, the unemployment rate, and population growth.

The Texas advantage

Texas' fiscal record mostly better than Alberta

Despite having a lower unemployment rate (which has had a beneficial effect on government finances), Alberta's fiscal record is poor in comparison to Texas on measurements of public sector employment growth, deficits in the last five years, per-capita government expenditures, and government expenditures relative to the economy.[6] Alberta has, thus far, shown a better fiscal record on one measurement—net public debt relative to GDP—but that measure has been in decline since 2006/07. Meanwhile Texas stanched the bleeding here as of 2010/11. Thus, if Texas continues to perform well on the other four of the five indicators, it is only a matter of time until the last favourable indicator for Alberta is also eventually lost.

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6. One reason Texas has a better fiscal record could be explored further by researchers—the effect of constitutional spending limits. In Texas, the state constitution has four types of limits: debt limit, welfare spending limit, pay-as-you-go limit, and a limit on the growth of certain appropriations (Texas, 2014: 2).

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