

EXECUTIVE SUMMARY

Topic and Research Question

In promotional materials cities often use their skylines as emblems of power, prosperity and resilience. Beyond their symbolism for boosters, skyscrapers house much of the decision-making capacity of the world's firms. These head offices, or headquarters, are where (one hopes) the talent is found. In such a way, firms are talent-seekers. But who seeks talent-seekers? In an era of globalization, nimble firms are able to capitalize on the growth and decline of cities via their location decisions. Cities now compete to attract head offices for their presumed positive economic impact, but what is the impact? Calgary, Alberta, is Canada's energy centre and is an emerging leader in head office counts (Brown & Beckstead, 2006; CED, 2010). With a strong history of oil and gas (O&G) industrial activity in the area, it is no surprise Calgary's head office counts are dominated by O&G-related firms. This report seeks to answer the following research question: in terms of income and employment generation, what is the local economic impact of a firm in the O&G industry moving its head office to Calgary, AB?

Head Offices in Calgary

Calgary's dominance in housing the O&G industry's decision-makers is clear. The *Globe and Mail's Report on Business (ROB)* magazine publishes an annual "Top 1000", ranking the 1,000 largest publicly traded companies incorporated in Canada. Of the 210 companies on the 2012 list in the O&G industry, 169 (80%) are headquartered in Calgary. These 169 firms represent roughly 22% of the *combined* total market capitalization of the Toronto Stock Exchange and TSX Venture Exchange (The Globe and Mail, 2012a; TMX, 2012). This supremacy has led to business and professional service providers (e.g. banks, accounting firms, consultants) coming to Calgary, bolstering its argument as a prime head office locale for non-O&G firms. The 1999 to 2005 period witnessed Calgary beginning to supplant Vancouver as Western Canada's most important head office centre (Brown & Beckstead, 2006), a title it took in 2010 (CED, 2010). This trend is likely to continue as Calgary becomes more attractive as a head office jurisdiction, especially for O&G-related firms. So just how valuable is an O&G head office relocation?

Method

The method of this report largely follows that of Bell's (1996) study of the mining industry's expansion in Sudbury, ON. The method comprises the calculation of two economic multipliers: the economic base multiplier and the H.C. Davis income multiplier. The economic base multiplier is calculated using the location quotients (LQs) method, which compares employment in the local economy (Calgary) to employment in the larger economy (Alberta or Canada) by industry. It is thus an indicator of industrial specialization and is used to find the employment effect. The income effect is found using the H.C. Davis income multiplier (Davis, 1976), a more complex and arguably more robust multiplier than the economic base multiplier. The income multiplier overcomes many of the deficiencies of the economic base method and arguably provides a 'truer' estimate of the economic impact.

Results

The location quotient method was used to calculate the economic base multiplier, which divides the local economy into basic and non-basic (or export-based and local-based) employment. The table below details five of the seven industries with a $LQ > 2$, meaning they are at least twice as concentrated in Calgary as the Canadian average. While all five are in the O&G industry, oil and gas extraction and pipeline transportation stand out as the top two basic industries, with LQs close to 10 (meaning ten times the concentration).

NAISC	Industry	Y_{Calgary}	Y_{Canada}	LQ_i	B_r	N_r
211	Oil and gas extraction	27,455	72,465	9.86	24,672	2,783
486	Pipeline transportation	1,590	4,335	9.55	1,424	166
412	Petroleum product wholesaler-distributors	2,345	15,315	3.99	1,757	588
213	Support activities for mining and oil and gas extraction	14,295	103,510	3.60	10,320	3,975
324	Petroleum and coal products manufacturing	1,200	14,810	2.11	631	569

*Y = Total Employment, LQ = Location Quotient, B = Basic Employment, N = Non-Basic Employment
Source: Statistics Canada, 2008c; 2008e.*

Again, this highlights the importance of O&G to Calgary's economy. The resulting economic base multiplier is approximately 5.83. This means for every unit of basic employment (e.g. any industry in the table above or with a $LQ > 1$), 4.83 non-basic sector jobs are created. When

these figures are applied to the average head office employment of 50, the employment impact of a typical head office relocation is just under 300 jobs economy-wide (50 basic plus 242 non-basic).

In contrast to the economic base multiplier, the income multiplier is a much more complex calculation involving a variety of inputs drawn from a diverse set of sources. Consumption, government spending, taxes, federal and provincial funding, and expenditures on imports all play into the multiplier. Given the often disparate data sources and the need for some subjectivity on the part of the researcher, sensitivity analysis was performed to identify the magnitude of and degree to which error in any input affected the overall multiplier. This analysis demonstrated that while error in some inputs had a greater effect on the multiplier than others, the former group of inputs were treated more carefully ex-ante due to their inherent complexity. The resulting income multiplier was found to be approximately 1.477. This translates to an income effect of roughly 11.7 million CAD for an O&G head office of 50 employees.

Conclusions

The results found in this report reveal just how significant the income and employment effects can be for a relatively small firm relocation. While some disbelief must be suspended given the method's assumptions, the results still ought to be informative for practitioners and policymakers. The findings demonstrate the importance of O&G and its continued expansion as an industry in Calgary as well as the clear economic benefits of attracting head offices. How then can Calgary continue to increase its head office share? Given the risk profile of O&G, further diversification should be an obvious target. This can be achieved while still benefiting existing industry by actively encouraging business and professional services providers to locate in Calgary or expand their existing operations. Pursuant to this, policymakers need to improve access to Calgary's downtown, its key office precinct, from the rest of the city, but especially the airport. The literature has shown airports to be a critical attribute for a city's success as an international centre and head office locale (Bel & Fageda, 2008; Strauss-Kahn & Vives, 2009; Bloom & Grant, 2011). Providing better access between the airport and downtown as well as the successful completion of ongoing projects to expand the airport's capacity and services should be top of mind.