

Was the Alaska Purchase a Good Deal?¹

David Barker
University of Iowa
Email: david-barker@uiowa.edu

August 10, 2009

¹I am grateful for comments and assistance from Scott Barton, John Binder, David Galenson, Dan Harwig, Stephen Haycox, Bill Hoing, Narayana Kocherlakota, Kelvin Latta, Deirdre McCloskey, Jeff Owen, Ray Percival, Mark Peterson, Raymond Riezman, Malcolm Rohrbough, William Shade, Larry Sjaastad, Mark Spoerer, David Surdam, George Tolley, Henry Thompson, Adam White, Kevin White, and Charles Whiteman. I also thank seminar participants at the University of Chicago, the University of Iowa, and the Social Sciences History Association meetings.

Abstract

The purchase of Alaska from Russia for \$7.2 million, ridiculed in 1867 as “Seward’s Folly,” is now viewed as a shrewd business deal. A purely financial analysis of the transaction, however, shows that the price was greater than the net present value of cash flow from Alaska to the federal government from 1867 to 2007. Possible non-financial benefits of the Alaska purchase are also examined.

Was the Alaska Purchase a Good Deal?

Cash! Cash! Cash! Cash paid for cast off territory. Best price given for old colonies North and South. Any impoverished monarchs retiring from the colonization business may find a good purchaser by addressing William H. Seward, Post Office, Washington D.C.

New York Herald Tribune, April 12, 1867, p. 5.

The possession of this Russian territory can give us neither honor, wealth nor power, but will always be a source of weakness and expense, without any adequate return.

Congressman Cadwallader Colden Washburn (R-Wis.)

Congressional Record, 1867.

The United States has already gotten back 425 times over the \$7 million purchase price it paid to imperial Russia, in metals, minerals, timber and oil.

Congressman Joe Evins (D-Tenn.)

Congressional Record, 1958.

Seward, however, was wiser than his critics realized. Alaska paid for itself many times over with the gold that was discovered in the Yukon Valley, and its rich copper and oil resources, as well as seal and whale trade.

Gary Nash, *American Odyssey*, New York: McGraw Hill, 2004, p. 221.

High school history textbook.

1. Introduction

The United States purchased Alaska from Russia in 1867 for \$7.2 million. Many legislators and journalists at the time objected to the high price and uncertain prospects of earning a reasonable return on the investment, but historians now seem unanimous in their judgment that the purchase was good for the United States, financially and otherwise. Modern commentators on the purchase seem to differ only over whether to “ascribe the favorable conclusion to fortuity rather than American foresight” (Kushner, 1975, p. 5). They argue that the current gross state product of Alaska is over \$40 billion, easily justifying the original purchase price. Academic studies, textbooks and promotional materials for the state of Alaska continue to point out that the original purchase price was repaid to the United States Treasury in twenty years through the sale of fur seal skins.¹

Is it possible that the purchase of Alaska, with all of its oil, timber, and other natural resources, for 1.7 cents per acre was not a good deal financially? Several factors indicate that it was not. First, the fact that income from Alaska has exceeded the initial purchase price is not sufficient to demonstrate that the purchase was a sound investment. The net present value of income to be received in the distant future is small. Oil revenues to be received in the twenty-first century should have been heavily discounted by anyone considering them in 1867. Second, the purchase was a risky investment. The prospects for the Alaskan economy were uncertain at the time of the purchase. Investment of the purchase price in other projects with similar or less risk might have yielded greater returns over the years. Finally, the return to citizens of the United States from the purchase of Alaska has been much less than the gross product of the Alaskan economy. The relevant return includes only net income to

¹An example is Lee (1998, p. 63) which claims that total revenue from fur seals exceeded the purchase price. The analysis ignores both the time value of money and exaggerates the income received from fur seals.

Americans that would not have been earned if Alaska had not been purchased.

The profitability of the Alaska purchase is interesting for several reasons. For example, a financial evaluation of the transaction might clarify the motivation behind the purchase. If the Alaska purchase was not a good deal financially, then non-financial motives were probably more important than financial motives, and Alaska was probably purchased not for its resources or economic potential but for geo-political reasons. Another reason for interest in the purchase is an issue raised by proponents of what is often called the “new western history.” New western history differs in many ways from traditional history of the American West, including an emphasis on the role of the federal government in the development of the West.² Richard White writes:

The American West, more than any other section of the United States, is a creation not so much of individual or local efforts, but of federal efforts. More than any other region, the West has been historically a dependency of the federal government. (White, 1991, p. 57)

If the federal government made a substantial profit from Alaska, as is generally believed, then Alaska would provide a counter-example to this claim. A financial loss for the federal government would support the proposition that Alaska has been dependent on the federal government.

The success or lack of success of the Alaska purchase might raise other historical questions. After all, if the Alaska purchase was a huge success, then perhaps the greatest errors of American history were the failures to obtain Canada, Greenland, Iceland, the Dominican Republic, more of Mexico than was obtained in the Mexican War, etc. If the purchase was more costly than is usually assumed to be the case, then

²For an introduction to the development of the history of the American West, see Peterson (1994). The role of the federal government in the American West is described in Limerick (1987), pp. 78-96, 134-159 and White (1991), pp. 155-178, 463-533.

perhaps other territorial acquisitions should be more closely examined.

Americans may have received many non-financial benefits from the Alaska purchase. This paper mainly attempts to evaluate the financial benefits of the purchase, but it also shows some reasons why the non-financial benefits may have been limited.

I am not aware of any previous attempts to value territorial acquisitions of the United States. Boskin (1985) attempts to place a value on all federal mineral rights and land as of 1981 and discusses previous attempts to value federal lands. Their estimates are consistent with mine, but our projects are very different. Instead of only valuing assets, I am attempting to value assets and liabilities in order to determine net value. In addition, Boskin (1985) only measures the value of mineral rights and land owned by the federal government, not the value of jurisdiction over specific areas such as Alaska.

2. What Did the Alaska Purchase Return?

Suppose that the United States had never purchased Alaska. How would American history have been different? The simplest answer is that Alaskans would have paid taxes to a different government, and a different government would have incurred the expenses of collecting revenue and providing services to Alaska. The difference between revenues and expenses is the return Americans earned from the purchase. United States citizens of 1867, analyzing the costs and benefits of the purchase, would have compared the purchase price with the net present value of these anticipated profits. In the rest of this section, a number of possible objections to this analysis are considered.

Size of the Alaskan Economy

Political and historical writing on the Alaska purchase often assumes that the entire gross product of Alaska is the benefit that accrued to the United States and concludes that the purchase is justified by the current size of the Alaskan economy. Why isn't all income earned in Alaska a return on the purchase? An obvious answer is that, aside from taxation, citizens of the rest of the United States do not directly benefit from this income; it flows to Alaskans, not to all Americans. Only a small portion of United States citizens in 1867 moved to Alaska to earn this income, while all citizens were taxed to obtain the purchase price. The return to all American citizens has been federal taxes paid by Alaskans. An even better answer is that income earned in Alaska could have been earned with or without the purchase. If the United States had not purchased Alaska, it most likely would have been taken by Great Britain and made a part of Canada. (Golder 1920) Americans poured into western Canada during the 19th century, and some were in Russian Alaska before the purchase (Callahan, 1967, p. 307; Kushner, 1975, p. 18). There were no significant restrictions on immigration to Canada at that time; in fact, Canada offered incentives to immigrants from the United States. Unrestricted immigration continued until 1930, when immigrants to Canada from the United States were required to demonstrate that they either had employment in Canada or had sufficient financial resources to support themselves. Beginning in 1967, a point system for permanent immigrants discouraged immigration of unskilled workers,³ although unskilled workers with confirmed job offers were allowed non-permanent residency.⁴ Even today, immigration to Canada is possible for most citizens of the United States.

³Skilled work is generally considered to be anything requiring training beyond high school, including one-year programs, but not including on the job training.

⁴African-Americans were usually denied entry into Canada during the 19th and early 20th centuries. (Kelley and Trebilcock, 1998) Even after the purchase, however, few African Americans moved to Alaska.

The rate of immigration into Canada was nearly 5 times the rate of immigration into the United States from 1930 to 1980, and is now is approximately double the United States rate.⁵ In 1867 there was no reason to think that Americans who wanted to move to Alaska could not do so without a United States purchase of Alaska. Without the purchase, these emigrants would simply have paid taxes to a different government.

A caveat to the conclusions of this paper must be, however, that poor, unskilled workers in the United States may have benefited from the Alaska purchase because of the opportunity to move to Alaska which might not have existed after 1930 if Alaska had not been part of the United States. These people also were unlikely to pay significant amounts of federal taxes, so they were not directly adversely affected by the purchase price or expenses of governing Alaska. Movement of unskilled workers to Alaska could also have raised wages of unskilled workers who remained in the lower 48 states. Employers and consumers of products and services produced with unskilled labor would have been hurt by these wage increases, and these same people would have paid most of the federal taxes required to pay for Alaska.

From the point of view of taxpayers funding the purchase, therefore, the gain from the purchase of Alaska would have been federal revenue net of federal costs, not income opportunities in Alaska for citizens, since these opportunities were available to those who were likely to be taxpayers without the purchase.

Gains from Trade

Another possible benefit of the purchase has been increased trade between Alaska and the rest of the United States. Tariffs between the United States and Canada were

⁵These data are available from Statistics Canada on-line at <http://www.statcan.ca>.

raised and lowered several times during the late 19th and 20th centuries.⁶ The purchase eliminated tariffs on trade between Alaska and the rest of the United States, and so might have increased the volume of trade. Negotiations, however, would likely have accomplished as much as the purchase. Great Britain was trying to negotiate an elimination of tariffs between the United States and Canada during the late 1800s (McInnis, 1942) and it seems likely that Great Britain would have agreed to free trade between the United States and Alaska in exchange for the right to purchase or take Alaska. The United States and Russia had previously negotiated liberal trade agreements (Malloy, 1910), and it also seems likely that Russia would have agreed to free trade between the United States and Alaska in exchange for a commitment from the United States not to seize Alaska by force, as Russia feared it would (Bolkhovitinov, 1990, p. 17; McPherson, 1934, pp. 29-30). In other words, the trade benefits of the purchase could have been obtained for free, so they should not be considered part of the return from the purchase.

Natural Resources

Alaska is rich in oil, gold, fish, timber, and many other goods. The total value of any of these commodities far exceeds Alaska's original purchase price, but it was private citizens and companies, not the federal government, that exploited these resources. For example, miners could stake claims on federal land and keep all of the gold they mined without making any substantial payments to the federal government. These miners could have obtained this gold regardless of whether the United States had purchased Alaska, as was illustrated by the thousands of Americans who sought fortunes in the Klondike gold rush in northwestern Canada in the late 1890s.⁷ Treaties between the

⁶The North American Free Trade Agreement, signed in 1992, eliminated tariffs on most goods traded between the United States and Canada.

⁷The average miner in Alaska produced \$1,000 worth of gold, and the average total expenses of a miner were approximately \$5,000 (Clark, 1930, p. 105). See also Haycox (2002), pp. 205.

United States and Great Britain (and later Canada) allowed citizens of the United States to use Canadian fishing grounds and ports.⁸ Rather than helping, the Alaska Purchase actually complicated negotiations on fishing rights in the region, both because of a boundary dispute and attempts by the United States to protect the Pribilof Islands seal herd by seizing Canadian sealing ships. (McInnis (1942), Brune 2003 p. 241)

The macroeconomic effects of the gold and oil discoveries in Alaska would also have occurred regardless of whether or not Alaska was purchased by the United States. In the absence of subsidies or regulations, prices of a commodity around the world will tend to converge as traders transport goods in search of the best price. The discovery of gold or oil anywhere in the world will therefore depress the worldwide price of that commodity. In other words, any inflation due to the discovery of gold in Alaska would have occurred without the purchase, and any reduction in oil prices due to Alaskan oil discoveries would also have occurred without the purchase. The only difference is that the United States was able to tax the incomes of the miners and drillers, which they would not have been able to do without the purchase.

The natural resources of Alaska also include beautiful scenery and recreational areas. Again, these resources would have been available to American tourists regardless of whether or not Alaska was purchased by the United States. The purchase has, however, obligated American taxpayers to pay for the upkeep of these areas. Legislators in 1867 would have had no reason to expect that failure to purchase Alaska would result in the exclusion of Americans from these resources.

⁸For example, the Treaty of Washington, 1871, and the Convention for the extension of Port Privileges to Halibut Fishing Vessels on the Pacific Coasts of the USA and Canada, 1950.

Superior Administration by the United States

It is possible that the Alaskan economy has been larger under United States administration than it would have been if it had been governed by another country. Many Alaskans have long felt, however, that administration by the United States has not benefited Alaska. Territorial governors often complained that British Columbia was better governed than Alaska and that as a result British Columbia had an advantage in attracting capital and immigrants (Riggs, 1920). In 1930 historian Henry Clark wrote:

The Yukon Territory, Canada's province nearest Alaska, has practically always pointed the way to Alaskans in governmental reform. This sad commentary on United States colonial administration must be corrected before government in Alaska can be said to be intelligent, as the Yukon is inferior in resources and possibilities to Alaska. (Clark, 1930, p. 141)

During the 1960s scholars began to dispute the thesis that Alaska has been neglected by the United States government (Sherwood, 1965; Wilson, 1970, Naske, 1995). Federal attention to Alaska appears even to have been greater than Canadian attention to its northern territories (Coates, 1987).⁹ Evidence on the relative economic performance of Alaska and nearby Canadian provinces is mixed, however. Per capita GDP in Alaska is approximately 13% higher than in Yukon Territory, adjacent to Alaska, but it is 41% lower than in the Northwest Territories of Canada. The Northwest Territories have an abundance of natural resources and a small population, so direct comparisons are difficult, but all comparisons of this type are problematic.¹⁰ Evidence from other territories is also mixed. Hawaiian GDP per capita is higher than

⁹To the extent that this attention is subsidy rather than good government, it will not be a benefit to United States taxpayers.

¹⁰Other factors, such as income distribution, crime rates and other differences between Canada and the United States might either reduce or increase the gap, depending on the value placed on these factors.

that of any Pacific Rim country, but in the British Virgin Islands, per capita GDP is more than double that of the United States Virgin Islands.

It seems reasonable to believe that Russian and Soviet administration of Alaska would have resulted in much lower overall per capita income, although some have argued that Alaskan Natives would have fared better under Russian administration (Gielow, 1998).¹¹

National Security

Another caveat to the conclusions of this paper is that the purchase of Alaska might have enhanced the security of the United States. This benefit is impossible to quantify and cannot be rejected as a justification of the purchase. This paper focuses on the financial return to the Alaska purchase, but it is entirely possible that non-financial benefits have been worth the financial cost.

There are, however, reasons to doubt the importance of the national security benefits of the Alaska purchase. As noted earlier, the most likely result of the failure of the United States to purchase Alaska would have been the inclusion of Alaska into Canada. The United States and Canada have a very close partnership on defense matters, and a Canadian Alaska would probably have provided the same level of security to the United States at a much lower cost. The strategic value of American control of Alaska during World War II was limited (Perras, 1997, p. 67). Russian (Soviet) control of Alaska during the Cold War is a more difficult issue. At the time of the purchase, however, Russian-American relations were friendly and there was no reason to believe that the United States had anything to fear from Russian control of Alaska. Another reason to be skeptical of the security benefits of the purchase is that

¹¹For additional discussion of difficulties Alaskan Natives have had with the United States government see Haycox (1990) and Madden (2000).

territorial acquisitions are usually touted as strategic necessities. The occupation of Cuba by the United States after the Spanish-American War, for example, was partly justified by the argument that because the island controlled the mouth of the Mississippi River, it was vital to the security of the United States.¹² Soviet control of Cuba certainly created problems for the United States during the Cold War, but did not change the outcome of the conflict, and might have helped the United States by draining resources from the Soviet Union (Wolf, 1986; Rowen and Wolf, 1990; Goodman, 1991). Alaska was certainly a drain on the Russian economy at the time of the purchase, so to the extent that Russia was a rival of the United States, the purchase of Alaska may have undermined the strategic position of the United States. The failure of the United States to purchase Greenland, Iceland, and other territories, as was considered during the 19th century (Haycox, 2000, pp. 171; Callahan, 1908, pp. 26-27), does not appear to have significantly weakened the ability of the United States to defend itself.

In this paper, defense expenditures in Alaska are not counted as costs. This might seriously understate the cost of acquiring Alaska, since the purchase increased the amount of territory the United States has been forced to defend. Recently, for example, the cost of a possible missile defense program has increased because of demands by Alaska's Congressional Delegation that every square foot of Alaska be defended.¹³

Option Value of Territory

Part of the price of Alaska might have been a valuable option: in the event of a national emergency, or simply from a desire for additional tax revenue, it is possible that the

¹²This argument was made in the Ostend Manifesto of 1854 and in support of the Platt Amendment, which established some control of the United States over Cuba from 1901-1934. See *House Executive Documents* (1854), 33rd Congress, 2nd Session, Vol. X Doc. 93, *Congressional Record* (1901), 56th Congress 2nd session, p. 3134).

¹³*New York Times*, June 23, 2000, p. A1.

federal government could have extracted far more money from Alaska than it did.

The value of such an option is not considered in the following analysis. Instead, it is implicitly assumed that the 140-year time series of revenue from Alaska represents the maximum that American citizens could reasonably have expected to obtain from Alaska. Therefore, another caveat of this paper must be that Alaska might have functioned as insurance for the rest of the United States. Alaskan resources could have been expropriated,¹⁴ labor could have been conscripted, and special taxes could have been levied if the federal government decided that it was necessary to do so.¹⁵

Manifest Destiny

One reason for the purchase of Alaska was to pressure Canada into joining the United States (Warner, 1960, p. 134). Secretary of State William Seward wrote that “our population is destined to roll its restless waves to the icy barriers of the north” (Barman, 1991, p. 93). Amor De Cosmos, the premier of British Columbia from 1872-74, wrote “The purchase of Alaska in 1867 by the United States placed British Columbia, so to speak, ‘in the nutcrackers’ ” (Shelton, 1967, p. 76).

British Columbia would have been a greater prize for the United States than Alaska. The population of British Columbia was greater than that of Alaska at the time of the purchase, and the cost of doing business there was much lower. Today the population of British Columbia is 6.5 times greater than that of Alaska. If the Alaska purchase had led to American annexation of British Columbia, it is possible that the returns to American taxpayers would have been positive.

The actual effect of the Alaska purchase, however, might have been to push British

¹⁴An example of such a proposal was the plan to build a water pipeline from Alaska to drought-stricken California during the early 1990s (Cole, 1995). The plan proved to be extremely impractical.

¹⁵Lieberman (1996) argues that military occupations are only profitable for occupiers when ruthless force is used. Democracies are unlikely to extract significant benefits from unwilling populations.

Columbia into confederation with the rest of Canada. Before the Alaska purchase, many felt that British Columbia was likely to draw closer to the United States and eventually join it (Barman, 1991, p. 93; Shelton, 1967, p. 11; Warner, 1960, p. 132). Public support for annexation by the United States was strong, and was strengthened by the Alaska purchase. (Neunherz, 1989) Pro-annexation sentiment may have alarmed the British, for shortly after the purchase the British began paying more attention to the situation and helped the Canadian government to purchase the lands of the Hudson's Bay Company, connecting British Columbia with Canada and enabling it to join the confederation. (Warner, 1960, p. 134; Barman, 1991, p. 94; Callahan, 1908, p. 30)

Could the Returns from Alaska have been Forecast in 1867?

In order to calculate the return from the Alaska purchase, this paper looks at the actual history of tax receipts, mineral royalties, and other income minus the various costs of administering Alaska. Of course Americans in 1867 could not have foreseen the future and known for certain what the return from Alaska would be. It seems unlikely, however, that a reasonable forecast in 1867 would have predicted better financial returns than those that were earned, given the reliance of the Alaskan economy on the extraordinary and unexpected technological advances of the 20th century in transportation, communication, and energy production. If the actual returns demonstrate that, in hindsight, the price was too high, then it probably should have appeared to be too high in 1867. This does not demonstrate that policymakers in 1867 were foolish; it demonstrates that other considerations must have been more important than financial ones. Non-financial returns to the purchase could explain the high price, or it might be explained by financial returns to legislators themselves.

Why Calculate the Financial Return to the Government?

It could be argued that the federal government is not a for-profit organization, so it makes little sense to evaluate the net present value of a government project. Certainly the federal government undertakes many projects that do not produce a financial return to taxpayers. However, it is useful in these cases to know what the cost of the project is in order to compare the cost to the non-financial benefits. The question of whether the price paid for Alaska was too high is seldom asked, since it is assumed that the financial returns dwarfed the original price. If this assumption is untrue, then the question of whether the non-financial benefits justify the price becomes interesting. In 1867, the interest alone on \$7.2 million could, for example, have paid the salaries of 2,000 teachers. In order for the purchase to be worth the price, any non-financial benefits must have been greater than those of alternative uses of the money.

Summary

This section of the paper has considered arguments against undertaking a financial analysis of the Alaska Purchase. Even if the purchase is found to be a poor financial investment, it should be noted that the purchase may have had national security benefits, and may have provided opportunities for some unskilled workers in the United States after 1930. Other possible benefits considered appear to be implausible.

Having considered arguments against a financial analysis of the Alaska Purchase, I now look in more detail at federal revenue and expenses that resulted from the acquisition of Alaska.

3. Revenue

Revenue from Alaska to the federal government was low during the years immediately following the purchase. Collection of internal revenue was ineffective; customs offices cost more to staff than they collected in duties; and land sales were insignificant. The only major source of revenue was a lease of the Pribilof Islands, two tiny specks in the middle of the Bering Sea, to a seal hunting company.

Figure 1 shows the changes in the composition of revenues from Alaska from 1867 to 1941. Income from the Pribilof Islands dominates total revenues until the early 1900s. Income from land sales peaks in 1911. Internal revenue increases dramatically during World War I, declines until the late 1930s, then increases as taxes are raised to finance World War II.

Figure 2 shows revenues from Alaska from 1942 to 2007. Internal revenue increases gradually, while income from sales of offshore oil leases is large but irregular during the 1970s and 1980s. Corporate tax revenue has become more important in recent years as oil prices have increased. The various sources of revenue from Alaska are discussed in more detail below.

Fur Seal Revenue

Beginning in 1876, the Alaska Commercial Company paid the federal government \$55,000 per year in rent, plus \$2.625 per seal skin taken from the Pribilof Islands. The terms of the lease set a maximum harvest of 100,000 seals per year, for total anticipated revenue of \$317,500 per year – not enough to pay the interest on the purchase price of Alaska. Unfortunately, poaching by hunters from the United States and other countries reduced the size of the seal herd dramatically, and by 1911 the seals were nearly extinct. In 1912 Great Britain, Japan, Russia, and the United States

signed a treaty that banned most seal hunting for 5 years. The federal government earned some revenue after the expiration of the treaty, but legislation passed in 1914 reserved this revenue for the benefit of the natives of the Pribilof Islands, so this revenue is not counted as a return to the federal government on the purchase of Alaska.

Land Sales

Land sales began to produce some revenue in 1888, but the amounts were never large. In many years, the expense of maintaining the land offices in Alaska exceeded revenue from land sales. Land sales averaged \$32,000 per year from 1888 to 1932 and never exceeded \$140,000 in a single year in current dollars.

Internal Revenue

Federal excise taxes were collected in Alaska beginning shortly after the purchase, but the amounts collected were never very large. Legislation passed in 1905 required that revenue received from liquor and professional licensing fees be paid to the Alaska Fund, which was to be used for Alaskan schools, insane asylums, and roads.

The first significant revenue from Alaska came in 1918 as corporate and individual income taxes were raised to finance World War I. These taxes continued to be the major source of federal revenue from Alaska until the first offering of offshore oil drilling leases in 1976.

Corporate income tax revenues are the most difficult to estimate. Unlike individual income taxes, the state in which the return is filed has little relationship to the state(s) from which income is earned. Data are available on corporate income tax collections by industry for the entire United States, as well as data on the relative sizes of these industries in Alaska. For example, the size of the fishing industry in Alaska as a

fraction of the fishing industry in the United States can be multiplied by national corporate income tax revenues received from the fishing industry to obtain an estimate of Alaskan corporate income tax returns from this industry. I performed this calculation for each Alaskan industry and estimated annual total corporate income tax revenue from Alaska. In years before industry data are available I used the relative populations of Alaska and the United States to estimate corporate tax revenue from Alaska.

The increase in oil prices from 2005-2008 increased corporate tax revenues from oil companies, and so increased the estimated corporate tax revenue from Alaska. Future corporate tax revenue from Alaska will be dependent on oil prices and Alaskan production levels.

Mineral Revenue (Non-Oil)

Coal was first mined in Alaska in 1857, but the industry was never very profitable.¹⁶ The Alaska Coal Lands Act of 1914 allowed federal land to be leased to private parties for coal mining. The federal government collected a total of \$2.1 million in lease payments from coal mining land from 1914 to 1976, but the 1914 act required that all of this revenue be spent either on Alaskan railroads or placed into a fund to benefit Alaskan schools, insane asylums, and roads.

Oil Revenue

Oil producers began to pay rent on leased federal land during the 1950s, and the first royalties on oil production were paid in 1959. The territory of Alaska received 37.5% of oil revenue collected by the federal government, but the Alaska Statehood Act

¹⁶Naske (1997) describes a particularly unprofitable coal mining operation in northern Alaska.

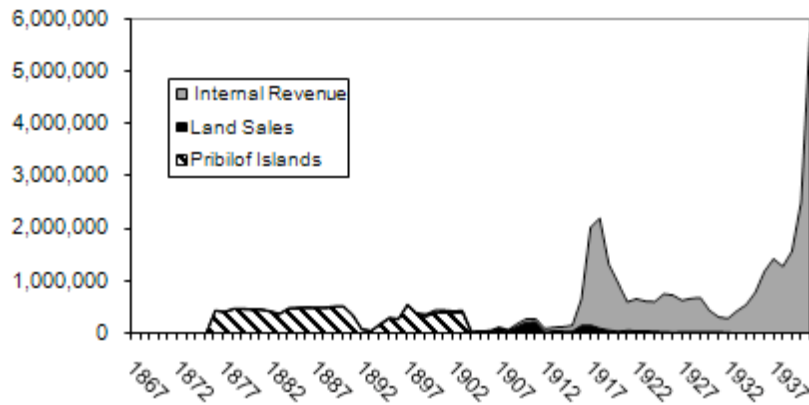


Figure 1: Federal Revenue from Alaska, Pre-World War II (1867 Dollars).

increased this amount to 90%. Total revenue from onshore oil rents and royalties from Alaska peaked in 1982 at \$24 million, a small fraction of the \$1.3 billion collected in internal revenue in Alaska in that year.

In 1976, the first offshore oil drilling leases for oil production off the Alaskan coast were offered. Unlike onshore revenues, most of these revenues were supposed to flow directly into the United States Treasury. Lawsuits filed by the state of Alaska, however, succeeded in obtaining over \$400 million of these revenues for the state. Nevertheless, the federal government has earned significant revenues from offshore leases, over \$6 billion from 1976 to 2008.

The Crude Oil Windfall Profit Tax was enacted in 1980. Although some Alaskan oil was exempt from the tax, most oil produced from the Cook Inlet and Prudhoe Bay areas was taxed. The difference between a “base price” (adjusted for inflation) and the market price of oil was taxed at a rate between 30% and 70%. The taxable windfall profit, however, was not allowed to exceed 90% of the net income attributable to a barrel of oil. Since costs of production were higher in Alaska than elsewhere, tax receipts per barrel were lower for Alaskan oil than oil from the rest of the United

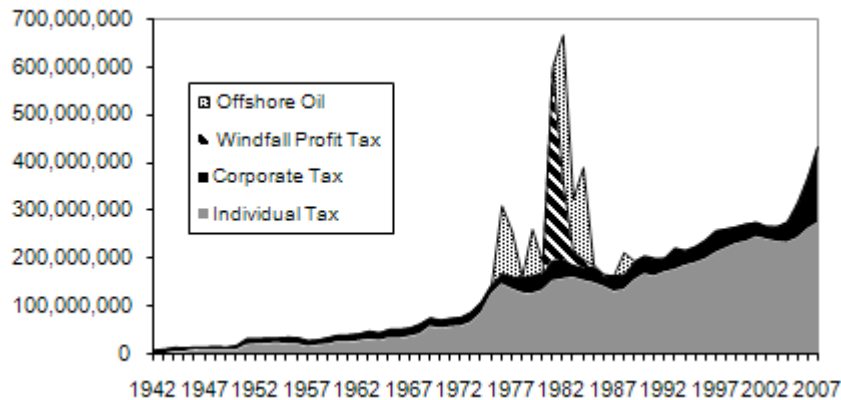


Figure 2: Federal Revenue from Alaska, Post-World War II (1867 Dollars).

States¹⁷ Annual revenue from the Sadlerochit oil field near Prudhoe Bay was calculated and published by the IRS each year that the windfall profit tax was collected. Total oil production by region of Alaska was published by the Department of Energy. I estimated total windfall profits tax revenue from Alaska by calculating Sadlerochit production as a percentage of total production from the Cook Inlet and Prudhoe Bay and dividing Sadlerochit revenue by this percentage. Windfall profits taxes were a deductible expense for oil companies, which reduced total tax revenues by an estimated 52.5%. I reduced estimated tax revenue from Alaska by this percentage.

Revenues from the windfall profit tax were only about 20% of what was expected when the tax was enacted due both to lower oil prices and reduced domestic oil production.¹⁸ Windfall profit tax revenue from Alaska was over \$2 billion in 1981 but fell quickly. By 1986 net revenues were zero.

¹⁷Independent oil producers challenged the Alaska's preferential treatment under the tax but lost in the United States Supreme Court. (United States v. Ptasynski, 462 U.S. 74 1983)

¹⁸See Lazzari (2006).

4. Expenses

Alaska is expensive to govern. Distances are vast and conditions are difficult. Ordinary government expenditures, such as the cost of running a territorial legislature, have been much higher in Alaska than elsewhere. Ambitious projects tend to run considerably over budget. A good example is the Alaska Railroad, built by the federal government at a cost of over \$53 million from 1915 to 1924, and operated at a loss until 1938. The railroad showed some profit from 1938 through the end of World War II, but then required another \$100 million in rehabilitation. The 1964 Anchorage earthquake caused \$30 million in damage to the railroad. In 1983 the railroad was valued at \$22 million before it was sold to the State of Alaska. It now shows a small annual profit, but mostly as a result of large subsidies from the federal government. The purpose of the railroad was not military; it was supposed to improve the Alaskan economy and, in turn, federal tax revenues. The federal government clearly would not have made these expenditures if Alaska had not been purchased. Other expensive ventures included experimental agricultural stations (Miller, 1975) and road building.

Immediately after the purchase, the United States Army governed Alaska. Troop strength varied, but averaged approximately 10 officers and 120 enlisted men, for a total cost of approximately \$100,000 per year. Most observers believed that the force deployed was inadequate to govern Alaska, but Congress was under pressure to control costs. Opponents of the purchase had estimated that military occupation would cost \$3 million per year. The Army was withdrawn in 1876, and there was essentially no government for two years. Settlers under attack from natives appealed to Russia and Great Britain for protection, and a British ship answered their calls (Haycox, 2002, p. 184; Nichols, 1924). The United States Navy was then given the task of governing Alaska, much to the dismay of Navy leaders. Federal judges and marshals were finally provided in 1884, and administrative expenses rose quickly.

The federal government consolidated its authority in Alaska from 1885 to 1913. Essential administrative tools were expensive, including a fleet of revenue enforcement ships, a network of telegraph cables, mail routes, and land surveys. Disruption of native lifestyles and culture necessitated expenditures on education and welfare. From 1914 until the 1940s the Alaska Railroad was the largest expense, then in the 1950s the federal government paid for improvements to roads and housing.¹⁹ After statehood, transition payments exceeding \$40 million were made to the Alaskan State government. The payments were supposed to help Alaska meet the requirements of statehood and to provide disaster relief after the earthquake of 1964. The Alaska Native Claims Settlement Act of 1971 provided payment of nearly \$1 billion to Alaskan Natives to compensate them for lost lands. Federal aid has continued at the highest per capita rate of any state.²⁰

Subsidies to Alaska have received more national attention than usual in recent years. The Gravina Island Bridge, often referred to as the “Bridge to Nowhere,” was proposed as a connection between Ketchikan, Alaska and the Ketchikan International Airport, currently accessible only by ferry and located in the far southeastern part of the state. The bridge would have cost nearly \$400 million. The town of Ketchikan has approximately 7,400 residents, and Gravina Island has approximately 50 residents. Approved for federal funding by an overwhelming vote in the United States House of Representatives in 2005, the project was eventually dropped after it was used politically as an illustration of wasteful federal spending.²¹ Dropping funding for the

¹⁹Expenses of constructing the Alaska Highway are included even though it has been called a military project. The United States military opposed the project because it believed that the road would have only civilian, not strategic, benefits (Coates and Morrison, 1992, p. 26) and this assessment proved to be correct for World War II (Bezeau, 1985, pp. 32-33) and the Cold War (Harris, 1985). The road was approved because it was felt that World War II provided an opportunity to pressure Canada to approve it (Bezeau, 1985, p. 28). Canada reluctantly approved the project, but refused to pay for the road’s construction (Coates, 1992, p. 31).

²⁰These data are available in the Consolidated Federal Funds Report from 1993, <http://www.census.gov/govs/www/cffr.html>.

²¹Sarah Palin, elected governor of Alaska in 2006 after supporting federal expenditures of \$223 million

bridge did not, however, reduce total funding for Alaskan projects; the money was diverted to other projects in the state.

Some other expenses of the federal government have probably increased as a result of the Alaska purchase. For example, national parks and forests in Alaska increase the budget of the agencies responsible for them. More legislators in Congress increase the expenses of Congress, and additional judicial cases generated in Alaska increase the costs of the judicial branch of government. A small portion of the federal budget for these agencies is added according to the ratio of the population of Alaska to the population of the United States. These expenses are a small fraction of total Alaskan expenses.

5. Financing the Alaska Purchase

The initial purchase price of Alaska was \$7.2 million in gold. A dollar in gold was worth approximately \$1.383 in greenback dollars in 1867 (Friedman and Schwartz, 1963, p. 26). International payments were typically made in gold, while taxes and other revenue to the federal government would have been received in greenbacks. The initial purchase price was therefore equivalent to \$9,957,600 in greenbacks. Adjusting for inflation, this is equivalent to approximately \$144 million in 2007 dollars. Adjusting for the relative sizes of the national economy in 1867 and 2007, the price was the equivalent of \$16.5 billion.

The federal government borrowed to finance the Alaska purchase. In 1867, the United States was heavily in debt due to expenses incurred during the Civil War.

Long-term debt of the federal government carried an interest rate of 6% if payments

on the bridge, later withdrew her support after cost estimates increased and the project became a national issue. Her claim to have opposed the bridge was an important factor in her Vice-Presidential nomination in 2008.

were made in gold, but 7.3% if payments were made in greenbacks (Boutwell, 1870, p. XLIV). Annual greenback dollar revenue required to pay the interest on the funds required to purchase Alaska was therefore more than \$700,000.

In this paper, cash flows from Alaska are estimated, discounted over time, and compared to the purchase price. In order to perform this analysis, a discount rate must be selected. Two approaches to this problem are discussed below.

Discount Rate Estimated From Government Borrowing Rates

The federal government's borrowing rate of 7.3% could be treated as a lower bound for an appropriate discount rate. This is true because paying off debt is a risk-free investment, while the potential cash flows from the purchase of Alaska were risky.²²

The discount rate should be higher than a risk-free rate of return in order to compensate investors for bearing risk. Failures of many major Alaskan industries used to justify the purchase demonstrate the risk of the purchase. For example, a project to connect America and Europe by telegraph through Alaska was scrapped when the transatlantic cable was completed in 1866. Export of ice from Alaska to San Francisco was a significant business for a time, but improved land transportation and the invention of refrigeration destroyed this business (Kushner, 1975). Income from sealskins was nearly wiped out after two decades of poaching by hunters from the United States and other countries.

Inflation must also be considered in this approach. It seems reasonable to assume that there were no inflationary expectations built into the 7.3% interest rate, since prices actually declined after 1867, and did not return to the level of 1867 for 50 years. If this assumption is valid, investors' expected real rate of return was 7.3% (or higher,

²²See the next section for a discussion of the possibility that the Alaska Purchase reduced aggregate United States consumption risk.

because of expected deflation), and a discount rate of at least 7.3% on price-level-adjusted cash flows is appropriate.

In this approach, real net revenue from Alaska is discounted at the rate of 7.3% per year in order to calculate the net present value (NPV) of the revenue stream from Alaska. To calculate the NPV, revenue received one year after the purchase is divided by $\frac{1}{1.073}$, revenue received two years after the purchase is divided by $\frac{1}{1.073^2}$, etc. and these amounts from all years are added together. If the NPV is less than the purchase price, then the purchase should be considered a negative net present value project. An implicit assumption is made in this approach that the ex ante expectation of revenue from Alaska was approximately correct, but that the interest rate at the time of the purchase was the only information available to the purchasers to set a discount rate. In other words, I assume that the purchasers could predict Alaskan cash flows with some accuracy but could not predict future interest rates.

Discount Rate Estimated from Time Series of Interest Rates

Interest rates have varied considerably since 1867. Use of a single discount rate to evaluate cash flows ignores this variation. The net present value of a set of cash flows is actually the sum of each cash flow discounted by the concurrent interest rate. Short-cut formulas and techniques like the IRR are only accurate if interest rates do not vary over time. The net present value of Alaskan cash flows over t periods can be calculated as shown in equation 1.

$$NPV = \frac{CF_1}{(1 + r_1)} + \frac{CF_2}{(1 + r_1)(1 + r_2)} + \dots + \frac{CF_t}{(1 + r_1)(1 + r_2)(1 + r_t)} \quad (1)$$

In this formulation r_t is equal to the long-term, risk-free interest rate at time t , and CF_t is equal to price level adjusted cash flow from Alaska at time t . Results using this

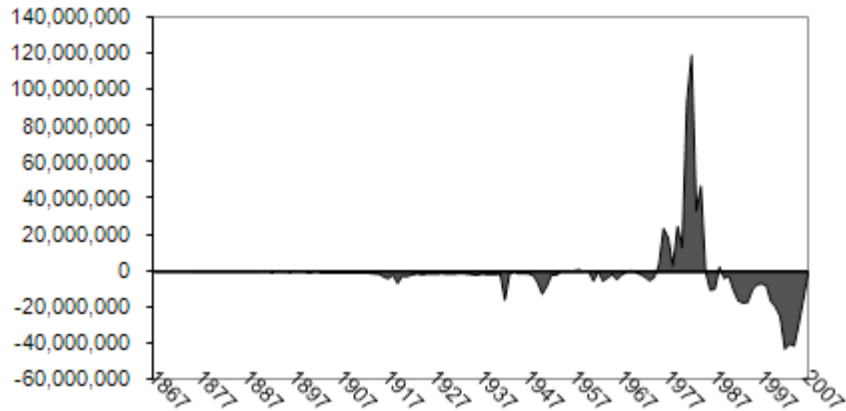


Figure 3: NPV of Net Federal Revenue from Alaska, 3% Discount Rate (1867 Dollars).

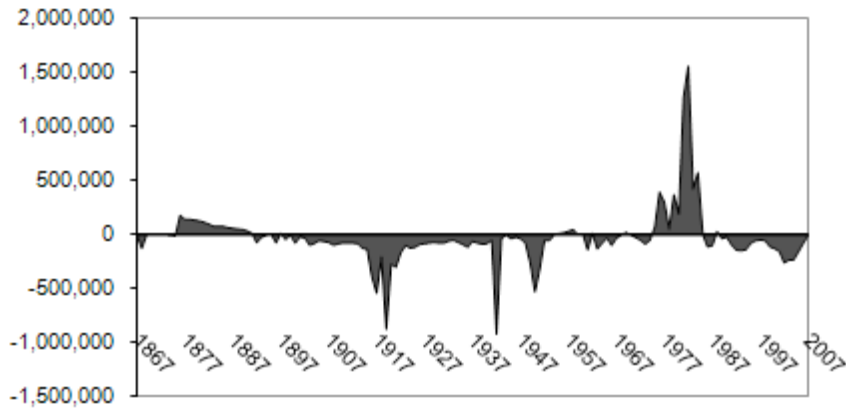


Figure 4: NPV of Net Federal Revenue from Alaska, 7.3% Discount Rate (1867 Dollars).

approach are very similar to those obtained using a single discount rate.

6. Valuing Alaskan Cash Flow

Net Present Value Calculation

Figures 3 and 4 show the net present value of revenue minus expenses for each year from 1867 to 2007. Revenue is given in 1867 dollars, then discounted at a rate of 3.0% in figure 3 and 7.3% in figure 4 to give the net present value as of 1867. In other words,

if income minus expenses for 1967, 100 years after the purchase, expressed in 1867 dollars were equal to x , then the amount shown on figure 3 for 1967 would be $\frac{x}{1.03^{100}}$.

Several distinct periods can be seen in figures 3 and 4. From 1867 to 1875, virtually no revenue was earned, but administrative expenses were incurred. From 1876 to 1891, income from the Pribilof Islands exceeded expenses. Beginning in 1892 income from seal fur declined while administrative costs and capital expenditures increased. Net income became positive again only when income taxes were raised during World War II, and even then expenditures on roads and other improvements often exceeded income. Expenses usually exceeded revenues during the early statehood years. Federal expenditures and revenue sharing increased, but the oil industry was still small. From 1976 to 1984 offshore oil revenues were spectacular, but they quickly declined, and net income has been negative each year since 1989. Oil prices, below \$30 per barrel in early 2004, exceeded \$50 per barrel in 2005 and reached nearly \$140 per barrel in mid-2008, although it has since declined significantly. Even with these spectacular increases, Alaskan cash flow remained negative at least through 2007.

There is no internal rate of return for the entire set of real cash flows from purchase to 2007, since there is no discount rate at which the net present value of the cash flows would have been non-negative. There have been two periods when an internal rate of return existed; from 1881-1895 and from 1977 to 2003. During the early period fur seal revenue was at its peak, but the best internal rate of return was -6.0% in 1891; in other words a negative return far below a reasonable discount rate. During the later period oil revenue produced a positive internal rate of return,²³ peaking at 5.3% in 1985,²⁴ well below the borrowing rate of 7.3%, but greater than the average rate of return on long-term government debt over the period, which is 4.6%. In other words, by selecting

²³Cash flows with multiple sign changes can produce multiple IRRs (Lorie and Savage, 1955). In spite of the irregularity of Alaskan cash flows, the IRRs for the periods in which it can be calculated are unique.

²⁴This internal rate of return is for the period 1867-1985.

years in which Alaskan revenue looks best, it is possible to find a time when the internal rate of return had been 70 basis points higher than the average cost of government funds, although 200 basis points lower than the cost of funds at the time of the purchase. Since the long-term history of Alaska is one of occasional spikes in economic activity followed by net subsidy from the federal government, choosing these unrepresentative points in time to evaluate the internal rate of return of the Alaska Purchase does not produce reasonable results.

The net present value of the cash flows from 1867-2007 using the time series of government borrowing rates is -\$5.2 million in 1867 dollars, and a greenback price of \$4.8 million, less than half the actual price paid, would have allowed the federal government to achieve a net present value of zero. Using the government borrowing rate in 1867, 7.3%, as a discount rate, the net present value is -\$13.4 million in 1867 dollars. With this discount rate, even if the purchase price had been zero, the net present value of would have been negative.

It might be objected that the calculation above neglects future revenue from Alaska. One method of capturing the value of future revenue is to estimate a price at which Alaska could be sold, and then to add this price to the end of the time series of cash flows. It is difficult to imagine such a sale, however, since net revenues are currently negative, and there is little prospect that these revenues will ever be consistently positive in the future. A sale of Alaska to another country would, of course, be politically impossible for the United States.

Value of Oil Reserves

Boskin (1985) presents an estimate of the total value of United States federal oil and gas rights in 1981 of \$819 billion. A later paper, Boskin (1987) corrects errors in the original paper and revises the estimate of 1981 value to \$521.2 billion, and

estimates that the value had fallen to \$334.8 billion in 1986. Assuming that value is proportional to oil prices, and using the current (as of this writing) oil price of \$50 per barrel produces a 2009 estimate of \$850 million.²⁵ Alaskan GDP in the oil and gas sectors has averaged 6.2% of United States oil and gas GDP since 1997, which would imply a 2008 value for Alaskan oil and gas rights of \$93.6 billion, or \$6.1 billion in 1867 dollars.

The value calculated above is likely to be an overstatement of the value of federal oil land in Alaska, since it does not take account of the fact that the state of Alaska receives a higher fraction of revenues than other states, or the fact that administering Alaskan lands is more expensive than in other states. An increase in value from the original purchase price to \$6.1 billion over 141 years implies an annual average increase of 4.6%.

An estimate of the value of federal oil and gas rights overstates the value of Alaska as a whole, since it does not take account of government expenditures unrelated to oil and gas. Use of Boskin's method of estimation does not change the conclusion that the purchase of Alaska had a negative net present value.

Alaskan Cash Flow and Aggregate Consumption Risk

The Alaska purchase seems riskier than paying off debt, but the Alaskan economy has actually been counter-cyclical to the United States economy, and therefore the purchase might have decreased the volatility of the potential consumption of Americans. For example, the Alaskan economy booms when oil prices are high, but high oil prices can depress the United States economy. Modern portfolio theory holds that investors should evaluate investments based on their effect on overall portfolio

²⁵The estimate comes from regressing the Boskin (1987) annual series of oil and gas rights values on oil prices and using the results to predict total value with an oil price of \$50 per barrel.

cash flow, not the cash flow of each investment in isolation (Markowitz, 1952), and so an appropriate discount rate might be below the borrowing rate, even negative.

The return on the entire portfolio of investments held by the American people has been their total consumption, so it is appropriate to compare cash flows from Alaska to United States aggregate consumption to determine whether these cash flows have lowered overall risk to the United States.²⁶ Alaskan cash flow (and the log of Alaskan cash flow) is negatively correlated with aggregate United States consumption, and with the growth rate of consumption, both as total amounts and per capita, using either nominal or real dollars. It is clear that the purchase of Alaska reduced the volatility of aggregate United States consumption, so the value of this reduction must be weighed against the purchase price and the net cost of administering Alaska.

One method of taking account of this reduction in aggregate consumption risk would be to add a negative risk premium to the discount rate, perhaps using the Consumption Capital Asset Pricing Model, where the risk premium for a particular investment depends on the covariance of the investment's return with the rate of growth of consumption (Breedon, 1979). Since there is no discount rate (positive or negative) that produces a positive net present value of Alaskan cash flows, however, a simple net present value approach will find that the purchase had negative value, regardless of the method used to adjust the discount rate for risk.

Another method is to specify a utility function that allows for risk aversion. In equation 2, utility over N years is a function of consumption, and the parameter α indicates the degree of risk aversion and β is a pure rate of time discount.

$$U(C) = \sum_{t=0}^N \beta^t \frac{C_t^{(1-\alpha)}}{1-\alpha} \quad (2)$$

²⁶See Breedon, 1979), Kocherlakota (1997), and Hansen (2008) for discussions of the role of consumption co-movement and asset pricing.

By specifying values of α and β and substituting actual per capita annual consumption for C_t , total utility for the years 1869 to 2007 can be calculated. By subtracting annual cash flow to the federal government from Alaska from annual aggregate consumption and recalculating utility, the gain or loss in utility from purchasing Alaska can be calculated. This difference can be compared to the marginal utility loss from subtracting the purchase price from aggregate 1869 consumption.

The utility lost from the purchase price, P , assuming that the price is paid in the initial period 0, will be as shown in equation 3.

$$U(P) = \frac{(C_0 - P)^{(1-\alpha)}}{1 - \alpha} - \frac{(C_0)^{(1-\alpha)}}{1 - \alpha} \quad (3)$$

In a famous paper, Mehra and Prescott (1985) argue that the true risk aversion parameter α must be less than 10. Most economists believe that a plausible value of α would be less than 5 or even 2.5. (Kocherlakota 1996) A commonly used value for β is 0.99. (Kocherlakota, 1996) The problem pointed out by Mehra and Prescott (1985) is that using these parameters it is impossible to reproduce the large return premium earned on equity over low risk assets, such as government bonds.

The “Equity Premium Puzzle” identified by Mehra and Prescott (1985) implies either that investment in the stock market is riskier than is implied by the historical time series of returns, or that investors are much more risk averse than is commonly believed. Rietz (1988) shows that the former possibility can explain the puzzle, which suggests the use of a low value of α . Some economists believe that puzzle can be explained by a much higher value of α . Kandel and Stambaugh (1990) for example, are able to explain the equity premium with α equal to 55 and β equal to 0.99731. Kocherlakota (1996) shows that the equity premium can be explained with α as low as 18 if β is equal to 1.08, but most economists see values of β above one as implausible.

In order to calculate the utility consequences of the Alaska Purchase, I subtracted net Alaskan cash flow from aggregate consumption,²⁷ and compared the time series of consumption growth rates with and without Alaskan cash flows. Table 1 shows summary statistics for these two time series of consumption growth rates. It is important to keep in mind the assumption that fluctuations in federal government revenue translate directly into aggregate consumption fluctuations, an assumption that will be discussed later.

Table 1: Aggregate Consumption Effects
(growth rates in percent)

	Without Alaska	With Alaska
Mean of Growth Rate	1.6881	1.6880
Standard Deviation of Growth Rate	3.0644	3.0626
Level of Consumption	1.000000	0.999903

The growth rate of consumption is slightly lower if Alaskan cash flows are included. The standard deviation of the growth rate of consumption is lower with Alaskan cash flows than without them, meaning that the purchase of Alaska could have reduced the variability of consumption. The level of consumption is lower on average with Alaskan cash flows included.

Using equations 1 and 2 with β equal to 0.99, for any α less than approximately 8 the negative cash flows of Alaska outweigh the risk reduction benefits, and any fair price paid for Alaska would have to be negative. Using the values Kandel and Stambaugh (1990) found to match the equity premium produces a fair price of only \$13,161. The interaction of effects from the choices of α and β is complex, and the resulting price is not a monotonic function of α , but restricting the choice of α to be

²⁷I constructed aggregate consumption by splicing together the 1929-2007 NIPA non-durable goods and services data from the Bureau of Economic Analysis, data from Lebergott (1996) for the years 1900-1929, and data from Rhode (2002) for the years 1869-1900. Annual growth rates were always calculated within sources, with the levels adjusted to match NIPA data. Rhode cautions that “these data were not constructed for analysis as annual series” but similar results are obtained excluding the 1869-1900 data.

less than 100 and β to be less than 1.5 produces a maximum price of \$197,180.

Matching the actual greenback dollar price of \$9,957,600 requires a value of α equal to 220, a clearly implausible value.

Another approach to this problem is suggested by recent attempts to calculate the welfare effects of hypothetical changes to the variance of aggregate consumption growth from the business cycle. (Lucas 2003, Tallarini 2000, Melino 2006, Barro 2009) Barro (2009), using a recursive utility function of the kind suggested by Epstein and Zin (1989), finds that the welfare cost of fluctuations in economic growth of the magnitude of those experienced in the United States since World War II is approximately equal to 1.65% of GDP, or roughly 2.4% of consumption. The reduction in variation resulting from the Alaska purchase is approximately 8.8×10^{-4} times the variation considered in Barro (2009). The annual benefit of risk reduction would be equal to this number times 2.4%, or 2.1×10^{-5} times consumption. The cost of Alaska is one minus the level of consumption shown with Alaska in Table 1, or 9.7×10^{-5} times consumption. This cost is more than 4.5 times the benefit from risk reduction without taking account of the purchase price paid. The price, by this calculation, should therefore have been negative.

All of these calculations overstate the degree of consumption fluctuation reduction that has been obtained by purchasing Alaska. The federal government has had a large capacity to borrow from abroad to smooth out fluctuations in its revenue, so the assumption that variations in revenue from Alaska translated directly into consumption variation is false.

The price paid for Alaska was clearly much higher than the benefits obtained from reduced consumption variance. This calculation does not necessarily assume foreknowledge of actual cash flows from Alaska, but it does assume rough knowledge of the distribution of cash flows relative to aggregate consumption. It seems reasonable

for decision makers in 1869 to have guessed that expansion of the United States might hedge consumption risk²⁸, but if their guesses had been anywhere near the true distribution of cash flows, they would have concluded that the price was too high.

7. Why did the United States Overpay?

It seems clear that a fair price for Alaska would have been less than \$7.2 million in gold dollars. In fact, in order for a purchaser to achieve a positive net present value, the price of Alaska would have to have been much less than the price paid; perhaps negative. At the time of the purchase, some considered the possibility that Alaska had a negative value. In 1869 Representative Orange Ferriss of New York suggested that the United States “pay the sum of \$7,200,000 to any respectable power which will accept a cession of the territory of Alaska.”²⁹ Even a forecast based on the limited information available at the time of the purchase suggests a lower price. The only Alaskan resource that had been proven profitable at the time of the purchase was fur seals. If it had been assumed that \$317,500 could be earned annually, in perpetuity, from fur seals, this would still be only enough income to pay interest on a price of \$4.3 million at 1867 interest rates.

If a fair price for Alaska would have been less than \$5 million, and perhaps negative, why did the United States pay \$7.2 million? Geopolitical considerations were more important than financial ones to Secretary of State William Seward, and he would probably have been willing to pay much more than \$7.2 million (Paolino, 1973). The Russian ambassador to the United States, Baron Eduard de Stoeckl, thought that Seward believed the purchase would improve Seward’s political standing, and so he

²⁸Townsend (1993), for example, explains fragmented land holdings in medieval English villages as a form of insurance.

²⁹*Congressional Globe*(1869), 40th Congress, 3rd Session, p. 341.

manufactured geopolitical justifications for the purchase. (Golder, 1920) Seward's motivation to buy, however, does not explain why a better price was not negotiated, or why Congress did not object to the price.

It is possible that Congress was expressing its gratitude for Russian support of the Union cause during the Civil War (Jensen, 1975) and/or punishing Great Britain and Canada for their perceived support of the Confederacy. Skillful Russian diplomacy ended an attempt by France and Great Britain to mediate between the Union and the Confederacy at a time when mediation might have helped the Confederacy to consolidate its early Civil War gains. A visit of Russian ships to New York in 1863 emphasized Russian support for the Union. Russian-American relations were friendly for several years after the Civil War. Since several of the states of the Confederacy were not represented in the 40th Congress (1867 to 1869), Russia was in a good position to negotiate a favorable treaty.³⁰

Russia was very skillful in its dealings with the American political system. Congress appropriated \$7.2 million for the purchase, but a smaller draft was transmitted to Russia. A scandal ensued, and a Congressional investigation concluded that the discrepancy amounted to \$165,000, equivalent to \$2.4 million in 2007 dollars.³¹ The investigation found that the money ended up in an account belonging to Stoeckl. Much of the money was apparently spent on lobbying and payments to newspaper reporters who covered the purchase favorably (Holbo, 1983). A history student looking through the papers of President Johnson 37 years later discovered a note that detailed payoffs to congressmen (Holbo, 1983, p. 47, Dunning, 1912) and a diary entry of an American official describes similar payments (Bigelow, 1913, vol. IV, p. 216). Stoeckl reported to the Russian Foreign Office that the extra money was used for "les dépenses

³⁰Of the 11 states of the Confederacy, only Arkansas, Tennessee, North Carolina and Florida were represented in Congress when the House of Representatives voted to appropriate the money to pay Russia for Alaska.

³¹\$33 million if adjusted for growth in per capita GDP.

secrets” or secret payments. (Golder, 1920) Frank Golder summarized the evidence, saying “It is clear that congressmen were bought” (Golder, 1920) and later historians have agreed. (Hinckley, 1977) Other historians have expressed doubts about the strength of the evidence regarding specific payments, but there is no doubt that Russia spent significant amounts of money to influence Congress (Holbo, 1983).

Ironically, the scandal that resulted from the aggressive effort to acquire Alaska made future, possibly more valuable acquisitions much more difficult (Holbo, 1983). Just as the aggressive “sandwich” strategy to bring British Columbia into the United States appears to have backfired, the heavy-handed efforts to obtain Congressional approval of the purchase also backfired.

Other political considerations influenced the approval of the Alaska Purchase. The Senate approved the treaty by a vote of 37 to 2, but the appropriation of funds to implement the treaty by the House of Representatives was more contentious; the vote to approve, taken in 1868, was 113 to 43. Southern and western regions overwhelmingly supported the purchase; only two votes opposed came from areas south of the Mason-Dixon line (including Delaware) and the Ohio River or west of the Missouri River, while these regions supplied 35 votes in favor. Members of Congress from former Confederate states voting on the Alaska Purchase were all Republicans, but were somewhat more inclined to support Andrew Johnson than northern Republicans. Democrats, who tended to support embattled president Andrew Johnson, voted 28 to 2 in favor. Opposition mostly came from prosperous, established agricultural states; of the 43 opposing votes, 35, or 81% came from states ranking in the top third of farm value per capita. It may have been that effective opposition to what was perceived to be a wasteful expenditure was strongest in states with broad-based wealth, and therefore widespread opposition to expenditures that might increase taxation. On the other hand, these are also areas where anti-slavery sentiment

and opposition to Andrew Johnson was strong.

8. Conclusion

Cash flow from Alaska to the federal government since 1867 has certainly exceeded the initial purchase price, but this fact is not sufficient to demonstrate that the purchase was a sound financial investment. Using a variety of assumptions and techniques for valuing the net cash flows from Alaska, it is clear that the financial returns have not been positive. The economic benefits that have been received from Alaska over the years could have been obtained without purchasing the territory. In financial terms, Alaska has clearly been a negative net present value project for the United States.

Since the purchase appears to have been a poor financial bargain for the citizens of the United States at the time, non-economic considerations must have played an important role in the purchase. However, close analysis of non-economic factors also casts doubt on the wisdom of the purchase. In fact, Seward's geo-political ambitions may have been set back by the purchase. Skillful diplomacy and even bribery of United States Congressmen by Russia may also have played a role in the approval of the purchase price.

The fact that the federal government has not profited from Alaska supports the contention of the new western history that the West has generally been subsidized by the federal government. The extent of federal subsidy in the West might be quantified using the methods that I have described.³² The results of this paper suggest new lines of inquiry in the history of the West, such as: Has westward expansion been worth the price? What have been the costs and benefits? Should expansion have been less or greater than it was? Should United States expansion continue? Should the United

³²An example of work quantifying some federal subsidies is Arrington (1983).

States shrink by cutting ties with its remaining possessions? All of these questions seem worthy of future research.

Appendix: Other Territorial Purchases by the United States

Table 1 shows details of several purchases of territory by the United States. Returns from these purchases vary considerably. Summaries of the Hawaii, Gadsden, and Virgin Islands purchases follow.

Table 2: Territorial Purchases of the United States.

Purchase	Date	Price	Seller	Method of Payment
Louisiana	1803	\$23,213,568	France	Cash, debt assumption
Florida	1821	\$6,674,057	Spain	Debt assumption
Hidalgo	1848	\$16,295,149	Mexico	Cash, debt assumption
Gadsden	1854	\$10,000,000	Mexico	Cash, debt assumption
Alaska	1867	\$7,200,000	Russia	Cash (gold)
Hawaii	1898	\$4,000,000	Hawaii	Debt assumption
Virgin Islands	1917	\$25,000,000	Denmark	Cash

Hawaii

Net tax revenues (not including defense expenditures) in Hawaii were positive from the time the territory was acquired in 1898 until 2002. In 2003 and 2004 non defense expenditures slightly exceeded revenue, but in 2005 revenue exceeded non-defense expenditures. The overall level of non-defense federal spending on Hawaii has been low and Hawaii Territorial government expenditures were consistently less than those of Alaska, despite the fact that the population has been much larger. The IRR of the Hawaiian acquisition is probably in excess of 15%.

Gadsden

The Gadsden Purchase gave the United States a small portion of New Mexico and a large portion of Southern Arizona, including the Tucson region. The purchase was

ostensibly for the purpose of obtaining a railway route to Southern California, but the real reason might have been the desire of Southern politicians to add additional slave territory to the United States. Current historical accounts take it for granted that the purchase has been a boon to the United States, but tax revenue from this region has been limited. A small amount of revenue has been obtained from mining leases and royalties, but the vast majority of mines in the region are on Indian reservations, and all royalties from these mines flow to the Indian tribes. The expenses of the federal government in defending the territory from Apache tribes during the late 19th century were considerable, and would not have been necessary in the absence of the purchase.

Virgin Islands

The purchase of the Virgin Islands is the clearest example of a negative net present value purchase. The initial cost was \$25 million, and administrative costs and aid have been high. Moreover, a law passed in 1921, still in effect, requires all federal revenue collected in the Virgin Islands to be transferred to the local government. Expenses are high, and net revenues have been non-existent.

Interestingly, the United States reached a tentative agreement with Denmark to purchase the Virgin Islands for \$7.5 million in 1867, but after the scandal surrounding the Alaska purchase, the treaty was not brought to a vote in Congress (Langley, 1976; Weitekamp, 1972; Holbo, 1983). In 1917, the price level was 9% lower than it had been in 1867, so in real dollars, the United States paid 3.6 times what it could have purchased the territory for earlier.

References

- Arrington, L. 1983. The Sagebrush Resurrection: New Deal Expenditures in the Western States, 1933-1939. *Pacific Historical Review* 52, 1–16.
- Barman, J. 1991. *The West Beyond the West*. University of Toronto Press.
- Barro, R. 2009. Rare Disasters, Asset Prices, and Welfare Costs. *American Economic Review*, 243–64.
- Beaver, W., & Manegold, J. 1975. The Association Between Market-Determined and Accounting-Determined Measures of Systematic Risk: Some Further Evidence. *Journal of Financial and Quantitative Analysis*, 10: 231–284.
- Bezeau, M. 1985. The Realities of Strategic Planning: The Decision to Build the Alaska Highway. *The Alaska Highway*, 25–35.
- Bigelow, J. 1913. *Retrospections of an Active Life*. New York: Baker & Taylor.
- Bolkhovitinov, N. 1990. The Crimean War and the Emergence of Proposals for the Sale of Russian America, 1853-1861. *Pacific Historical Review*, LIX: 15–49.
- Boskin, M., & Robinson, M. 1987. The Value of Federal Mineral Rights, Correction and Update. *American Economic Review*, 77: 1073–4.
- Boskin, M., Robinson, M., O'Reilly, T., & Kumar, P. 1985. New Estimates of the Value of Federal Mineral Rights and Land. *American Economic Review*, 75: 923–36.
- Boutwell, G. 1870. *Report of the Secretary of the Treasury*. Washington: Government Printing Office.
- Breeden, D. 1967. An Intertemporal Asset Pricing Model with Stochastic Consumption and Investment Opportunities. *Journal of Financial Economics*, 7: 265–296.

- Brune, L., & Burns, R. 2003. *Chronological History of U.S. Foreign Relations*.
Routledge.
- Callahan, J. M. 1908. *The Alaska Purchase and Americo-Canadian Relations*. Dept. of
History and Political Science, West Virginia University.
- Callahan, J. M. 1967. *American Foreign Policy in Canadian Relations*. New York:
Cooper Square Publishers Inc.
- Clark, H. 1930. *History of Alaska*. New York: The Macmillan Company.
- Coates, K. 1992. *North to Alaska!: Fifty Years on the World's Most Remarkable
Highway*. University of Alaska Press.
- Coates, K., & Morrison, W. 1992. *The Alaska Highway in World War II: The U.S.
Army of Occupation in Canada's Northwest*. University of Oklahoma Press.
- Cole, T. 1991. Ernest Walker Sawyer and Alaska: The Dilemma of Northern Economic
Development. *Pacific Northwest Quarterly*, 82: 42–50.
- Cole, T. 1995. Wally Hickel's Big Garden Hose: The Alaska Water Pipeline to
California. *Pacific Northwest Quarterly*, 86: 59–71.
- Dunning, W. 1912. Paying for Alaska. *Political Science Quarterly*, 27: 385–98.
- Epstein, L., & Zin, S. 1989. Substitution, Risk Aversion, and the Temporal Behavior of
Consumption and Asset Returns: A Theoretical Framework. *Econometrica*,
937–69.
- Friedman, M., & Schwartz, A. 1963. *A Monetary History of the United States,
1867-1960*. Princeton: Princeton University Press.
- Gielow, D. 1998. Education in Russian America. *Journal of Indigenous Thought*, 1.

- Golder, F. 1920. The Purchase of Alaska. *The American Historical Review* 25, 411–425.
- Goodman, M. 1991. *Gorbachev's Retreat: The Third World*. New York: Praeger Publishers.
- Hansen, L., Heaton, J., & Li, N. 2008. Consumption Strikes Back? Measuring Long-Run Risk. *Journal of Political Economy*, 116: 260–302.
- Harris, S. 1985. The Defense of the Alaska Highway in Peacetime. *The Alaska Highway*, 119–132.
- Haycox, S. 1990. Economic Development and Indian Land Rights in Modern Alaska: The 1947 Tongass Timber Act. *Western Historical Quarterly*, 21: 21–46.
- Haycox, S. 2002. *Alaska, An American Colony*. Seattle: University of Washington Press.
- Hinckley, T. 1967. *The Americanization of Alaska*. Palo Alto: Pacific Books.
- Holbo, P. 1983. *Tarnished Expansion*. University of Tennessee Press.
- Jensen, R. 1975. *The Alaska Purchase and Russian-American Relations*. Seattle: University of Washington Press.
- Kandel, S., & Stambaugh, R. 1990. Expectations and Volatility of Consumption and Asset Returns. *Review of Financial Studies*, 207–32.
- Kelley, N., & Trebilcock, M. 1998. *The Making of the Mosaic: A History of Canadian Immigration Policy*. Toronto: University of Toronto Press.
- Kocherlakota, N. 1996. The Equity Premium: It's Still a Puzzle. *Journal of Economic Literature*, 42–71.

- Kocherlakota, N. 1997. Testing the Consumption CAPM with Heavy-Tailed Pricing Errors. *Macroeconomic Dynamics*, 1: 551–567.
- Kushner, H. 1975. Seward's Folly?: American Commerce in Russian America and the Alaska Purchase. *California Historical Quarterly*, 54: 5–26.
- Lazzari, S. 2006. The Crude Oil Windfall Profit Tax of the 1980s: Implications for Current Energy Policy. *Congressional Research Service Report RL33305*.
- Lebergott, S. 1996. *Consumer Expenditures: New Measures and Old Motives*. Princeton University Press.
- Lee, M. 1998. The Alaska Commercial Company: The Formative Years. *Pacific Northwest Quarterly*, 89: 59–64.
- Liberman, L. 1976. *Struggle for the American Mediterranean*. Athens: University of Georgia Press.
- Liberman, P. 1996. *Does Conquest Pay? The Exploitation of Occupied Industrial Societies*. Princeton: Princeton University Press.
- Limerick, P. 1987. *The Legacy of Conquest*. New York: W W Norton & Company.
- Lorie, J.H., & Savage, L.J. 1955. Three Problems in Rationing Capital. *Journal of Business*, 28: 229–239.
- Lucas, R. 2003. Macroeconomic Priorities. *American Economic Review*, 93: 1–14.
- Madden, R. 2000. The Government's Industry: Alaska Natives and Pribilof Sealing During World War II. *Pacific Northwest Quarterly*, 91: 202–209.
- Malloy, W. 1910. *Treaties, Conventions, International Acts, Protocols and Agreements Between the United States and Other Powers, 1776-1909*. (Senate Document no. 357, 61st Congress, 2nd session) Washington: Government Printing Office.

- Markowitz, H.M. 1952. Portfolio Selection. *Journal of Finance*, 7: 77–91.
- McInnis, E.W. 1942. *The Unguarded Frontier*. New York: Doubleday and Co.
- McPherson, H.M. 1934. The Interest of William McKendree Gwin in the Purchase of Alaska, 1854-1861. *Pacific Historical Review*, 2: 29–30.
- Mehra, R., & Prescott, E. 1985. The Equity Premium: A Puzzle. *Journal of Monetary Economics*, 15: 145–61.
- Melino, A. 2006. Measuring the Cost of Economic Fluctuations with Preferences that Rationalize the Equity Premium. *Working Paper, University of Toronto, Department of Economics*.
- Miller, O. 1975. *The Frontier in Alaska and the Matanuska Colony*. New Haven: Yale University Press.
- Naske, C. 1985. *A History of Alaska Statehood*. Lanham, MD: University Press of America.
- Naske, C. 1995. Some Attention, Little Action: Vacillating Federal Efforts to Provide Territorial Alaska with an Economic Base. *Western Historical Quarterly*, XXVI: 37–68.
- Naske, C. 1997. Coal Mining on the Meade River, Alaska. *Pacific Northwest Quarterly*, 88: 3–12.
- Neunherz, R. 1989. Hemmed In: Reactions in British Columbia to the Purchase of Russian America. *Pacific Northwest Quarterly*, 80: 101–111.
- Nichols, J. 1924. *Alaska*. Cleveland: Arthur H Clark Company.
- Paolino, E. 1973. *The Foundations of the American Empire*. Ithaca: Cornell University Press.

- Perras, G. 1997. Who Will Defend British Columbia? Unity of Command on the West Coast, 1934-1942. *Pacific Northwest Quarterly*, 88: 59-69.
- Peterson, C. 1994. Speaking for the Past. *The Oxford History of the American West*, 743-769. New York: Oxford University Press.
- Rhode, P. 2002. Gallman's Annual Output Series for the United States, 1834-1909. *National Bureau of Economic Research working paper 8860*.
- Rietz, T. 1988. The Equity Risk Premium: A Solution. *Journal of Monetary Economics*, 117-31.
- Riggs, T. 1920. *Report of the Governor of Alaska to the Secretary of the Interior*. Washington: Government Printing Office.
- Rowen, H., & Wolf, C. 1990. *The Impoverished Superpower: Perestroika and the Soviet Military Burden*. San Francisco: Institute for Contemporary Studies.
- Shelton, W. 1967. *British Columbia and Confederation*. University of Victoria.
- Sherwood, M. 1965. *Exploration of Alaska, 1865-1900*. New Haven: Yale University Press.
- Tallarini, T. 2000. Risk-Sensitive Real Business Cycles. *Journal of Monetary Economics*, 45: 507-32.
- Townsend, R. 1993. *The Medieval Village Economy*. Princeton University Press.
- Warner, D. 1960. *The Idea of Continental Union*. University of Kentucky Press.
- Weitekamp, R. 1972. The Virgin Islands Purchase and the Coercion Myth. *Mid-America An Historical Review*, 54: 75-93.

White, R. 1991. *"It's Your Misfortune and None of My Own" A New History of the American West*. University of Oklahoma Press.

Wilson, W. 1970. Alaska's Past, Alaska's Future. *Alaska Review*, 4: 1-11.

Wolf, C. 1986. *The Costs and Benefits of the Soviet Empire, 1981-1983*. Santa Monica: Rand.