



**Congressional
Research Service**

Informing the legislative debate since 1914

Canada-U.S. Relations

Ian F. Fergusson, Coordinator

Specialist in International Trade and Finance

Derek E. Mix, Coordinator

Analyst in European Affairs

June 3, 2014

Congressional Research Service

7-5700

www.crs.gov

96-397

Summary

Relations between the United States and Canada have generally been cordial since the War of 1812, the bicentennial of which is now being celebrated. Bound together by a common 5,500 mile border—“the longest undefended border in the world”—as well as shared democratic traditions, the two countries are also increasingly integrated economically through the North American Free Trade Agreement (NAFTA).

The two North American countries continue to cooperate widely in international security and political issues, both bilaterally and through numerous international organizations. Canada’s foreign and defense policies are usually in harmony with those of the United States. Areas of contention have been relatively few, but sometimes sharp, as was the case in policy toward Iraq. Since September 11, 2001, the United States and Canada have cooperated extensively on efforts to strengthen border security and to combat terrorism, particularly in Afghanistan. Both countries were also active participants in the U.N.-sanctioned NATO mission in Libya.

The United States and Canada maintain the world’s largest bilateral trading relationship, one that has been strengthened over the past three decades by the approval of two major free trade agreements. Although commercial disputes may not be quite as prominent now as they have been in the past, the two countries in recent years have engaged in difficult negotiations over items in several trade sectors, including natural resources, agricultural commodities, and intellectual property rights. However, these disputes affect but a small percentage of the total goods and services exchanged. In recent years, energy has increasingly emerged as a key component of the trade relationship, with the construction of the Keystone XL pipeline emerging a major source of contention. In addition, the United States and Canada work together closely on environmental matters, including monitoring air quality and solid waste transfers, and protecting and maintaining the quality of border waterways.

Many Members of Congress follow U.S.-Canada environmental, trade, and trans-border issues that affect their states and districts. In addition, because the countries are similar in many ways, lawmakers in both countries study solutions proposed across the border to such issues as federal fiscal policy and federal-provincial power sharing.

This report begins with an overview of Canada’s political scene, economic conditions, security and foreign policy, and environmental initiatives, focusing particularly on issues that may be relevant to U.S. policy makers. This country survey is followed by several essays on current bilateral issues in the political, international security, trade, and environmental arenas. The questions following each summary are designed as potential inquiries to Canadian officials to promote thought and discussion among policy makers.

Contents

Overview.....	1
Canada’s Domestic Scene.....	2
Current Political Situation.....	2
Canadian Foreign and Security Policy Overview.....	5
U.S.-Canada Defense Relations.....	7
Canadian Defense Trends.....	8
Border Issues.....	9
Economic and Trade Issues.....	12
Economic Growth.....	12
Budget Policy.....	12
Monetary Policy.....	12
Energy.....	13
Bilateral Trade Issues.....	13
Environmental Issues.....	17
Canada’s Arctic Sovereignty Claim.....	18
Issue Definition.....	18
Background and Analysis.....	18
Status of the Issue.....	19
Arctic Council.....	19
Questions.....	20
Border Security Issues.....	21
Issue Definition.....	21
Background and Analysis.....	21
Status of the Issue.....	25
Questions.....	26
Canada’s Free Trade Agreement Agenda.....	26
Issue Definition.....	26
Background.....	27
Status of the Issue.....	29
Questions.....	29
North American Cooperation on Competitiveness and Security.....	30
Issue Definition.....	30
Background and Analysis.....	30
Status of the Issue.....	32
Questions.....	32
Canada’s Financial System.....	33
Issue Definition.....	33
Background and Analysis.....	33
Questions.....	37
North American Cybersecurity Cooperation.....	37
Issue Definition.....	37
Status of the Issue.....	38
Questions.....	39
Canada’s Supply Management Programs for Dairy, Poultry, and Eggs.....	39

Issue Definition	39
Background and Analysis	40
Status of the Issue	41
Questions	41
Country of Origin Labeling	42
Issue Definition	42
Background and Analysis	42
Status of the Issue	43
Questions	44
Intellectual Property Rights	45
Issue Definition	45
Background and Analysis	45
Status of the Issue	46
Questions	47
Columbia River Treaty Review	47
Issue Definition	47
Background and Analysis	47
Status of the Issue	49
Questions	49
Devils Lake	49
Issue Definition	49
Background and Analysis	50
Status of the Issue	51
Questions	51
Ballast Water Management	51
Issue Definition	51
Background and Analysis	51
Status of the Issue	53
Questions	54
Electric Reliability, Trade, and Access to Renewable Power	54
Issue Definition	54
Background and Analysis	54
Reliability	55
Trade and Renewable Energy Development	56
Status of the Issues	57
Questions	57
U.S. Energy Security and Canadian Oil Sands	58
Issue Definition	58
Background and Analysis	59
Status of the Issue	59
Questions	60
Keystone XL Pipeline	60
Issue Definition	60
Background and Analysis	61
Status of the Issue	62
Questions	62
Energy Transportation	63

Issue Definition	63
Background and Analysis	64
Status of the Issue	65
Questions	65

Figures

Figure 1. The 41 st Parliament: House of Commons	3
-------------------------------------------------------------------	---

Contacts

Author Contact Information	66
Acknowledgments	66

Overview¹

History, proximity, commerce, and shared values underpin the relationship between the United States and Canada. Americans and Canadians have fought side-by-side in both World Wars, Korea, and Afghanistan. As a founding member of the North Atlantic Treaty Organization (NATO), Canada contributed substantially to the alliance during the Cold War, and more recently in the Libya and Afghanistan conflicts. The U.S. and Canadian armed forces engage in close cooperation, both in defense of North America and in overseas missions. The countries share]s “the longest undefended border in the world” although heightened security concerns after 9-11 have led to stricter border controls.

The United States and Canada also share the largest commercial relationship in the world with more than \$1.6 billion of trade crossing the border each day and with the two nations also maintaining substantial investments in each other’s economies. Economic integration has resulted from the North American Auto Pact of 1965, the U.S.-Canada Free Trade Agreement of 1988, and finally the North American Free Trade Agreement of 1993.

Living next to you is in some ways like sleeping with an elephant. No matter how friendly and even-tempered is the beast, if I can call it that, one is affected by every twitch and grunt.

—Pierre Elliott Trudeau, Prime Minister of Canada, 1969.

Canada is a constitutional monarchy with Queen Elizabeth II as sovereign. In Canadian affairs, she is represented by a Governor-General, now David Johnston, who is appointed on the advice of the Prime Minister. The Canadian government is a parliamentary democracy with a bi-cameral Westminster-style Parliament: an elected House of Commons and an appointed Senate, with 308 Members of Parliament (338 after the next election) and 105 Senators. At elections, the party that wins the largest number of seats in the Commons is called upon to form a government. Canada consists of 10 provinces and 3 territories, each governed by a unicameral assembly.

Relations between the two countries are generally cordial, but can be strained from time to time by individual issues, such as with the Keystone XL pipeline currently, or Canada’s decision not to participate in the Iraq war in 2003. Unlike many countries, whose bilateral relations are conducted solely through foreign ministries, the governments of the United States and Canada have deep relationships, often extending far down the bureaucracy, to address matters of common interest. Initiatives between the provinces and states are also common, such as the October 2013 Pacific Coast Action Plan on Climate and Energy between California, Oregon, Washington, and British Columbia, or the various Great Lakes initiatives.

However, with a population and economy one-tenth the size of the United States, Canada has always been sensitive to being swallowed up by its southern neighbor. Whether by repulsing actual attacks from the United States during the War of 1812, or by resisting free trade with the United States for more than the first century of its history, it has sought to chart its own course in the world, yet maintain its historical and political ties to the British Commonwealth. Some in Canada question whether U.S. investment, regulatory cooperation, border harmonization, or other

¹ Written by Ian F. Fergusson, Specialist in International Trade and Finance, and Derek E. Mix, Specialist in European Affairs, Foreign Affairs, Defense, and Trade Division.

public policy issues cede too much sovereignty to the United States, while others embrace a more North American approach to its neighborly relationship.

Canada's Domestic Scene

Current Political Situation

Prime Minister Stephen Harper of the Conservative Party has led the government of Canada since 2006. The Conservatives formed a minority government after the 2006 elections—and likewise after a snap election in 2008—until 2011, where another election gave the Conservatives a majority in Parliament. The next election must occur by October 2015.

The official opposition is the New Democratic Party (NDP) led by Thomas Mulcair. This Parliament is the first in which the NDP serves as official opposition, primarily through newfound strength in Quebec (where it has previously not been a factor) and its charismatic former leader Jack Layton, who died three months after the election. The NDP also profited from the collapse of the Liberal Party vote. The Liberal Party—long known as the “natural party of government” due to its dominance in the 20th century—came in a weak third. The new leader of the Liberal Party is Justin Trudeau. He was first elected to Parliament in 2008 and is the son of Pierre Trudeau, a long-standing Prime Minister from 1968 to 1984. The separatist Bloc Québécois was reduced to two seats.

The Harper government came to power after 13 years of Liberal Party rule; first led by Jean Chretien (1993-2003) followed by Paul Martin (2003-2006). Liberal party dominance in the country was eroded due to the “sponsorship scandal,” in which, under a program intended to build support for Canadian unity, the Liberal government had funneled C\$100 million in public funds for dubious contracts to Québec advertising firms associated with the Liberal party.² The Liberal government’s primary achievement, arguably, was the sorting out of the country’s finances, which in 1993 were in dire straits. Canada’s debt to GDP ratio had reached 101.6%, its bonds had been downgraded, and the country was facing higher interest rates. Prime Minister Chretien and his then-Finance Minister Paul Martin launched an austerity budget in 1995 that contained across-the-board spending cuts. Deficits were eliminated by the 1998 budget and budgets remained balanced through 2009. Notably, the Chretien government also refused U.S. entreaties to join the war against Iraq. A second reason for the Liberal downfall can be attributed to the 2003 unification of two conservative parties: the Progressive Conservatives (PC) and the Canadian Alliance, a fiscally conservative, western Canadian faction dissatisfied with the eastern tilt of the traditional parties.

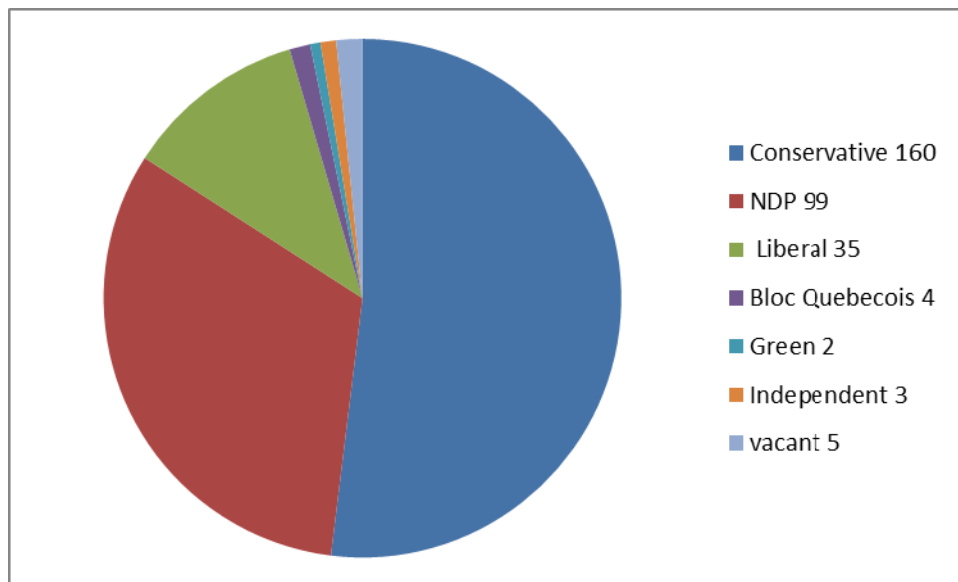
Initially risking votes of no-confidence as a minority government, Harper generally has restrained the more conservative members of his caucus and governed from the center. He eschewed bringing up social issues such as abortion, and concentrated on economic issues. Early in his tenure, Harper was willing to challenge public opinion over Afghanistan, where the Liberal government deployed troops in 2002. In 2006, he won a narrow vote in parliament to keep Canadian troops in Afghanistan for two additional years, although, subsequently, Canadian troops did not end their combat role there until July 2011.

² “Canada: Martin on the Ropes in Funding Scandal.” *Oxford Analytica*. February 25, 2004. February 23, 2004.
“Canada’s Premier Acts to Counter Scandal.” By DeNeeen L. Brown. *Washington Post*. February 17, 2004.

The financial crisis of 2008-2009 seemingly took the government by surprise. A budget bill introduced in November 2008 contained proposals for the elimination of federal funding for political parties, but did not contain any stimulus measures to combat the accelerating economic downturn. The opposition parties, which would have been severely affected by the plan, rebelled and were poised to vote down the government—ostensibly because Harper had failed to put forward a stimulus package that would respond to the economic downturn. Harper withdrew his proposals and, to avoid the no-confidence motion, prorogued (suspended or recessed) the session of parliament until January 2009; the shutdown was sharply criticized by many.³ The government came back in March 2009 and introduced a stimulus package, known as the Economic Action Plan, a combination of increased spending and tax cuts. The 2009 budget also marked a return to deficit spending for Canada after 12 successive budgets in balance or surplus. The Conservative government introduced a budget with a small C\$2.5 billion deficit in 2014, and it plans a return to surplus in 2015.

Figure 1. The 41st Parliament: House of Commons

As of April 10, 2014



Source: Parliament of Canada

The Conservatives lost a no-confidence vote on March 25, 2011, prompting Canada's most recent elections, held on May 2, 2011; it was the fourth time Canadians had gone to the polls in seven years. But unlike the last three elections, which returned minority governments, this one resulted in significant changes for all of the national parties: first of all, the Conservatives managed to capture a comfortable majority of 166 seats in the 308-seat parliament up from 144. In second place was the NDP, which wound up with 103 seats, almost triple the 36 they had held before.

³ "Canadian Leader Shuts Parliament To Avoid No-Confidence Vote, Angering Many." *New York Times*. December 6, 2008. The Harper government asked for a second prorogation in December 2009 in what some observers claim was an attempt to avoid parliamentary inquiries over official knowledge about the turnover by the Canadian military to Afghan authorities of prisoners who were subsequently abused and reportedly tortured. This second prorogation in roughly a year's time again prompted harsh criticism by the opposition parties that the PM was flaunting parliamentary democracy, as well as leading to scattered protests around the country. "Harper Goes Prorogue." *The Economist*. January 9, 2010.

The Liberals won just 34 seats, down from 77, making them the third-largest party for the first time in the nation's history. The separatist Bloc Québécois (BQ) was reduced from 48 down to just 4 seats—causing it to fall below the threshold for official party status. Finally, the Green Party managed to win a seat—another first.⁴

In explaining the results, observers note that many Canadians reportedly had become comfortable with Harper's personality and leadership style. In addition, Harper has generally avoided divisive social issues and has instead succeeded in positioning his party more toward the center—a technique that had been used by the Liberals between 1993 and 2006. Harper's trump card, however, was the economy. Since the mid-1990s, both Liberal and Conservative governments had run budgetary surpluses, leaving the government in a good position to introduce limited stimulus measures during the global economic crisis, from which Canada emerged in better shape than most other developed countries.

The Quebec Election 2014

The status of Quebec in Canada is never far from the surface during Quebec provincial elections, such as the one held on April 7, 2014. In this election, it may have played a decisive role, although not the role intended. For more than four decades, an emotional debate has waxed and waned over the status of French-speaking Québec, Canada's second-largest province geographically and home to slightly less than one-quarter of its population. Many Québécois are concerned that their language and culture is being overwhelmed by the rest of English-speaking Canada. Some believe that their society may only be preserved if Québec separates from the rest of Canada and forms an independent country. Upon achieving power, the separatist Parti Québécois (PQ) has launched two referenda on sovereignty, losing by a solid 60%-40% in 1980, but coming tantalizingly close to winning (50.1%-49.9%) in 1995.

In 2012, the PQ achieved a minority government after 10 years and three straight elections won by the federalist Liberal Party of Quebec (LPQ). After two years in a minority government, PQ Premier Pauline Marois called an election, aiming for a majority government. Her party was up in the polls, the new LPQ leader Philippe Couillard was relatively untested, and her signature initiative, the Quebec Charter of Values, had varying degrees of support among many francophone Quebecers. However, one provision to restrict public sector employees from wearing obvious religious symbols such as a kippah, turban, hijab, or larger crosses, proved controversial, and perhaps unconstitutional in Canada. Supporters cited the charter as a societal response to various religious accommodation disputes and said that it would reaffirm gender equality, the separation of church and state, and the primacy of the French language in the province. Opponents described it as discriminatory, unconstitutional, and politically as a wedge to highlight Quebec's divisions with Canada to promote separatism.

However, the election quickly turned to the prospect of another referendum on sovereignty with a PQ majority government. A star recruit candidate for the PQ, the billionaire media mogul Pierre Karl Peladeau, came out forcefully for sovereignty in his announcement speech, and Premier Marois as well as other party leaders started discussing sovereignty, perhaps off message. Couillard pounced on these discussions to claim that giving Marois a majority inevitably would lead to another referendum. Support for the PQ plummeted to the benefit of a "soft" nationalist party, a leftist separatist party, and above all the LPQ, which saw a heavy turnout of federalists, Anglophones, and allophones (those who speak neither French nor English as a first language, many of whom would be directly affected by the Charter). In the end, the LPQ won a majority government, the PQ had its worst showing ever, and Marois resigned as party leader. Couillard, the new Premier, promises to focus on the provincial economy, especially tackling its large provincial deficits.

Since the debate over sovereignty began in the 1960s, the United States government has assiduously sought to remain officially neutral on the issue of Québec, continually repeating the three-point "mantra" that the United States enjoys excellent relations with a strong and united Canada; that the Québec question is an internal issue that is for Canadians to decide; and that the United States does not wish to interfere with Canada's domestic matters. If, at some future date, Québec eventually *does* leave the confederation, the U.S. government would be faced with difficult political and economic questions.

⁴ Data from Canadian Parliament's website, updated August 2011: <http://www.parl.gc.ca/Parlinfo/Files/Parliament.aspx?Item=1924d334-6bd0-4cb3-8793-cee640025ff6&Language=E&MenuID=Lists.Parliament.aspx>.

With his new Conservative majority, Prime Minister Harper pushed several proposals through parliament, including repeal of the Canadian Firearms Registry, elimination of the government's role in the Canadian Wheat Board, a strengthening of the criminal code, and a reduction in election subsidies for political parties.

On economic matters, Harper has maintained his party's focus on fiscal retrenchment, employment, energy, and trade issues. He has championed the return to budgetary surplus, with the government reportedly resorting to gold sales and the sale of diplomatic property overseas to ensure accounts balance by 2015.⁵ Harper has made the promotion of the Canadian oil sands a key economic priority, and has personally lobbied for approval of the construction of the Keystone XL pipeline. His government will continue to assert its sovereignty in the Arctic. It also has pursued an ambitious free trade agenda, including announcements of the conclusion of FTAs with the European Union (October 2013) and South Korea (March 2014) (see below).

Senate Reform

One issue that has caused headaches for the Conservatives is reform of the Senate. Reform of the Canadian Senate has long been a top aim of Stephen Harper and western conservatives, who have in the past supported a "Triple E Senate"—elected, effective, and equal. The Senate is modeled after the House of Lords in the United Kingdom. While it can reject bills, it rarely does so, but it acts a chamber of "sober second thought" where bills can be modified or amended. Senators are appointed by the Governor-General at the recommendation of the Prime Minister and can serve until the age of 75. There are 105 seats in the Senate, with 24 Senators appointed to each region: the Maritimes, Ontario, Quebec, and the West. Newfoundland and Labrador (6 seats) and the Northwest Territories, Yukon, and Nunavut (1 seat each) make up the balance.

The nonrepresentative nature of Senate—the western provinces and Ontario are considerably underrepresented by population—their lifetime tenure and appointment by the Prime Minister, as well as recent expensing scandals have led many to seek reform or abolition of the chamber. Prime Minister Harper campaigned on Senate reform and in 2013 proposed that Senate terms be limited to nine years and that the provinces be allowed to hold elections for their Senators. The bill was challenged in the courts and Harper asked the Supreme Court of Canada for a referral on the bill. On April 25, 2014, the Supreme Court unanimously ruled that "the Senate is a core component of the federal structure of government" and that changes to the Senate would require provincial approval with attendant constitutional negotiations.⁶

Canadian Foreign and Security Policy Overview

The central pillar of Canadian foreign policy under Prime Minister Harper has been economic diplomacy with a focus on trade agreements and the promotion of energy exports. Since the launch of a Global Commerce Strategy in 2007, Canada has signed or concluded eight free trade agreements with 38 countries, most recently with the European Union (EU) in October 2013 and South Korea in March 2014.⁷ Building on this strategy, the Canadian government produced a new

⁵ "There's Gold in Them Thar Vaults," January 9, 2014
<http://www.economist.com/blogs/americasview/2014/01/selling-canada-s-government-assets>

⁶ "Supreme Court Reject Harper Government's Proposal for Senate Reform," *Toronto Star*, April 25, 2013.

⁷ Foreign Affairs, Trade and Development Canada, *Canada's Free Trade Agreements*, (continued...)

Global Markets Action Plan in 2013 to “ensure that all Government of Canada assets are harnessed to support the pursuit of commercial success by Canadian companies and investors in key foreign markets...”⁸ According to the Canadian government, international trade accounts for more than 60% of the country’s gross domestic product (GDP) and one in five Canadian jobs.

Beyond the predominant theme of pragmatic economic diplomacy, analysts assert that Harper’s foreign policy outlook is framed to a large extent by the promotion of democracy, human rights, and effective global governance.⁹ The case of Iran, for example, has been cited as demonstrating the limits of economic diplomacy as foreign policy. The Harper government, a particularly close and vocal supporter of Israel, has been highly critical of the Iranian government’s repression of its own people and sponsorship of terrorism outside its borders, and skeptical of Iran’s intentions in nuclear negotiations. Canada cut off diplomatic relations with Tehran in 2012 and has joined much of the international community in imposing extensive sanctions on Iran, commercial considerations notwithstanding.

The Harper government has also been strongly critical of Russia’s actions in Ukraine, despite Canadian companies having approximately C\$5 billion in Russian investments. In April and May 2014, Canada deployed military personnel and assets to support NATO “reassurance measures” in Central and Eastern Europe, including a task force of six CF-18 fighter aircraft and support personnel to Romania, the frigate *HMCS Regina* to the Mediterranean region, 50 troops to airborne infantry exercises in Poland, and 15 operational planning staff to Supreme Headquarters Allied Powers Europe (SHAPE) in Belgium.¹⁰ The Canadian government has not taken a formal position on debates about establishing a permanent NATO troop presence in Central and Eastern Europe, although at least one Conservative Member of Parliament has publicly suggested that Canada could play a role in any such permanent mission.¹¹ The topic of Ukraine carries additional domestic weight in Canada because there are approximately 1.2 million Canadians of Ukrainian descent.

Canada was one of the first countries to join the U.S. military operation in Afghanistan in 2001. For much of the period 2006 to 2011, there were approximately 2,800 Canadian troops deployed in the NATO-led International Security Assistance Force (ISAF), the fifth-largest national contingent in ISAF. Many Canadian troops served on the front line in combat operations against al-Qaeda and Taliban fighters, and 158 Canadians have been killed in Afghanistan. Canada ended its combat role in Afghanistan in 2011, but a contingent of approximately 950 troops remained until March 2014 to help train Afghan national security forces. Canadian forces also participated in the 2011 NATO mission in Libya, several international missions in Haiti over the past decade, and the earlier NATO-led Stabilization Force (SFOR) in Bosnia-Herzegovina.

(...continued)

<http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/fta-ale.aspx?lang=eng>.

⁸ Foreign Affairs, Trade and Development Canada, *Global Markets Action Plan*, 2013, p. 6.

⁹ For the Canadian government’s summary of its international policy priorities, see Foreign Affairs, Trade and Development Canada, *Priorities for 2013-2014*, June 25, 2013. <http://www.international.gc.ca/departement-ministere/priorities-priorites.aspx?view=d>.

¹⁰ National Defence and the Canadian Armed Forces, *Canadian participation in NATO reassurance measures*, May 28, 2014, <http://www.forces.gc.ca/en/operations-abroad/nato-ee.page?>

¹¹ "Canada will play a role in any permanent mission in Eastern Europe: Conservative MP," *Global News*, May 11, 2014, <http://globalnews.ca/news/1323858/canada-will-play-a-role-in-any-permanent-mission-in-eastern-europe-conservative-mp/>.

According to Canada's Foreign Affairs Ministry, "Canada's priority for NATO is to ensure that the Alliance remains modern, flexible and agile and thus able to face the threats of today and those arising in the future. This goal drives all of Canada's efforts on NATO transformation, reform and partnerships with non-NATO countries."¹² IHS Jane's asserts, "it is clear that the Harper government sees Canada's role in NATO as central to its foreign and security policy."¹³

The Harper government has been notably seeking to assert Canada's sovereignty in the Arctic region, maintaining and expanding the "Northern Strategy" launched by his Liberal predecessors. The most visible part of this policy has been the establishment of a stronger military presence, including plans for the construction of 6-8 armed icebreakers to patrol the north. Scientists have forecast that in coming decades, global warming will reduce the Arctic ice pack in Canada's northern archipelago sufficiently to create a "northwest passage" permitting ships to traverse the region during the summer months. The prospect of such traffic raises a host of political, legal, environmental, security, and commercial issues, chief among them the question of jurisdiction. (see "Canada's Arctic Sovereignty Claim" section).

Observers of Canadian foreign policy additionally note that Prime Minister Harper has been more selective in contrast to his predecessors' emphasis on wide-ranging multilateralism as a means of leveraging Canadian influence. He has, for instance, participated actively in forums such as the G7 and G20, but demonstrated less enthusiasm for the United Nations and withdrew Canada from the Kyoto Protocol on climate change in 2011. By all accounts, the Harper government has also downgraded Canada's long-standing historical emphasis on participation in international peacekeeping operations, although over 650 Canadian troops are deployed abroad in a range of U.N., NATO, and other multilateral missions.¹⁴

U.S.-Canada Defense Relations

For a variety of practical and historical reasons, Canada's relations with the United States have always been a key priority. The two countries share a 5,500-mile border, broadly compatible values, and cultural similarities, as well as vital interests in the international realm. Trade between the two countries well exceeds \$1 billion per day; however, Canada's dependence on exports to the United States has prompted several governments to attempt to expand and diversify its international commerce. Canada's efforts to promote U.S. approval of the Keystone XL pipeline have been a central element of Canadian foreign policy in recent years (see "Keystone XL Pipeline" section).

According to the U.S. State Department, "U.S. defense arrangements with Canada are more extensive than with any other country."¹⁵ There are over 80 U.S.-Canada defense treaties or agreements and an additional 250 bilateral memoranda of understanding pertaining to defense issues.¹⁶ Close U.S.-Canadian defense cooperation has been long-standing. In 1940, President

¹² Foreign Affairs, Trade and Development Canada, *North Atlantic Treaty Organization (NATO)*, <http://www.international.gc.ca/nato-otan/index.aspx?lang=eng>.

¹³ Jane's Sentinel Security Assessment – North America, *Canada: External Affairs*, updated May 22, 2014.

¹⁴ National Defence and the Canadian Armed Forces, *Current Operations*, May 26, 2014, <http://www.forces.gc.ca/en/operations-abroad-current/index.page?>

¹⁵ United States Department of State, Bureau of Western Hemisphere Affairs, *U.S. Relations with Canada*, August 23, 2013, <http://www.state.gov/r/pa/ei/bgn/2089.htm>.

¹⁶ Jane's Sentinel Security Assessment – North America, *op. cit.*

Franklin D. Roosevelt and Prime Minister Mackenzie King established the Permanent Joint Board on Defense, which formalized bilateral consultation on military matters and is still in operation. The two countries were founding members of NATO in 1949, and signed the North American Aerospace Defense Command (NORAD) agreement in 1958. The continental air defense pact monitors U.S. and Canadian airspace and encourages joint efforts in aerospace technologies.

In 2004, Canada and the United States amended NORAD to permit it to share warning information on incoming ballistic missiles with the U.S. missile defense system. In 2006, the two countries expanded the scope of NORAD's activities to encompass nautical surveillance. In 2008, Canada and the United States signed a Civil Assistance Plan allowing the armed forces of each country to assist one another in the event of civil emergencies such as floods, earthquakes, or the effects of a terrorist attack. U.S. and Canadian officials and military commanders have been examining ways to modernize NORAD's surveillance capabilities and expand its role in monitoring Arctic waters in the expectation that ice melt and commercial development in the Arctic are likely to lead to increased activity in the High North region.¹⁷

Canada long debated whether it should participate in the U.S. ballistic missile defense (BMD) system before deciding against it in 2005 in the face of domestic political opposition and concerns that the system could trigger a new arms race or lead to the militarization of space. Canada does not therefore participate in the operation of the U.S. BMD system, but Canadian forces play a supporting role because of the agreement that NORAD is to share information with U.S. BMD commands. The U.S. expansion of the BMD system, however, has raised concerns that NORAD's early warning mission may become increasingly redundant.¹⁸ Analysts and former officials have been calling for the Harper government to re-visit the issue of BMD, and defense committees in both the Canadian Senate and House of Commons have been examining the issue.¹⁹ Proponents argue that by signing off on NATO's 2010 Strategic Concept and other NATO documents, Canada has already embraced BMD as a means of protecting allied countries. They furthermore assert that the incongruities of the relationship between NORAD and the BMD system are irrational and threaten to undermine the wider relevance of NORAD.

Canadian Defense Trends

The Canada First Defense Strategy released in 2008 defines the three central roles of the Canadian Armed Forces as defending Canada; defending North America (with the United States), and contributing to international peace and security.²⁰ As demonstrated during sustained combat operations in Afghanistan, Canadian forces are capable of deploying on demanding out-of-area missions for an extended period of time. Analysts observe in addition that Canadian forces

¹⁷ David Pugliese, "Canada, US Eye Arctic Responsibilities for NORAD," *DefenseNews*, May 3, 2014, <http://www.defensenews.com/article/20140503/DEFREG02/305030018/Canada-US-Eye-Arctic-Responsibilities-NORAD>.

¹⁸ Joel Sokolsky, *U.S. Ballistic Missile Defense, NORAD, and the Canada Conundrum*, *Bridgewater Review*, 33(1), May 2014, pp. 8-11.

¹⁹ Steven Chase, "Ottawa examines merits of U.S. missile defence program," *The Globe and Mail*, May 12, 2014, <http://www.theglobeandmail.com/news/politics/ottawa-examines-merits-of-us-missile-defence-program/article18631579/>.

²⁰ *Canada First Defence Strategy*, http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/about/CFDS-SDCD-eng.pdf.

demonstrated an ability to adapt to combat conditions in Afghanistan, including rapid procurement of needed equipment.²¹ In 2012, Canada completed a major transformation of its military command structure. The reforms combined the domestic and continental command, expeditionary command, and operations support command into a single Canadian Joint Operations Command (CJOC) responsible for all armed forces operations outside of NORAD and special forces.²²

Canada's defense spending has been flat or declining as a percentage of GDP since the 1990s. In 2013, Canadian defense expenditures were about C\$19 billion, or only 1.0% of GDP.²³ NATO recommends that member states spend 2% of GDP on defense. The 2008 defense strategy launched a number of ambitious procurement initiatives, including new Arctic-capable patrol vessels, supply ships, and search and rescue aircraft, but these plans have been thrown into uncertainty after the 2014 federal budget deferred C\$3.1 billion in planned capital spending over the 2014-2017 period to a later date.²⁴ Although the end of the Afghanistan mission has reduced defense costs, Canada has also achieved savings by reducing capabilities, including by eliminating some types of anti-air and anti-tank missiles and unilaterally halting its contribution to two NATO air surveillance programs.

The cuts also bring an additional element of uncertainty to Canada's potential acquisition of the F-35 Joint Strike Fighter. Canada agreed to participate in the F-35 program in 2002, and the government announced plans in 2010 to acquire 65 F-35s to replace the country's fleet of 78 CF-18s in 2017. Amid accusations that the government had misled the public about the cost and performance of the aircraft, the plans became politically controversial, however. In 2012, the Canadian government put the procurement process on hold in order to review the plans and potentially explore alternatives. The Canadian government is unlikely to decide on how to proceed until 2015, indicating it would not be in a position to purchase F-35s until 2018.

Border Issues

Even before the September 11, 2001 (9/11), Al Qaeda attacks on New York and Washington, DC, U.S.-Canadian border security was a key issue for both countries. Border security first became a matter of urgent concern in December 1999, when U.S. officials, acting on a tip from Canadian authorities, stopped Ahmed Ressaym at the border as he was attempting to smuggle explosives into the United States. It was later discovered that Ressaym had planned to bomb the Los Angeles airport, and that he had received terrorist training from Al-Qaeda in Afghanistan. Despite the fact that none of the 9/11 hijackers entered from Canada, the 2001 attacks sparked renewed debate over Canadian laws regarding the treatment of immigrants seeking refugee status or political asylum.²⁵ By February 2002, Ottawa had taken "steps to tighten immigration and refugee

²¹ International Institute for Strategic Studies, *The Military Balance 2013*, p. 68.

²² <http://www.forces.gc.ca/en/about-org-structure/canadian-joint-operations-command.page>.

²³ NATO Public Diplomacy Division, *Financial and Economic Data Relating to NATO Defence*, February 24, 2014.

²⁴ Murray Brewster, "Federal budget sends Canadian military's equipment buying plan into limbo; new fighter jets likely off the table," *National Post*, February 11, 2014, <http://news.nationalpost.com/2014/02/11/federal-budget-sends-canadian-militarys-equipment-buying-plan-into-limbo-new-fighter-jets-likely-off-the-table/>.

²⁵ In April 2009, U.S. Department of Homeland Security Secretary Janet Napolitano raised concerns when she averred that some of the 9/11 terrorists crossed over from Canada. "Napolitano's Comments about Canada's Border Spark Diplomatic Kerfuffle." *The Canadian Press*. April 21, 2009.

policies, including more rigorous screening of people who claim refugee status and stepped up detentions and deportations of claimants suspected of being security risks.”²⁶

Skeptics question whether determined terrorists and criminals can reliably be prevented from traversing the two countries’ 5,500-mile border. And efforts to strengthen border security must be balanced against competing pressures to facilitate legal travel and trade by preventing long delays at border crossings. About 80% of U.S.-Canada merchandise trade crosses the border by truck; and many of these shipments are “just-in-time” deliveries, so that crossing delays can seriously disrupt manufacturing in both countries.²⁷ International tourism is also a key export for both countries, and each represents the other’s number one tourism market.²⁸ Thus, both sides have strong incentives to strengthen security, and to keep goods and travel flowing.

Particularly since the 9/11 attacks, Ottawa and Washington have taken numerous steps to improve border security, including through a series of bilateral agreements. In December 2001, they signed the Smart Border declaration that aimed at improving security and efficiency at border crossings. The agreement laid out a 30-point (since increased to 32-point) list of areas of joint activity covering air, land, and sea crossings, ranging from pre-clearance of goods and people, to biometric identifiers, to infrastructure improvements. In December 2002, the two nations signed the Safe Third Country agreement, intended to permit coordination of refugee and asylum policy. The two countries also cooperate extensively on law-enforcement activities around the border.

In February 2011, President Obama and Prime Minister Harper signed the *Beyond the Border* declaration, which described their shared visions for a common approach to perimeter security and economic competitiveness. The 2011 agreement focuses on information sharing and joint threat assessments to develop a common and early understanding of the threat environment; infrastructure investment to accommodate continued growth in legal commercial and passenger traffic; integrated cross-border law enforcement operations; and integrated steps to strengthen shared cyber-infrastructure.

This vision was fleshed out by the *Beyond the Border Action Plan*, released during a meeting of the two leaders on December 7, 2011. It set out goals and progress metrics related to

- harmonized cargo screening under the “cleared-once, accepted twice” principle,
- joint inventories and gap analysis related to travel and trade threat assessments and border surveillance,
- automated biographic and biometric data sharing,
- an integrated entry-exit system,
- enhanced pre-clearance of goods and travelers, and

²⁶ “Al-Qaida In Canada?” CBSNEWS.com. April 25, 2002. “Canada Alters Security Policy To Ease Concerns of U.S.” By Clifford Krauss. *New York Times*. February 18, 2002.

²⁷ Canadian Government Fact Sheet: A Unique and Vital Relationship, modified, June 2, 2011,

<http://www.canadainternational.gc.ca/can-am/offices-bureaux/welcome-bienvenue.aspx?lang=eng&view=d>.

²⁸ U.S. Department of Commerce, International Trade Administration, *Canadian Travel to the United States 2011*, Washington, D.C., December 2012; Canadian Tourism Commission, *Delivering Value for Canada’s Tourism Businesses Through Innovation and Efficiency*, Vancouver, B.C. 2013.

- expansion of interoperability among law enforcement and deployment of cross-designated personnel.²⁹

Substantively, policies related to the Canada-U.S. border encompass trade and travel facilitation as well as law enforcement activities. For lawful border crossers, the Western Hemisphere Travel Initiative (WHTI) has required since June 2009 that all travelers present a secure travel document. The Department of Homeland Security (DHS) has worked with the Canadian government and with certain U.S. and Canadian states and provinces to develop enhanced driver's licenses that meet WHTI requirements; a March 2011 GAO report found a greater than 95% compliance rate with such requirements.³⁰ In addition to cooperating on WHTI, the two countries have worked to expand their trusted commercial trucker program (the Free and Secure Trade [FAST] program) and their trusted traveler program (NEXUS, not an acronym).

Joint border-area law enforcement programs consist primarily of Integrated Border Enforcement Teams (IBETs) and the Shiprider Program. The IBETs are binational, multi-agency, intelligence-led enforcement teams focused on identifying, investigating, and interdicting common national security threats and criminal activity at 24 locations at and between U.S.-Canadian ports of entry. The Shiprider program allows fully cross-trained and cross-designated agents from each country to conduct joint enforcement exercises along shared international waterways.

In addition to these programs, Canada's customs service has stepped up the purchase of high-tech X-ray equipment, and U.S. and Canadian customs agents are working together to inspect containers at several Canadian and U.S. seaports. Canada also has set up an Air Transport Security Authority, which, among other activities, is responsible for pre-board screening. In 2004, the Canadian government created a Department of Public Safety and Emergency Preparedness, a counterpart to the U.S. DHS, and a Border Services Agency.

Away from the border, Canada has taken related actions, including freezing terrorists' assets, broadening the scope of terrorist activities punishable by law, extending police investigative powers, introducing legislation that would put restraints on fund-raising activities by extremist organizations, expanding cooperation between the FBI and the RCMP, and increasing outlays for countering nuclear, biological, and chemical weapons attacks.³¹ Canadian police and security officials arrested 18 individuals on terrorism-related charges in June 2006 (the so-called Toronto 18) and 6 men in another terrorism-related incident in August 2010 (a sting operation known as Project Samosa). These incidents did not emerge as major domestic political issues within Canada, but they renewed debate within the United States about Canada's immigration practices, its commitment to a multicultural environment, its security measures, and the presence of its troops in Afghanistan.

²⁹ *United States-Canada Beyond the Border Action Plan*, December 2011, available at <http://www.dhs.gov/xlibrary/assets/wh/us-canada-btb-action-plan.pdf>.

³⁰ U.S. Government Accountability Office, *Border Security: DHS Progress and Challenges in securing the US Southwest and Northern Borders*, GAO-11-508T, March 30, 2011, p. 6, <http://www.gao.gov/new.items/d11508t.pdf>.

³¹ For another brief overview of efforts to secure the U.S.-Canada border, see Joint Counter-Terrorism Initiatives. By Melissa Radford. Border Facilitation: Products and People. By June Dewetering. Both in *Canada and the United States: Shared Interests and Concerns*. Canadian Library of Parliament. January, 2009. http://www.parl.gc.ca/information/library/PRBpubs/prb0834_00-e.htm.

Economic and Trade Issues

The Canadian economy experienced a shallower recession and initially recovered faster from the 2008 global economic crisis than the United States, but growth in both countries remains sluggish. In 2013, both economies grew at similar rates: 2.0% in Canada and 1.9% in the United States. In 2014, Economist Intelligence Unit and IHS Global Insight forecasters expect Canada's GDP to grow by 2.2% and 2.3%, respectively, and for U.S. GDP to achieve growth of 2.5% and 2.4%.³²

Economic Growth

Canada's economy began to grow again in 2010 following the global financial crisis of 2008. However, GDP has been slowing from the robust level of 3.4% in 2010 to an estimated 2.0% in 2013. Several factors likely contributed to this slow growth, including the end to the boom in commodities on which Canada's economy disproportionately depends; the sluggishness of the U.S. economy; and the retrenchment of government spending. Growth has been dependent on personal consumption, especially in the still-buoyant housing sector, but business investment and export growth remain elusive. The unemployment rate, which hit a generational low of 5.8% in January 2008, peaked at 8.7% in August 2009, and gradually fell back to 6.9% by April 2014.

Budget Policy

After racking up 27 straight years of deficit spending prior to the "austerity" budget of 1995, Canada's public debt reached a peak of 101.6% of GDP, and government sector spending reached 53.6% of GDP in 1993. Realizing this course was unsustainable, the Liberal government of then-Prime Minister Jean Chrétien and his Finance Minister Paul Martin embarked on a financial austerity plan in 1995 using such politically risky measures as cutting federal funding for health and education transfers, applying a means test to those eligible for Seniors Benefits, and cuts in defense. Modest tax increases were also employed, mostly through closing loopholes. Under this budget discipline, the government submitted a balanced budget in 1998 and a political consensus emerged not to resort to deficit spending, at least until 2009. That year, faced with the fallout of the global financial crisis, the Conservative government of Prime Minister Stephen Harper introduced a budget which financed a package of stimulus spending and tax cuts, but which also reintroduced deficit spending to the Canadian polity. Since then, government policy has been one of retrenchment, with the aim of returning the budget to balance with an C\$800 million surplus forecast by 2015, coincidentally an election year.

Monetary Policy

In contrast to the United States, the Bank of Canada (BOC) raised interest rates three times—to a 1% target rate—to constrain demand—until September 2010. This accommodative stance has been made possible by the virtual absence of inflation, but it has also contributed to a housing boom and personal consumption boom that is just beginning to decelerate. This, in turn, has led to record Canadian household indebtedness with the debt-to-disposable income ratio reaching

³² Economic data and forecasts are from the Economist Intelligence Unit, IHS Global Insight, Global Trade Atlas, and Statistics Canada.

165.6% in 2013. Yet, the BOC is reluctant to raise interest rates and risk increasing debt-service costs to the consumer and slowing consumer spending. The Bank's 1% interest rate has also helped the Canadian dollar (loonie) maintain its value near parity, although the value of the loonie has been dropping against the U.S. dollar throughout 2013 and into 2014, falling from slightly over parity with U.S. dollar at the beginning of 2013 to 1.08/US\$ on June 1, 2014.

Energy

Canada is the United States' largest supplier of energy—including oil, uranium, natural gas, and electricity—and, until recently, the energy relationship has been growing.³³ Canada is the world's fifth-largest petroleum producer, and its reserves are believed to be the third largest in the world only after those of Saudi Arabia and Venezuela; Canada's sources of oil include traditional and offshore wells and, increasingly, Alberta's oil sands.³⁴ In 2013, the value of U.S. petroleum and natural gas imports from Canada reached \$109.1 billion, up from \$65.2 billion in 2009. This figure largely represents increases in the value and quantity of crude oil exports from Canada. However, due to the domestic shale gas boom, Canada's exports of natural gas have been dropping since 2010. Canada provides 38% of U.S. crude oil imports (up from 22% in 2009) and supplies 41.4% of U.S. natural gas imports (down from 82.6% in 2009).³⁵ Canada also is a net exporter of electricity to the United States, and the North American electricity grid is closely interconnected. Canada is particularly valued because it is considered a reliable source of energy, as it is not a member of OPEC. However, the main new pipeline project to bring Canadian oil to the United States—the Keystone XL—remains stymied, with the State Department yet to make a determination as to whether it may proceed (see “Keystone XL Pipeline,” below). China has shown interest in Canada's oil sector, and has recently bought stakes in Alberta's oil sands projects. Partly as a result of the Keystone XL impasse, the Canadian federal government has been advocating the construction of a pipeline through British Columbia to export oil to Asia. Like the Keystone XL, this route has drawn opposition from environmentalists, but also from First Nations tribes, over whose land much of the pipeline would be constructed.

Bilateral Trade Issues

The United States and Canada enjoy the largest bilateral commercial relationship in the world. Over the past 20 years, U.S.-Canada trade relations have been governed first by the 1989 U.S.-Canada Free Trade Agreement and, subsequently, by the 1994 North American Free Trade Agreement. These agreements, along with the conclusion of the Uruguay Round of multilateral trade negotiations and the creation of the World Trade Organization, contained mutual concessions on commercial trade and investment barriers, and, more importantly perhaps, established binding dispute settlement mechanisms. While these agreements have resolved some of the sharp differences from the past, questions regarding the effectiveness of dispute resolution mechanisms remain. In addition, both nations are fully engaged in negotiating preferential trade agreements, together in the Trans-Pacific Partnership negotiations, and separately with the European Union.

³³ See CRS Report R41875, *The U.S.-Canada Energy Relationship: Joined at the Well*, by Paul W. Parfomak and Michael Ratner.

³⁴ U.S. Energy Information Administration (EIA), Country Analysis Brief: Canada, December 2012, <http://www.eia.gov/countries/cab.cfm?fips=CA>.

³⁵ Statistics from Global Trade Atlas.

The volume of economic activity across the border underscores the extent of economic integration between the United States and Canada. The two nations continue to have the largest trading relationship in the world, with \$1.6 billion per day in goods crossing the border in 2013. In that year, Canada purchased 18.3% of U.S. exports and supplied 15.1% of all U.S. imports. The United States supplied 52.1% of Canada's imports of goods that year and purchased 74.5% of Canada's merchandise exports; two-way trade with the United States represented nearly 34.0% of Canadian GDP. While the United States recorded a goods trade deficit with Canada of \$81.2 billion in 2013, the United States would have registered a trade surplus without Canadian imports of crude oil.

Meanwhile, several trade issues—some old, some new—have yet to be completely resolved. Many of these disputes involve long-running disputes over agricultural commodities or natural resources, including softwood lumber and farm goods. Some analysts attribute the longevity of these conflicts to the inherent incompatibility of the two countries' different natural resource and agricultural programs, others to the political sensitivity of the commodities under negotiation.

Softwood Lumber

Trade in softwood lumber traditionally has been one of the most controversial topics in the U.S.-Canada trading relationship. Currently, trade in softwood lumber is governed by a seven-year agreement (SLA)—reached in 2006 and since extended for two years to 2015—restricting Canadian exports to the United States. After a prior agreement expired in March 2001, the U.S. Commerce Department launched countervailing duty and anti-dumping investigations; in May 2002, the International Trade Commission (ITC) found that Canadian imports threatened to injure U.S. industry, and Commerce applied 27% (later reduced) duties on Canadian softwood. Canada challenged the agency decisions under NAFTA and in the WTO.

After several years of inconclusive and sometimes conflicting litigation, the current agreement was reached. As part of a complicated formula, the United States will allow unlimited imports of Canadian timber when market prices remain above a specified level; when prices fall below that level, Canada will impose export taxes and/or quotas. In addition, the United States will return to Canada a large majority of the duties it had collected.³⁶

The implementation of the softwood lumber agreement has not been without controversy. As the depressed housing market has reduced demand for softwood lumber, the market price has been under the level (\$355 thousand board feet) at which export taxes must be charged. The United States and Canada resorted to arbitration over the use of adjustment mechanisms to calculate the quotas used for eastern Canadian lumber. The arbitral panel sided with the United States, and after Canada did not implement the panel's recommendation, the United States levied a 10% tariff on the affected lumber to recoup the compensation awarded by the arbitral panel in April 2009.

The Obama Administration sought arbitration under the SLA over timber grading practices in British Columbia (BC). The U.S. government claims that the BC government changed its classification procedures for timber and has been grading an increasing amount of its cut as salvage Grade 4 lumber. For its part, Canada attributes this increase to an infestation of mountain

³⁶ "U.S. Gets a Lift In Lumber Fight With Canada." By Ian Austen and Clifford Krauss. *New York Times*. August 31, 2005. "Conservative Government Wins Softwood Truce." *Globe and Mail*. April 28, 2006.

pine beetles and rejects the assertion that this policy represents a subsidy for Canadian producers. An arbitral panel dismissed the U.S. claim in July 2012.

In January 2008, the United States also requested arbitration over six provincial forest sector assistance programs in Québec and Ontario, programs that the United States believes contravene the anti-circumvention provision of the SLA. In January 2011, the LCIA found certain of these programs breached the SLA, and Canada began imposing additional charges on lumber from Quebec and Ontario for the duration of the agreement. A separate LCIA tribunal released a finding in March 2014 that Canada no longer had to collect these duties after October 2013, the original expiration date of the SLA. The 2014 USTR Annual Report notes that “we will develop a strategy to foster fair trade in the North American lumber market in the lead-up to the expiration of the U.S.-Canada Softwood Lumber Agreement in 2015,” although it did not go into details.³⁷

Country of Origin Labeling

Provisions requiring country-of-origin labeling (COOL) of meat, fish, fresh fruits, vegetables, and various nuts were contained in the 2002 farm bill (P.L. 107-171), as amended by the 2008 farm bill (P.L. 110-246). Rules implementing country-of-origin labeling took effect on March 16, 2009. These laws have been especially controversial in the meat industry as domestic livestock producers and some consumer groups favor the law, while meat processors and livestock exporters from Canada and Mexico oppose the provisions as protectionist. In 2010, both Canada and Mexico challenged the provisions at the World Trade Organization (WTO). A WTO dispute settlement (DS) panel found COOL to be inconsistent with WTO agreement rules on two grounds: (1) it violates national treatment by treating imported livestock less favorably than domestic livestock, and (2) it fails to meet the legitimate objective of providing information to consumers on the origin of meat products. The United States appealed the ruling to the WTO Appellate Body, which upheld Canada and Mexico’s claim on national treatment, but found that COOL did meet a legitimate objective in providing information to consumers. The WTO Dispute Settlement Body adopted the reports on July 23, 2012. In response, the U.S. Department of Agriculture released a new rule which required that labels show the location of each production step and prohibited the mixing of meat products from different origins. On September 25, 2013, the WTO established a compliance panel at the request of Canada and Mexico to determine the consistency of this rule with the previous DSB rulings and is expected to issue its report in July 2014. (See “Country of Origin Labeling” by Remy Jurenas, below)

Buy American Provisions

The Buy American provision of the American Recovery and Reinvestment Act of 2009 (ARRA, §1605, P.L. 111-5) states that no funds shall be appropriated for building projects or public works projects unless all the iron, steel, and manufactured goods are made in the United States. This provision was subject to three discrete waivers: (1) applying this policy would not be in the public interest; (2) the iron, steel, or manufactured products are not produced in sufficient quantities or of a satisfactory quality in the United States; or (3) the inclusion of the applicable U.S. products

³⁷ USTR 2014 Annual Report, p. 25

<http://www.ustr.gov/sites/default/files/2014%20Trade%20Policy%20Agenda%20and%202013%20Annual%20Report.pdf#page=4&zoom=auto,0,175>

would increase the cost of the overall project by more than 25%. The Senate added language to ensure that the provisions are applied in a manner consistent with U.S. trade obligations.

With regard to Canada, the United States has undertaken government procurement obligations under the World Trade Organization's (WTO's) Agreement on Government Procurement (GPA) and under the North American Free Trade Agreement (NAFTA). The GPA is a plurilateral agreement that only binds those WTO members that agreed to undertake obligations under it. Furthermore, the GPA only applies to the sectors and the procurement agencies that the national government (and sub-national government agencies) includes in its schedule of national commitments. NAFTA contains similar commitments on the national level, but excluded sub-national entities.

Both the United States and Canada have undertaken extensive obligations to open their government procurements at the national level under both agreements. However, because Canadian provinces never signed up to the GPA, as had 37 U.S. states, regulations implementing the ARRA excluded Canadian firms from bidding on ARRA-financed contracts that are tendered by the U.S. states.³⁸ In February 2010, the United States agreed to permit Canadian firms to bid on sub-federal ARRA contracts in return for a Canadian commitment to sign its provinces up to the GPA, which it did by notice to the WTO on March 19, 2010. In addition, both parties committed themselves to begin negotiations reciprocally to expand commitments for market access in procurement between the two countries,³⁹ although it is unclear if these negotiations have actually taken place. Canada reportedly tabled a proposal at the TPP negotiations to exempt projects undertaken by states and municipally using federal money from Buy American restrictions.⁴⁰

Intellectual Property Rights

In 2013, the U.S. Trade Representative listed Canada on its Special 301 report on intellectual property rights protections as a “watch list” country for intellectual property rights protections, an improvement from previous years when Canada was designated a “priority watch list” country.⁴¹ This improvement largely reflects Canada's passage of the Copyright Modernization Act in November 2012, which implemented the World Intellectual Property Organization's Copyright treaty.⁴² The act is analogous to the U.S. Digital Millennium Copyright Act (DCMA, P.L. 105-304). The act allows for some format shifting and fair-dealing (fair-use) exceptions, but prohibits the circumvention of digital protection measures. It also clarified the rights and responsibilities of Internet service providers for infringement of their subscribers.

In its 2014 Special 301 report, USTR also expressed concern about trade in pirated and counterfeit goods in Canada, and urged greater enforcement and “deterrent-level” penalties for

³⁸ Office of Management and Budget, “Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009, April 3, 2009. pp. 160-166.

³⁹ “U.S.-Canada Announce Buy American Deal, Provinces to Sign GPA,” *Inside U.S. Trade*, February 12, 2010.

⁴⁰ “In TPP, Canada May Seek Bilateral Deals with U.S. on Procurement, Visas,” *Inside U.S. Trade*, March 14, 2013.

⁴¹ A “Priority Watch List” is a heightened designation of criticism for a country's allegedly inadequate IPR protection and enforcement, while the “Watch List” reflects a milder category of criticism. United States Trade Representative, 2011 Special 301 Report, p. 46. <http://www.ustr.gov/sites/default/files/05012013%202013%20Special%20301%20Report.pdf>.

⁴² The WIPO Copyright treaty updates existing copyright protections for Internet and other electronic media.

IPR infringement. The United States urged Canada to adopt tougher border security measures to crack down on this trade, including allowing for the seizure of pirated and counterfeit goods by customs agents without a court order. This so-called “ex officio” authority would be allowed by current legislation in Parliament, Bill C-8. However, that bill has also attracted criticism from the new U.S. ambassador, Bruce Heymann, because it also removes a requirement that Canadian Customs search for counterfeit goods in transshipment.⁴³ The Special 301 report also noted Canada’s regulatory process with regard to appeals to adverse pharmaceutical products approval decisions and with the Canadian judiciary’s interpretation of utility in pharmaceutical patents. U.S. pharmaceutical manufacturer Eli Lilly has sought arbitration through the NAFTA Chapter 11 investor-state dispute settlement mechanism over the Canadian judiciary’s use of the promise doctrine in evaluating utility.

Environmental Issues

The United States and Canada, which share a common border that stretches 5,500 miles, cooperate extensively on environmental matters. Since they signed the Boundary Waters Treaty in 1909, the two countries have, through the International Joint Commission, worked together on protecting and maintaining border waterways, especially the Great Lakes. In 1978, the two signed the Great Lakes Water Quality Agreement.

In 2002, Canada ratified the Kyoto Agreement; in 2006, however, the government announced that emission targets had been exceeded. The Harper government has established a goal of cutting greenhouse gas emissions 20% by 2020, mainly by increasing reliance on hydro- and nuclear power, and by increasing carbon abatement in the oil sands, but it has also declared that it would coordinate its greenhouse emission strategy with the United States. In December 2011, Canada announced that it was withdrawing from the Kyoto Protocol, after having declined to take on a second phase commitment in June 2011. The controversy of the Keystone XL pipeline is in large measure due to environmental opposition to the development of the oil sands, as is opposition to the Pacific gateway pipeline through British Columbia.

The long feud over Pacific salmon—one of the more prominent bilateral disputes in recent years—had both environmental and commercial aspects. Canada contended that American fishermen were taking more than their equitable share of the migratory fish; the United States, on the other hand, maintained that its fishing was in accordance with the 1985 Pacific Salmon Treaty (PST) and with sound conservation practices. After a pause, talks resumed in 1997, and the two sides finally reached an accord in 1999; both countries are monitoring implementation of the agreement.⁴⁴ The so-called Annex IV fisheries regimes of the PST were renegotiated in 2008.

Other environmental problems the two countries have dealt with in recent years include secondary wastewater treatment, control of predator fish and other invasive species introduced into the Great Lakes by ocean-going vessels, and sustainability of the St. Lawrence Seaway. In addition, the United States and Canada concluded a hazardous waste trade agreement in 1986; more recently, transboundary shipments of solid waste, particularly from Ontario to Ohio, Michigan, and other U.S. states, have been under review, and have been the subject of legislation

⁴³ “John Ivison: Canada Will Do Whatever It Takes to Ensure Security of U.S.—If It Doesn’t Cost too Much” *National Post*, May 5, 2014.

⁴⁴ CRS Report RL30234, *The Pacific Salmon Treaty: The 1999 Agreement and Renegotiated Annex IV*, by Eugene H. Buck.

in the U.S. Congress. The two countries have continued the long-standing debate over the ecological impact of possible development in Alaska's Arctic National Wildlife Refuge. Finally, the two sides continue to monitor the progress of the 1991 Canada-United States Air Quality Agreement.

Canada's Arctic Sovereignty Claim⁴⁵

Issue Definition

Scientists have forecast that, by 2030 or earlier, global warming will reduce the Arctic ice pack in Canada's northern archipelago sufficiently to create a "northwest passage" that will permit commercial ship traffic through the summer months. If created, a northwest passage would significantly reduce costs and transit distances for commercial ships operating between certain ports. It could also be used by commercial fishing or cruise vessels, ships supporting Arctic scientific research or resource exploration, or military vessels. The presence of ships in the passage could require the establishment and enforcement of shipping lanes and other rules for ensuring safe ship operations, add to existing demands for maritime search and rescue capabilities, and create a risk of environmental damage to the Arctic. The use of the passage by foreign military ships might be viewed as creating potential security risks to Canada (and the United States). Successive Canadian governments have maintained that such a passage would be an inland waterway, and would therefore be sovereign Canadian territory, subject to Ottawa's surveillance and regulation. The United States, the European Union, Japan, and others assert that the passage would constitute an international strait between two high seas.

Background and Analysis

Arctic sovereignty has been an issue for Canada for decades. In 1985, a U.S. icebreaker, the *Polar Sea*, caused uproar in Canada when it traversed the waters of the northern archipelago without first seeking permission. Afterward, Washington and Ottawa came to an agreement in 1988 under which the United States pledged to notify Canada when its ships would transit the region, and Canada agreed to grant its consent. In recent years, however, the question over who, if anyone, would have control over the regional waters has intensified as scientific consensus has grown that the melting of the polar icecap will open up a Northwest Passage during the summer months.

The debate over the Northwest Passage has commercial, environmental, and security considerations. The opening of a channel of water during the summer months through Canada's 36,000-island Arctic archipelago would cut shipping routes between Europe and Asia by 3,000-4,000 miles, saving time and fuel costs. However, many Canadians are concerned that unfettered maritime traffic through the region could result in serious environmental hazards ranging from the catastrophe of an oil spill to more cumulative pollution caused by ocean dumping of ballast and garbage by transiting vessels. In terms of security, the Canadians are concerned that recognition of the passage as international waters would result in free access to naval warships and submarines, including, for example, those of Russia and China.

⁴⁵ This section was written by Derek E. Mix, Analyst in European Affairs, Foreign Affairs, Defense, and Trade Division.

Canada seeks recognition of its sovereignty over the entire area, among other reasons, because of a strong national identification with its northern regions. Ottawa argues that it has a historical claim based on centuries of Inuit inhabitation—of the islands and of the ice extending from them. From a practical standpoint, Canada wishes to have the ability to enforce protection of the fragile Arctic ecosystem and to ensure sustainable commercial fishing practices. In addition, the Canadians want there to be no doubt that they have rights to the region’s abundant natural resources, including oil, natural gas, minerals, and precious metals.

The prospective passage raises jurisdictional questions. Canadians maintain that it would be an internal waterway and would likely require all vessels to register with their coast guard’s vessel traffic reporting system. They contend that this would facilitate possible search-and-rescue missions, and would dissuade ships bearing contraband from sailing through the region. There is general agreement that the natural resources in the region are Canadian; the debate concerns free transit rights. Analysts note that the U.N. Convention on the Law of the Seas calls for the right of transit passage “between one part of the high seas ... and another part of the high seas.” In addition, some analysts believe that the recognition of the Northwest Passage as a Canadian inland waterway would set an international precedent that might be viewed as applicable elsewhere in the world. Other governments could echo Canada’s sovereignty claim and prohibit the passage of U.S. naval ships, as well as of oil tankers bound for the United States; the Straits of Malacca and Hormuz have been cited as examples. Others, however, have argued that it would be in the interests of U.S. national security if Canada were to manage and police shipping through the straits.

Several possible solutions have been put forward. Some argue that Canada could achieve its objectives through regulations approved by the U.N. International Maritime Organization. Also, it has been suggested that NORAD and the Arctic Council might be able to coordinate cooperative patrolling of the passage. Others—though not the United States—have proposed that the countries bordering the Arctic adopt an agreement prohibiting military, residential, or commercial use of the region, as was done for Antarctica in 1959. Finally, some believe that a renewed and updated version of the 1988 U.S.-Canada agreement would suffice.

Status of the Issue

In January 2009, the outgoing Bush White House issued National Security Presidential Directive 66, entitled “Arctic Region Policy.” The document reiterated the Administration’s stance regarding Canada’s sovereignty claim, stating that “the Northwest Passage is a strait used for international navigation.” The Obama Administration has been operating under the policy directive with regard to the sovereignty issue—for the time being, Ottawa and Washington may continue to “agree to disagree.” Because it has been highlighted as a priority area for the Harper government, the sovereignty issue will likely continue to be the subject of bilateral discussions between U.S. and Canadian policy makers. Canadian analysts have argued that the debate over who should manage the straits will intensify if ships carrying hazardous materials or illegal immigrants are discovered in the region.

Arctic Council

In May 2013, Canada assumed the two-year revolving chairmanship of the Arctic Council. Created in 1996, the Arctic Council has become the primary intergovernmental “high level forum” for cooperation in the Arctic region. It addresses a wide range of issues, including

regional development, the environment, emergency response, climate change, and natural resource extraction. The Council membership consists of the eight countries that have sovereign territory within the Arctic Circle: the United States, Canada, Norway, Denmark (by virtue of its territory Greenland), Russia, Sweden, Finland, and Iceland. Only these countries have voting rights. Six indigenous Arctic peoples' organizations are permanent participants. Permanent observer status is held by France, Germany, the Netherlands, Poland, Spain, the UK, China, India, Italy, Japan, South Korea, and Singapore; the latter six were added during the May 2013 summit meeting. Also represented on the Council are several intergovernmental and nongovernmental observers, including the International Red Cross, the United Nations Development Program, the Nordic Council, and the Worldwide Fund for Nature.

The United States takes over the chairmanship of the Arctic Council in 2015. Although there has been no apparent formal coordination of the back-to-back North American chairmanships, likely U.S. priorities are expected to be broadly similar to those of the Canadian program: maritime safety, including enhancement of codes and guidelines for shipping as well as search and rescue capabilities; environmentally responsible resource development; and supporting sustainable communities and economic development for the 4 million people who live in the Arctic region; as well as advancing scientific research.

U.S. strategic priorities in the Arctic have been further developed with a 2013 National Strategy for the Arctic Region that augments the Bush Administration directive and identifies three major "lines of effort": (1) Advancing United States security interests; (2) Pursuing responsible Arctic region stewardship; and (3) Strengthening international cooperation.⁴⁶ After a subsequent January 2014 Implementation Plan calling for the U.S. chairmanship to develop a "robust agenda," however, Alaska Senator Lisa Murkowski sent a letter to President Obama stating she was "severely disappointed ... that the plan did not offer a vision to make the United States a leader in the Arctic."⁴⁷ At the request of Alaska Senators Murkowski and Mark Begich, Secretary of State John Kerry announced in February 2014 that he would appoint a high-level Special Representative for the Arctic Region to signal growing U.S. interest in the area. Senator Begich has also introduced legislation in the 113th Congress to establish a U.S. Ambassador-at-large for Arctic Affairs (S. 270). A parallel bill in the House of Representatives (H.R. 4538) stipulates that the appointee will serve as the chair of the Arctic Council for the U.S. chairmanship of 2015-2017.

Questions

1. Several governments have taken issue with Canada's assertion of sovereignty over the Arctic waters. Do any foreign countries support Canada on this question? Has the Canadian government offered a legal precedent for its claim?

⁴⁶ *National Strategy for the Arctic Region*, May 2013, http://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

⁴⁷ *Implementation Plan for the National Strategy for the Arctic Region*, January 2014, http://www.whitehouse.gov/sites/default/files/docs/implementation_plan_for_the_national_strategy_for_the_arctic_region_-_fi....pdf and "Lisa Murkowski: White House's Arctic 'implementation plan' lacks action," *Alaska Dispatch*, February 13, 2014, <http://www.alaskadispatch.com/article/20140213/lisa-murkowski-white-houses-arctic-implementation-plan-lacks-action>.

2. If Canada were to win recognition of its sovereignty over the passage, how might it regulate shipping traffic through the straits?
3. What might be the security, economic, and environmental consequences for the United States if Canada were to win its sovereignty claim? If the passage were to be declared international waters?
4. In May 2013, Canada assumed the rotating, two-year chairmanship of the Arctic Council. Does the Harper government intend to use this position to assert its claim of sovereignty over the Northwest Passage?
5. Please discuss examples of bilateral scientific and security-related cooperation between Canada and the United States in the High North.

Border Security Issues⁴⁸

Issue Definition

U.S.-Canadian border security has emerged as an area of public concern, particularly since the 9/11 terrorist attacks. The United States and Canada attempt to balance adequate border security with the facilitation of legitimate cross-border travel and commerce. Generally, the countries have worked to strike this balance collaboratively, through a series of agreements governing bilateral border issues; and they continue to work together on core border issues including the management of border flows and travel documents, joint law enforcement, and a new integrated entry-exit system. Within the United States, some people remain concerned about the potential for terrorists and criminals to exploit the border and about the adequacy of infrastructure and personnel at the U.S.-Canadian border and ports of entry.

Background and Analysis

The U.S.-Canadian border between Washington State and Maine spans about 4,000 miles, includes vastly different types of terrain, and is the site of about 150 ports of entry, including 20 major land ports. (The border between Canada and Alaska spans an additional 1,500 miles.) According to the U.S. Bureau of Transportation Statistics, in 2012, northern border ports admitted about 5.6 million trucks, 28,500 trains, 108,000 busses, and 33 million passenger vehicles—numbers which exceed analogous data for the U.S.-Mexican border for trucks and trains, while passenger traffic is higher on the southern border.

Western Hemisphere Travel Initiative

The Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA, P.L. 108-458) required the Secretary of Homeland Security, in consultation with the Secretary of State, to develop and implement a plan to require all travelers (i.e., including American and Canadian citizens) to use a

⁴⁸ Written by Marc R. Rosenblum, former Specialist in Immigration Policy, and updated by Lisa Seghetti, Section Research Manager, Domestic Security and Immigration Section, Domestic Social Policy Division.

passport or other secure document when entering the United States. (Prior to that time, U.S. and Canadian citizens were permitted to use driver's licenses and birth certificates to prove their citizenship, and certain travelers were admitted based on an attestation of citizenship.) Under the so-called Western Hemisphere Travel Initiative (WHTI), in effect since June 1, 2009, travelers must present an approved secure document, including a passport book, passport card, trusted traveler card (i.e., a NEXUS (not an acronym) or Free and Secure Trade (FAST) card), or certain other documents for military personnel and certain other special groups. Four states (Michigan, New York, Vermont, and Washington) and four Canadian provinces (British Columbia, Manitoba, Ontario, and Québec) issue enhanced driver's licenses that are also valid for WHTI purposes.

Prior to its implementation, WHTI fostered concern in both countries that the increased documentation requirements could suppress U.S.-Canadian travel, but no such effect has been observed. A Government Accountability Office (GAO) review in March 2011 found CBP's outreach campaign had led to a greater than 95% compliance rate with WHTI requirements in FY2010. And an October 2011 GAO report singled out WHTI technology that facilitates inspections at land borders as one of seven government-wide "successful major acquisitions."

U.S.-Canada Border Agreements

The United States and Canada have a long history of collaboration around border security. Such efforts date to February 24, 1995, when the two countries signed a joint accord, *Our Shared Border*, followed by the 1999 *Canada-U.S. Partnership Forum* (CUSP). Shortly after the 9/11 attacks, the United States and Canada signed a joint statement of cooperation on border security and migration that focused on the detection and prosecution of security threats, the disruption of illegal migration, and the efficient management of legitimate travel. The agreement produced a 30-point plan (later updated to 32 points) commonly referred to as the "Smart Border Accord," signed on December 12, 2001. The points include coordinated law enforcement, intelligence sharing, infrastructure improvements, compatible immigration databases, visa policy coordination, biometric identifiers in travel documents, prescreening of air passengers, joint screening for high risk travelers, and improved processing of refugee and asylum claims, among others. In July 2010, the countries signed an Action Plan for Critical Infrastructure intended to strengthen the safety, security, and resilience of critical shared infrastructure.

On February 4, 2011, President Obama and Prime Minister Harper signed a joint declaration describing their shared visions for a common approach to perimeter security and economic competitiveness: the *Beyond the Border* agreement. The agreement describes four key areas of cooperation: efforts to identify and address threats before they reach the U.S.-Canadian perimeter, trade facilitation, integrated cross-border law enforcement, and critical infrastructure and cybersecurity.

On December 7, 2011, President Obama and Prime Minister Harper released the *Beyond the Border Action Plan*, which includes concrete steps to be taken within each of these areas, along with deadlines and metrics for measuring progress toward each goal. The plan is most ambitious with respect to trade facilitation, calling for a harmonized approach to cargo screening under the principle of "cleared once, accepted twice." Additional provisions related to border security include, among others, plans for joint inventories and gap analyses for intelligence work related to travel and trade threat assessments and border surveillance; automated biographic and biometric data sharing to verify traveler identities and to share risk assessments and watchlist information; an integrated entry-exit system so that the record of an entry at a land port of entry into one country can be used to establish an exit record from the other; broader pre-clearance

programs for goods and travelers; and the expansion of integrated law enforcement efforts including interoperable radio systems and the deployment of cross-designated law enforcement officers. In December 2012, the two countries published the first *Beyond the Border Implementation Report*. It described progress in several areas related to border security, discussed in the remainder of this section.

Border Management

In the post-9/11 period, border “thickening” arguably has added to border delays, raised transportation costs, and depressed bilateral flows of people and goods. Several elements of the *Beyond the Border Agreement* seek to counter these trends. Under the agreement, the countries conducted a joint intelligence inventory and gap analysis and a joint risk assessment in 2012, and they issued common standards for the collection and use of biometric data. These steps build on a program, in place since 2004, to share passenger information on high-risk travelers en route to either country through a joint risk-scoring scheme and shared “lookout” data.

With respect to trade facilitation, the countries expanded benefits for NEXUS and FAST trusted travelers and commercial truckers. During the first year of the agreement, the programs were expanded to 19 border crossing locations, 33 marine reporting locations, and 8 Canadian pre-clearance airports. Since the announcement of the *Beyond the Border Action Plan*, membership in the NEXUS program increased to more than 50% (to over 917,000). The countries have also made progress in the cargo pre-inspection area. Since 2011, the countries have implemented Phase I of a pilot program at a site in British Columbia.

Joint Law Enforcement

Three collaborative law enforcement programs exist along the U.S.-Canadian border. As part of the Smart Border Accord, the countries have established 15 Integrated Border Enforcement Teams (IBET), operating at 24 locations along the border. The IBETs are binational, multi-agency, enforcement teams including representatives from U.S. Customs and Immigration Enforcement (ICE), U.S. Customs and Border Protection (CBP), the U.S. Coast Guard, Canada Border Services Agency (CBSA), and the Royal Canadian Mounted Police (RCMP), along with municipal, state, and provincial governments and law enforcement agencies. IBETs share intelligence to identify, investigate, and interdict common national security threats and transnational criminal activity.

Second, beginning in 2007, ICE expanded its Border Enforcement Security Task Force (BEST) program to the U.S.-Canada border. The BEST program also emphasizes information sharing to combat cross-border crime, and brings in a larger number of federal, state, provincial, local, and tribal stakeholders from both sides of the border, all under ICE leadership. U.S.-Canadian BEST task forces currently operate in Blaine, WA; Seattle, WA; Detroit, MI; Buffalo, NY; and Massena, NY.

Third, since 2005, the countries have operated the Shiprider program, which places fully cross-trained, cross-designated RCMP and U.S. Coast Guard agents and officers on law enforcement vessels operating along certain international waterways. The agents conduct joint enforcement activities on both sides of the border, under the command of a U.S. or Canadian officer (based on the ship’s location south of north of the border). The Obama and Harper Administrations signed an agreement in 2009 to extend and expand Shiprider, which had previously operated as a pilot

program; and expansion of the program was identified as a point in the *Beyond the Border Action Plan*. The Canadian parliament passed legislation permanently authorizing the Shiprider program in June 2012, and the U.S. Coast Guard and RCMP signed a finalized Shiprider agreement in June 2013.

In addition to these programs, the U.S.-Canada Cross Border Crime Forum, which includes the Secretary of Homeland Security, the Attorney General, and the Canadian Ministers of Public Safety and Justice, provides a regular meeting place for the top law enforcement officials from both countries to discuss cross-border criminal activity and to coordinate their responses.

Integrated Entry-Exit System

One notable result of the Beyond the Border agreement has been the integrated entry-exit system pilot program. The purpose of the program is to permit the United States and Canada each to track people *exiting* through border ports by sharing data—which each country already collects—on people *entering* the other country (i.e., the United States uses Canadian entry data to track exits, and vice versa). For the United States, the collection of such exit data fulfills part of the Department of Homeland Security's (DHS's) requirement, pursuant to Section 110 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA, P.L. 104-208, Div. C), as amended, to complete an *automated* entry and exit control system that collects records of all alien arrivals and departures.

The first phase of the pilot program ran from September 2012 to January 2013, and consisted of the exchange of biographic travel records (i.e., names, birthdates, and other travel document information) for third country nationals and permanent residents (i.e., for persons other than U.S. or Canadian citizens) at four designated ports of entry. According to the Canadian-U.S. report on the program, Canada was able to reconcile 94.5% of U.S. entries (i.e., Canadian exits) with Canadian immigration databases, and the United States was able to reconcile 97.4% of Canadian entries (i.e., U.S. exits). Based on these results, the countries initiated phase 2 of the pilot program in June 2013, during which biographic information is being exchanged for third country nationals and permanent residents at all automated POEs on the U.S.-Canada border. During phase 3 biographic information also will be exchanged for U.S. and Canadian citizens traveling between the two countries. Current plans do not call for the program to collect and share *biometric* traveler data (e.g., fingerprints, digital photographs).

Border Infrastructure and Personnel

A series of U.S. laws since 2001 have increased the number of enforcement personnel at the U.S.-Canadian border and strengthened border screening technology. The USA PATRIOT Act of 2002 (P.L. 107-56) authorized the Attorney General to triple the number of border patrol personnel and immigration inspectors along the northern border and to make technological improvements and acquire additional equipment. The Enhanced Border Security and Visa Reform Act of 2002 (P.L. 107-173) similarly authorized additional personnel, technology, and infrastructure improvements. The Trade Act of 2002 (P.L. 107-210) required 285 additional customs inspectors for the northern border in FY2003. And the IRTPA authorized an increase of 2,000 border patrol agents per year for FY2006-FY2010, while stipulating that 20% of the increases in agent manpower be assigned to the northern border.

The FY2014 appropriations for the Department of Homeland Security (Division F of P.L. 113-76) included \$256 million to increase CBP officers at ports of entry by no fewer than 2,000 by the end of FY2015. It isn't yet clear what the allocation will be for northern ports of entry.

A total of 2,156 border patrol agents were posted in northern border sectors in FY2013, up from 340 in FY2001, along with 3,662 U.S. Customs and Border Protection (CBP) inspectors at ports of entry, up from 1,550 in FY2001. These increased deployments represent substantial growth in border enforcement personnel, but lag slightly behind the goals established by the USA-PATRIOT Act and the IRTPA.

A second issue is the ability of the transportation infrastructure to cope with increased security measures. The aging condition and limited capacity of the land border infrastructure preceded the terrorist attacks. For example, the Ambassador Bridge and the Detroit-Windsor Tunnel, which together carry 25% of total U.S.-Canada cross-border traffic, both opened in 1930. Approaches to the crossings, often city streets, have been criticized as inadequate to the commercial needs of the 21st century. This issue affects the efficient implementation of security measures. The FAST system provides for dedicated lanes at land border ports for expedited preclearance. However, these lanes will not save time if the FAST participant cannot access this lane due to congestion or delays at the points of access. The Security and Prosperity Partnership of North America (SPP) completed a pilot program that attained a 25% improvement in border crossing times at the Detroit-Windsor gateway in December 2005, yet the aging and adequacy of the border infrastructure may affect whether such improvements are sustainable.

There are two competing plans to build additional bridge capacity over the Detroit River to ease truck congestion on the Ambassador Bridge. One proposal involves building a new span adjacent to the Ambassador and has been put forward by the private owner of the bridge. A competing proposal, the New International Trade Crossing (NITC), would be built approximately 2 miles south of the Ambassador between Zug Island in Detroit and the Brighton Beach area of Windsor. The NITC proposal is supported by the Canadian government, which believes a new span should not be privately held. To this end, then-Canadian Transport Minister John Baird offered to loan the state of Michigan \$550 million to fund its share of the new bridge, the total cost of which is expected to be \$5.3 billion. Michigan Governor Rick Snyder endorsed the construction of the bridge in January 2011, but a bill creating a bridge authority was rejected by a Michigan state Senate committee in October 2011. In June 2012, Prime Minister Harper and Governor Snyder announced an agreement to build the bridge using solely Canadian funds with a Canadian entity responsible for the design, construction, and operation of the bridge. Under the arrangement, Canada would be paid back using tolls from the bridge. On April 12, 2013, the U.S. State Department approved a permit to build the bridge allowing construction to proceed and the Canadian government reportedly has allocated C\$25 million to acquire land on the Detroit side for the customs plaza. Construction may start in 2015.

Status of the Issue

The *Beyond the Border Action Plan* lays out an ambitious agenda for deeper cooperation under the "cleared-once, accepted twice" principle. The plan's first *Implementation Report* describes progress within each area related to border security; but most of these initial steps consist of research, reporting, and information exchange. Implementing the next stages of integrated border management and law enforcement may present ongoing challenges for both countries.

Moreover, while the Beyond the Border plan responds to long-standing concerns about inefficiency at the border, CBP and other observers still consider the U.S.-Canadian border to be the locus of a wide range of security threats. A 2010 joint assessment by CBP, Canada Border Services Agency, and the Royal Canadian Mounted Police highlighted threats associated with transnational terrorist entities present along both sides of the U.S.-Canadian border; criminal enterprises focused on illegal drugs, firearms, tobacco, intellectual property, and currency; and vulnerabilities related to migration, agriculture, and transnational health issues. A 2013 study by the Canadian Macdonald-Laurier Institute found particular problems associated with illegal tobacco smuggling, and a nexus between tobacco smuggling and other organized crime concerning illegal drugs, weapons, and human trafficking.

Questions

1. The United States and Canada judged phase 1 of the integrated entry-exit pilot program to be a success, and phase 2 testing is underway. Is the integrated *biographic* program a workable building block for satisfying the *biometric* entry-exit system mandate in U.S. law? How will Canada and the United States address privacy concerns during phase 3 of the program, when all travelers' records (i.e., including those of U.S. and Canadian citizens) will be shared between the two countries?
2. The Beyond the Border agreement calls on the two countries to move customs inspection activities away from the border under the principle of "cleared once, accepted twice." This approach currently is limited to Canadian airports, a Canadian seaport and rail port, and a pilot program involving truck cargo at a site in British Columbia. What is the Canadian government doing to facilitate pre-clearance and pre-inspections for travel through land ports? How will common perimeter programs address differences between U.S. and Canadian attitudes about privacy protections and civil liberties, and differences in how the countries define certain criminal offenses?
3. With Canada's permanent authorization of the Shiprider program and the finalized Shiprider agreement signed in June 2013, what plans do the two countries have to expand the program to additional locations? Does the successful implementation of the Shiprider program argue in favor of cross-designation of certain land-based law enforcement officers? Some Members of Congress have raised concerns about staffing levels at the northern border, which remain slightly behind statutory goals; would cross-designation be an appropriate strategy for meeting these requirements?

Canada's Free Trade Agreement Agenda⁴⁹

Issue Definition

Regional and bilateral free trade agreements (FTA) have become a prominent, and to some, controversial, feature of the world trading system. In the past, the United States was relatively

⁴⁹ Written by Ian F. Fergusson, Specialist in International Trade and Finance; Foreign Affairs, Defense, and Trade Division.

more aggressive in pursuing FTAs, while Canada emphasized multilateral trade liberalization to supplement liberalization with its predominant partner, the United States, first through the U.S.-Canada FTA and subsequently through the North American Free Trade Agreement (NAFTA). This trend has shifted as Canada has reached agreement in principle on an FTA with the European Union and has joined the Trans-Pacific Partnership (TPP), a proposed FTA being negotiated among the United States, Australia, Brunei, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.

Background

After concluding the U.S.-Canada FTA in 1988 and expanding it to include Mexico in 1994, both the United States and Canada made the new WTO the cornerstone of further trade liberalization. While both countries concluded FTAs, political rationales were often paramount. For example, close ties prompted both countries to conclude FTAs with Israel. Canadian attempts to establish a greater role in Latin America were reflected in FTAs with Chile (1997) and Costa Rica (2002). Negotiations were started with the European Free Trade Area (EFTA) nations (Norway, Switzerland, Iceland, and Liechtenstein) in 1998, with Singapore and the Central American Four (El Salvador, Guatemala, Honduras, Nicaragua) in 2001, and with South Korea in July 2005. However, none of these negotiations yielded an agreement during the Liberal governments of Jean Chrétien and Paul Martin. Moreover, the importance of such agreements was overshadowed by the overwhelming volume of Canadian trade that continued to be conducted under NAFTA, with the United States continuing to account for the bulk of that trade.

In 2001, the George W. Bush Administration embarked on a new trade strategy known as “competitive liberalization.” This policy pushed forward trade liberalization simultaneously on bilateral, regional, and multilateral fronts. It was designed to spur trade negotiations by liberalizing trade with countries willing to join FTAs, and to pressure other countries to negotiate multilaterally. A pending agreement with Jordan, negotiated by the Clinton Administration, was passed by Congress in 2001. Under trade promotion authority (TPA) passed by Congress in 2002 and in effect until 2007, FTAs were negotiated and approved by Congress with Chile, Singapore, Australia, Morocco, the countries of the Central American Customs Union and Dominican Republic (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic), Bahrain, Oman, and Peru. In addition, negotiations were conducted with the nations of the South African Customs Union (SACU) (Botswana, Lesotho, Namibia, South Africa, and Swaziland), the United Arab Emirates, Malaysia, and Thailand, but they resulted in no agreement. Long pending agreements with Colombia, Panama, and South Korea concluded under TPA were approved by Congress in October 2011. While the Obama Administration’s early trade policy stressed enforcement of existing trade agreements rather than negotiating new ones, it is now negotiating the two largest regional FTAs in U.S. history: the proposed TPP and the proposed Trans-Atlantic Trade and Investment Partnership (TTIP) between the United States and the European Union.

The Conservative government of Prime Minister Stephen Harper, first elected in 2006, has placed greater emphasis on negotiating regional and bilateral FTAs. The Harper government has concluded and put in effect agreements with EFTA, Peru, Colombia, Jordan, and Panama. Canada signed an FTA with Honduras on November 5, 2013, which awaits ratification by Parliament. In general, the Conservative and Liberal parties have voted to approve these agreements, but have been opposed by the labor-influenced New Democratic Party (NDP) and the Québec-separatist

Bloc Québécois. In addition, negotiations have been started with the Dominican Republic, India, Japan, Morocco, Ukraine, and the nations of CARICOM, and are continuing with Singapore.

Along with the United States, Canada is negotiating a Trans-Pacific Partnership among 12 nations of the Asia-Pacific. Canada, along with Mexico, joined the negotiations in July 2012 after intensive bilateral talks with other TPP members designed to assess Canada's willingness to negotiate an ambitious and high standard agreement. While the negotiations remain confidential, several nations, including Australia, New Zealand, and the United States, are seeking greater access to Canada's supply management restricted dairy and poultry sectors. Along with these countries, Canada likely is seeking greater access to the restricted beef and grain markets of Japan. In addition, the United States may be seeking additional commitments on intellectual property rights, and Canada may be seeking U.S. commitments on government procurement and the application of Buy American policies. Both may be seeking greater access to the service markets of other TPP countries. Although potential "landing zones" for some issues have been identified, the negotiations remain ongoing.

On March 11, 2014, Canada and South Korea announced the conclusion of an FTA during a visit by Prime Minister Harper to South Korea. This agreement, if implemented, will eliminate 98.2% of tariff lines between the two countries, and 86.8% of agricultural tariff lines, many with phase-out periods. Canada's supply management system for dairy, poultry, or eggs is not affected by the agreement with no additional Korean access for these products. Some in the automobile sector have criticized the agreement due to its immediate elimination of some of Canada's tariffs on autos and auto parts as well as familiar complaints about the closed nature of the Korean auto market. Canada did obtain a special rules-of-origin for vehicles, allowing for parts produced in the United States to be installed in Canadian vehicles and still qualify for tariff-free treatment.⁵⁰

Comprehensive Economic and Trade Agreement

After nearly 4½ years, Canada and the European Union (EU) announced an agreement in principle to a Comprehensive Economic and Trade Agreement (CETA) on October 18, 2013. It is Canada's most ambitious proposed trade agreement since NAFTA, and it has raised issues of concern to countries at a similar level of development and with relatively low tariffs. The results of these negotiations could presage the Trans-Atlantic Trade and Investment Partnership (TTIP) talks between the United States and the European Union. The agreement is expected to be ratified by 2015. While the final text is still being prepared, provisions of the agreement include:

- Full elimination of nonagricultural tariffs with transition periods for autos and ships (Canada).
- Cumulation of rules-of-origin for autos to reflect integrated nature of North American auto market. Both sides agree to work for greater harmonization of auto standards.
- Agriculture tariffs to be largely eliminated after transition periods; 92.8% of Canadian agriculture tariffs lines and 93.5% of EU agriculture tariff lines will be eliminated. Additional tariff-rate quotas (TRQ) would be available for certain agriculture products: a TRQ of 17,000 metric tons for high quality EU cheese in

⁵⁰ "Canada Finalizes FTA with Korea Despite Automotive Sector's Concerns," *International Trade Reporter*, March 11, 2014

- Canada; a TRQ of 50,000 metric tons of nongrowth hormone Canadian beef in EU.
- No additional EU market access in the Canadian supply-managed dairy or poultry sectors.
 - Canada to adopt protections known as geographical indications to a list of agricultural products with the possibility of adding other names to the list in the future.
 - Broad coverage across all sectors for services market access.
 - Coverage of temporary movement of professionals and intra-corporate transferees and mutual recognition of professional qualifications.
 - Government procurement: each side has granted the other the most favorable and comprehensive market access of its respective FTAs.
 - Canada agreed to measures to strengthen its intellectual property regime for pharmaceuticals.
 - Investor-state dispute mechanism available to investors from both parties. Provisions to insure transparency and to allow for early dismissal of frivolous claims.

Status of the Issue

The Conservative government's enthusiasm for negotiating FTAs was well expressed by then-International Trade Minister Peter Van Loan back in April 23, 2010. Canada is pursuing FTAs "with a vigor right now because we're a trading country, our businesses need it, our workers need it, our prosperity depends on it, so we're going to make it happen for Canada and not simply depend on the WTO." While in some ways this policy resembles the "competitive liberalization" policy undertaken by the George W. Bush Administration, it remains to be seen whether agreements resulting from such negotiations will increase trade flows and lessen the dependence of Canada on the U.S. market. It also remains to be seen whether Canada will retain its traditional engagement in the WTO.

Questions

1. How controversial is the Harper government's trade policy? Does the public approve of further trade liberalization? How does the continuing decline of the Canadian manufacturing sector affect public attitudes towards free trade generally?
2. Do you think the emphasis on negotiating bilateral and regional FTAs complements or weakens the multilateral trading system? Does this policy reflect a lack of confidence in the ability to conclude the WTO Doha Round, or that Canada will not benefit much from a Doha agreement?
3. What is Canada seeking to achieve in the TPP negotiations? Now that Japan has joined the TPP, are bilateral FTA talks between Canada and Japan still relevant? Would joining the TPP advance the objective, promoted by successive Canadian governments, of expanding Canada's role in the Asia-Pacific region?

4. How is the Canada-South Korea FTA being perceived in Canada? Did Canada get a better or worse deal than the United States? What are the implications if South Korea potentially joins the TPP?

5. Canada and the European Union have announced a Comprehensive Economic and Trade Agreement. What aspects of the agreement are particularly favorable to Canada? In what areas would Canada have to undertake additional commitments? Should Canada and Mexico be a part of the TTIP agreement given the integrated nature of the North American economy?

North American Cooperation on Competitiveness and Security⁵¹

Issue Definition

How can the United States improve cooperation with its North American neighbors on issues related to economic competitiveness, trade, transportation, and security? How are the United States, Canada, and Mexico currently cooperating on improving industry competitiveness, promoting economic growth, and enhancing security in North America? Should the three countries focus more on trilateral cooperation or are separate, bilateral cooperation efforts with Canada and Mexico potentially more effective due to the different issues facing each country?

Background and Analysis

The United States, Canada, and Mexico have been partners in the North American Free Trade Agreement (NAFTA) since 1994 and benefit from a broad and expanding trade relationship. Since 2005, the three countries have also made efforts to increase cooperation on economic and security issues through various endeavors, most notably by participating in trilateral summits known as the North American Leaders' Summits. The first North American Leaders' Summit took place on March 23, 2005, in Waco, Texas, and has been followed by numerous trilateral summits in Mexico, Canada, and the United States. A notable outcome of the first summit was the agreement among all three countries to cooperate more closely on increasing security and enhancing prosperity in North America. The most recent summit took place on February 19, 2014, in Toluca, Mexico, with an agenda focused on immigration, energy, and commerce. Current bilateral efforts pursued by the Obama Administration with Canada and Mexico have built upon the accomplishments of the working groups formed under the former Security and Prosperity Partnership of North America (SPP) established in 2005. Proponents of North American competitiveness and security cooperation view the initiatives as constructive to addressing issues of mutual interest and benefit for all three countries. Some critics of the most recent summit contend that the agenda did not include human rights issues or discussions on the drug-related violence in Mexico.

⁵¹ Written by Angeles Villarreal, Specialist in International Trade and Finance, Foreign Affairs, Defense, and Trade Division.

Trilateral Cooperation

During the most recent summit in February 2014 in Mexico, President Barack Obama, Canadian Prime Minister Stephen Harper, and Mexican President Enrique Peña Nieto announced initiatives regarding the economic prosperity of the region; education initiatives; energy and climate change; citizen security; and regional, global, and stakeholder outreach.⁵² The leaders discussed numerous economic and security initiatives for North America in the 21st century with the goal of setting new global standards for trade, education, sustainable growth, and innovation. In the areas of economic cooperation, discussions included developing a North American Transportation Plan; streamlining procedures and harmonizing customs data requirements; facilitating the movement of people through the establishment in 2014 of a North American Trusted Traveler Program, which will recognize and build upon existing programs; promoting trilateral exchanges on logistics corridors and regional development; and continuing prior initiatives such as protecting and enforcing intellectual property rights. In energy cooperation, the leaders continued their commitment to developing and securing affordable, clean, and reliable energy supplies to help drive economic growth and support sustainable development. The leaders committed to continuing cooperation on climate change and environmental cooperation; security; and effective information exchanges and coordination among law-enforcement authorities to counter drug trafficking, arms trafficking, money laundering, and other illicit activities. The three governments also stated that they share a commitment to combating human trafficking in all its forms and agreed to work toward improving services for the victims of this crime.⁵³

Most efforts to increase cooperation, either through trilateral or bilateral endeavors, generally have followed the recommendations of special working groups created after the first North American Leaders' Summit. These recommendations included (1) increasing the competitiveness of North American businesses and economies through more compatible regulations; (2) making borders smarter and more secure by coordinating long-term infrastructure plans, enhancing services, and reducing bottlenecks and congestion at major border crossings; (3) strengthening energy security and protecting the environment by developing a framework for harmonization of energy efficiency standards and sharing technical information; (4) improving access to safe food and health and consumer products by increasing cooperation and information sharing on the safety of food and products; and (5) improving the North American response to emergencies by updating bilateral agreements to enable government authorities from the three countries to help each other more quickly and efficiently during times of crisis.

Bilateral Cooperation

The Obama Administration has engaged in bilateral efforts, both with Canada and Mexico, to increase regulatory cooperation, enhance border security, promote economic competitiveness, and pursue energy integration. For example, in February 2011, President Obama and Canadian Prime Minister Harper announced the Beyond the Border Action Plan: A Shared Vision for Perimeter Security and Economic Competitiveness declaration, establishing a new long-term partnership to address threats within, at, and away from the U.S.-Canada border, while expediting lawful trade

⁵² The White House, Office of the Press Secretary, *Fact Sheet: Key Deliverables for the 2014 North American Leaders Summit*, February 19, 2014.

⁵³ The White House, Office of the Press Secretary, "Joint Statement by North American Leaders – 21st Century North America: Building the Most Competitive and Dynamic Region in the World," February 19, 2014.

and travel.⁵⁴ The two governments also created a U.S.-Canada Regulatory Cooperation Council to improve alignment of regulatory approaches.

On September 20, 2013, the United States and Mexico launched the U.S.-Mexico High Level Economic Dialogue (HLED) to advance economic and commercial priorities through annual meetings at the cabinet level that also include leaders from the public and private sectors.⁵⁵ Other bilateral efforts with Mexico include the High-Level Regulatory Cooperation Council (HLRCC) launched in February 2012 to help align regulatory principles, an effort similar to the U.S.-Canada Regulatory Cooperation Council. In addition, the two countries have a bilateral initiative for border management under the Declaration Concerning Twenty-first Century Border Management that was announced in 2010.

Status of the Issue

The United States, Canada, and Mexico have made progress in recent years in addressing issues related to North American competitiveness and security. The Obama Administration has affirmed its commitment to continue past efforts on North American cooperation and build upon the work accomplished under previous frameworks. The North American Leaders' Summits have served as a mechanism to increase cooperation among North American trading partners on issues of mutual interest, but because there are no binding agreements, their role in improving prosperity and security has been limited.

Questions

1. How effectively has the United States pursued North American cooperation in the border initiatives with Canada and Mexico or in the regulatory initiatives? What other steps can be taken by the three countries to improve competitiveness of industries in the region? Are bilateral initiatives more effective than trilateral initiatives?
2. How successful has North American cooperation been in improving safety, security, and the flow of goods and services among NAFTA partners? What have been the actual results of the numerous initiatives launched? To what extent has the emphasis on border security caused delays in border crossings or transportation of merchandise? How have recent efforts to facilitate trade affected the trade relationship?

⁵⁴ The White House, Office of the Press Secretary, "Declaration by President Obama and Prime Minister Harper of Canada – Beyond the Border," February 04, 2011.

⁵⁵ The White House, Office of the Press Secretary, "Fact Sheet: U.S.-Mexico High Level Economic Dialogue," September 20, 2013.

Canada's Financial System⁵⁶

Issue Definition

Canadian banks on the whole weathered the 2008-2009 financial crisis better than banks in the United States and Europe. Nevertheless, Canada's financial system was buffeted by the financial crisis as equity and housing prices fell and as economic growth slowed as a result of the downturn in global trade. Canada's economy is also feeling the effects of the European sovereign debt crisis, slow growth in export markets, and household indebtedness. Are there lessons to be learned from Canada's banking system, which has proven to be somewhat more immune to the financial troubles that have brought down better-known banks?

Background and Analysis

Canada's financial system proved to be more resistant to the failures and bailouts that marked systems in the United States and Europe. No Canadian financial institution failed or required public capital injections, although the financial crisis and global economic recession battered the Canadian economy in ways that are similar to those in the United States and in Europe. Recent stress tests indicate that Canada's major financial institutions would continue to be resilient to credit, liquidity, and contagion risks associated with a severe risk scenario. According to the International Monetary Fund (IMF), the Canadian economy contracted by -2.5% in 2009, before rebounding to a positive growth rate of 3.0% in 2010. Canada's economy grew by 1.7% in 2013, and is projected to grow by 2.2% in 2014. The vast economic and financial linkages between Canada and the United States mean that Canada is affected by the performance of the U.S. economy.

Much of Canada's economic recovery is attributed to low interest rates and a \$33 billion fiscal stimulus package—one of the largest among advanced economies—over two years in infrastructure spending, tax decreases, worker retraining, housing, and aid to struggling industries. In addition, the federal government pumped additional liquidity into the economy by purchasing insured mortgages. In April 2009, the Bank of Canada lowered the nation's key interest rate to 0.25%. A drop in commodity prices caused the Canadian dollar to fall relative to the U.S. dollar, which improved the cost competitive position of Canada's exports. In relative terms, Canada's fiscal outlook is among the best in the G-20.

According to the Bank of Canada, major risks to Canada's economic recovery during the near term are (1) global sovereign debt issues associated with some European countries, fragmented financial systems in Europe, and weaker than expected growth in Europe potentially could raise borrowing costs for Canadian banks; (2) weak global demand that dampens global economic recovery and prolongs the financial system's vulnerability; (3) the low interest rate environment that can lead to distortions in financial markets as investors search for high-yielding assets and assume greater risk; and (4) high levels of indebtedness among Canadian households that leave them vulnerable to economic and financial shocks. Although Canadian banks are not highly exposed to public or private entities in Greece, Italy, Spain, or Portugal, Canadian banks are

⁵⁶ Written by James Jackson, Specialist in International Trade and Finance, Foreign Affairs, Defense, and Trade Division.

exposed to banks in Europe and the United States that are themselves highly exposed to the four countries. This high level of financial linkages could amplify shocks throughout the global financial system.

In recent years, Canadian banks have increased their ability to withstand adverse shocks by increasing the level and quality of their capital in line with the Basel III guidelines, and they have improved their liquidity management. Canadian banks are well capitalized, profitable, and have low rates of nonperforming loans. Despite these strengths, Canada's financial system would be affected by (1) weak global demand for exports that would tend to raise the rate of unemployment; and (2) an increase in the level of volatility in global financial markets and a decline in market confidence due to a slowdown in global economic growth that could result in higher funding costs for Canadian banks and higher costs for loans and tighter lending conditions in Canada.

In 2013, Canada implemented a number of reforms of the financial system, including:

- Implementing Basel III capital rules for banks and a capital surcharge for six systemically important banks;
- Establishing a credit-rating assessment group (CRAG) to reduce the Bank of Canada's (BOC's) reliance on external credit ratings by evaluating the credit risk of assets and other financial exposures that the BOC manages on behalf of the Canadian government;
- Establishing a central counterparty for corporate securities (repurchase agreements), which act as a major funding market for financial institutions, expanding the functions of the central counterparty, and adopting new international risk management standards for systemically important financial market infrastructures;
- Implementing a resolution and recovery framework for major banks;
- Adopting International Financial Reporting Standards (IFRS) and Auditing Standards for banks and life insurance companies;
- Strengthening oversight of the over-the-counter (OTC) derivatives market, moving to have all over-the-counter derivatives cleared through central counterparties, and having the largest provincial regulators harmonize rules for trade repositories and data reporting;
- Working toward adopting a single securities regulator to reduce compliance costs, simplify the monitoring of systemic risk, and facilitate coordination with other agencies and policy intervention; and
- Adopting various measures to tighten mortgage insurance.

The IMF has concluded that Canada's financial system is highly mature, sophisticated, and well-managed. In addition, the system is characterized by strong prudential regulation and supervision, stringent capital requirements, low risk tolerance, a well-designed system of deposit insurance and arrangements for crisis management and resolution of failed banks, a well-regulated and conservative mortgage market, and comprehensive mortgage insurance coverage. Supervisory responsibility for the financial sector in Canada is divided among the federal government, the provincial governments, and among a group of agencies within the federal government. The federal government is responsible for supervising all banks, federally incorporated insurance

companies, trust and loan companies, cooperative credit associations, and federal pension plans. Provincial governments are responsible for supervising securities dealers, mutual fund and investment advisors, credit unions, and provincially incorporated trust, loan, and insurance companies. As a result, there are 13 regulatory authorities, each administering separate sets of securities laws and regulations.

Within the federal government, the Financial Institutions Supervisory Committee (FISC) acts as the chief coordinating body that sets regulatory policy and supervises financial institutions. The committee is comprised of the Department of Finance of the Ministry of Finance and four independent government agencies: the Office of the Superintendent of Financial Institutions (OSFI); the Bank of Canada; the Canada Deposit Insurance Corporation; and the Financial Consumer Agency of Canada (FCAC). All of these agencies report to the Minister of Finance, who is responsible to the Canadian Parliament. The Bank of Canada is responsible primarily for conducting monetary policy by setting interest rate targets and adjusting the supply of credit. The bank also serves as the key component in the payments system by providing a check clearing function, and it serves as the traditional lender of last resort. The Office of the Superintendent of Financial Institutions plays a key role in Canada's financial supervisory scheme by supervising all domestic banks, branches of foreign banks operating in Canada, trust and loan companies, cooperative credit companies, life insurance companies, and property and casualty insurance companies. One drawback to Canada's financial supervisory structure noted by the IMF is that no single entity in the system has the mandate for macroprudential oversight and the oversight committees do not have the membership to provide a comprehensive view of systemic risks across all financial institutions and markets in Canada. In particular, risks in securities markets are not systemically captured at the national level.

The financial system is dominated by six large banking groups (Royal Bank of Canada, the Toronto Dominion Bank, Bank of Nova Scotia, Bank of Montreal, the Canadian Imperial Bank of Commerce, and the National Bank of Canada), which account for about 93% of total bank assets. The banks were identified as domestic systemically important banks in 2013, which means they will be subjected to higher capital requirements, enhanced supervision, and additional disclosure requirements. Foreign banks account for about 4% of total bank assets in Canada. The low representation by foreign banks is attributed to the "widely held" rule for large banks that limits the concentration of bank share ownership and, therefore, reduces the scope for mergers and for foreign entry through acquisition. Canada's financial legal framework has allowed Canadian banks to concentrate on their low-risk, profitable domestic retail banking activities (services provided to individuals, including deposits, savings accounts, mortgages, credit cards, etc.), leaving large domestic borrowers to conduct their wholesale banking activities (services provided to corporations, governments, and other entities) abroad. Canada's insurance sector is dominated by three large domestic groups, which account for over 80% of the assets in this sector. The securities sector is marked by large Canadian, as well as U.S. and UK securities firms.

Unlike the United States and some European countries, subprime mortgages account for less than 5% of Canadian mortgages, which sharply limited Canada's direct exposure to the meltdown that occurred in the subprime mortgage market. In addition, Canadian law requires that all bank-held mortgages above a loan-to-value ratio above 80% be insured, which has curtailed the securitization of mortgages by banks in Canada. In addition, prepayment penalties and the lack of interest deductibility reduce the demand for long-term mortgages, so the maturity of most mortgages does not exceed 5 to 10 years.

Canada's financial supervisory system and regulatory structure have proven to be less susceptible to the bank failures that have loomed in the United States and Europe. Nevertheless, Canada's approach has a number of drawbacks. Canada's system of regulating securities markets at the provincial level means that regulations regarding market participants and investor protection differ by province and that the nature, structure, and powers of the provincial regulators also vary. In addition, the conservative, risk-adverse approach employed by Canada's banks shielded the banks from some of the current financial turmoil; the approach also reduces efficiency in the market and reduces competition. Acquisition of Canadian banks is significantly impeded by the rule that bank stocks be widely held and mergers are effectively prohibited. With reduced competitiveness pressures, Canadian banks maintain low-risk balance sheets at the expense of greater innovation and more efficient capital allocation. This approach also means that financing for small firms and venture capital for potentially high-growth companies is sharply reduced. In concert with other advanced economies, Canada is moving to provide greater oversight of the over the counter (OTC) derivatives market by developing central counterparty services and a central clearing of standardized OTC derivatives contracts.

Since 2008, Canada has made notable progress in addressing the issue of money laundering and terrorist financing. In February 2014, the Financial Action Task Force (FATF) concluded that Canada's progress qualified it for removal from the annual follow-up process. Canada had been placed on the regular follow-up process in 2008 as a result of ratings it received from the FATF in its Mutual Evaluation Report of noncompliant or partially compliant in certain core and key Recommendations.⁵⁷ In applying to be removed from the regular follow-up process, Canada took a number of steps, including:

- Adapting the legal framework with key measures in the fields of Customer Due Diligence (CDD) through amendments to the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (PCMLTFA) and the *Proceeds of Crime (Money Laundering) and Terrorist Financing Regulations* (PCMLTFR), in particular with measures in relation to the circumstances in which customer due diligence has to take place, enhanced due diligence, and ongoing due diligence.
- Strengthening its Financial Intelligence Unit, the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC), with additional resources and by reinforcing its compliance program with a new range of administrative sanctions. Canada is also implementing a federal registration regime for money service businesses.
- Expanding the AML/CFT regime to additional Designated Non-Financial Business and Professions, in particular, British Columbia Notaries and dealers in precious metals and stones.

Canada's AML/ATF Regime was formally established in 2000 as the National Initiative to Combat Money Laundering (NICML), as part of the government's effort to combat money laundering. Legislation adopted in 2000, the *Proceeds of Crime (Money Laundering) Act*, created a mandatory reporting system for suspicious financial transactions, large cross-border currency transfers, and certain prescribed transactions. The legislation also established the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) to collect and analyze these financial transaction reports and to disclose pertinent information to law enforcement and

⁵⁷ CRS Report RS21904, *The Financial Action Task Force: An Overview*, by James K. Jackson.

intelligence agencies. In December 2001, the *Proceeds of Crime (Money Laundering) Act* was amended to include measures to fight terrorist financing activities and was renamed the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (PCMLTFA). Numerous Canadian agencies are involved in administering Canada's anti-money laundering/anti-terrorist financing (AMJL/AFT) regime, with the Departments of Finance and Justice providing oversight and playing the main coordinating roles.

Questions

1. Do the differences in the size and the scope of the U.S. and Canadian financial markets reduce the importance of the Canadian system as a model for the United States to potentially follow?
2. Are there aspects of Canada's federal supervision of its banking system that could serve as a model for bank supervision by the United States?
3. Canada's approach to financial supervision concentrates the majority of that responsibility in an authority that is separate from the central bank. Is this an approach that the United States should consider as it evaluates the effects of changes it has made to its own regulatory structure?

North American Cybersecurity Cooperation⁵⁸

Issue Definition

Both the United States and Canada rely on information technology as a strategic national asset⁵⁹ that reaps many economic and societal benefits. However, increasing reliance on Internet-based systems has created new sets of vulnerabilities. Theft of digitally stored information, either for military or economic competitive advantage, has long been an area of concern for both countries. Internet-based commerce systems fall victim to identity theft and exploitation, leading to fraudulent transactions that rob individuals and companies of millions of dollars. Credit card companies and banks, automated clearing house and market trading systems, have all been listed by the FBI as having seen dramatic increases in online attack. In addition, a computer-based attack on our shared critical infrastructures could have devastating consequences. An attack of this nature, from both a security and an economic standpoint, could not only result in the loss of data, but could also degrade or damage physical assets and could potentially lead to loss of life.

Background and Analysis

In 2007, sustained denial of service attacks on Estonia's critical infrastructure raised questions of whether a cyber-attack could be considered an act of war that could possibly trigger a military response. These questions were underscored in 2008 when a Russian military incursion into Georgia coincided with a series of coordinated attacks on Georgia's networked information

⁵⁸ Written by Catherine Theohary, Specialist in National Security Policy and Information Operations, Foreign Affairs, Defense, and Trade Division

⁵⁹The White House, Office of the Press Secretary, Remarks by the President On Securing Our Nation's Cyber Infrastructure, May 29, 2009.

systems. Both of these incidents highlighted a need for NATO to develop a framework for determining the alliance's treaty responsibilities towards a partner nation whose computer systems are under siege.

As tensions in Ukraine escalate, so have concerns that Russia may again use cyber tactics as part of a military campaign, either through use of proxy hacker groups, patriotic citizenry, or a state-sponsored operation.

In 2011, reports surfaced of foreign hackers traced to Russia using pilfered network data to gain remote control over a water plant in Illinois, causing the system to fail and forcing a shutdown. The same year saw one of the first known instances of malicious software that appeared to be specifically designed to target and degrade critical control systems. The Stuxnet worm was discovered to have been designed to cause malfunctions in the computer systems that controlled nuclear centrifuges in Iran. Unlike other types of cyber-attacks, which often use phishing techniques, malicious attachments, and exploitation of known software vulnerabilities to break into a network or implant a backdoor onto a computer, this malware was implanted on computers that were not connected to the Internet.

Recent discoveries of vulnerabilities in the computer systems that control many utilities delivery systems have been cause for alarm. Reports of probes, possibly state-sponsored, attempting to map the North American electrical grid are of particular concern to both the United States and Canada due to the interconnected, shared nature of bulk power critical infrastructure. In 2007, a U.S. Department of Energy test at Idaho Labs demonstrated the ability of a cyber-attack to shut down parts of the electrical grid. In the test, known as the Aurora Experiment, a cyber-attack on a replica of a power plant's generator caused it to self-destruct. As electrical systems become increasingly reliant on sophisticated information technology, such as with the more efficient "smart grid," many worry that security concerns have been left by the wayside.

Neither the United States nor Canada has yet experienced a cyber-attack on critical infrastructure that has risen to a level of a national crisis. However, many security experts warn of such a possibility as nation states and extra-territorial hacker networks appear to have an interest in developing a large-scale attack capability.

Status of the Issue

U.S.-Canada investment and cooperation in cyber defense is notable. In February 2014, the government of Canada launched a five-year, \$1.5 million initiative to improve the security of its networks. The program was developed in support of Canada's overall Cyber Security Strategy. The United States and Canada have signed a Memorandum of Agreement on "Cooperation in Science and Technology for Critical Infrastructure Protection and Border Security and related Cooperative Activity arrangements." Both countries are signatories to the Council of Europe Convention on Cybercrime, a document intended to harmonize national laws on information security in order to create a broader set of international norms in cyberspace. While the United States has ratified the Convention, Canada has not. Neither China nor Russia, two countries from which many cyber threats appear to stem, are signatories to the Convention. The Council of Europe Convention defines cybercrime as a range of malicious activities that fall into four broad categories of computer-related crimes: (1) security breaches such as hacking, illegal data interception, and system interferences that compromise network integrity and availability; (2) fraud and forgery; (3) child pornography; and (4) copyright infringements. Although the United

States is a state party, it has not necessarily followed the exact definitions; there may be areas where the United States and Canada have differing views on what constitutes cybercrime.

Questions

1. Given that a large portion of critical infrastructure is owned and operated by the private sector, both countries have recognized a need to cooperate not only on a bilateral level but to effectively share information and resources with relevant companies and stakeholders. How effective have these outreach programs been, and what are areas for improvement?
2. How can the United States and Canada work to improve resiliency in the event of an attack, and to cooperate with hardening potential targets and developing cybersecurity tools while still protecting trade secrets and intellectual property? How can we share cyber threat information while still complying with privacy and civil liberties laws in each country? What are some barriers to effective information sharing?
3. In addition to strengthening defenses and categorizing attack thresholds, the rise of nonstate actors operating in cyberspace and the difficulty of attributing attacks presents a significant challenge for the Alliance. How can the United States and Canada work within NATO to develop common standards for attributing attacks in order to formulate an appropriate response?

Canada's Supply Management Programs for Dairy, Poultry, and Eggs⁶⁰

Issue Definition

Canada uses supply management to support its dairy, poultry, and egg sectors. Its main features (1) provide price support to producers based on their production costs and return on equity and management, (2) limit production to meet domestic demand at the cost-determined price, and (3) restrict imports to protect against foreign competition. The Canadian government has supported producers' decisions to use this approach for more than 40 years, and succeeded in limiting imports of these products in negotiating the U.S.-Canada Free Trade Agreement, its multilateral commitments in the Uruguay Round's Agreement on Agriculture, and for the most part in its bilateral free trade agreements. Canada's interest in participating in the Trans-Pacific Partnership (TPP) trade negotiations has renewed calls from interest groups in the United States and New Zealand for Canada to open its borders to imports of these products. While Canadian dairy, poultry, and egg producers generally oppose trade liberalization, others argue that Canada should consider making concessions so that other Canadian economic sectors can benefit from export openings negotiated in the proposed TPP with the growing Asian economies.

⁶⁰ Written by Remy Jurenas, Specialist in Agricultural Policy, Resources, Science and Industry Division.

Background and Analysis

According to the World Trade Organization, Canada in recent years has introduced an agricultural policy framework that includes a number of business risk management measures designed to partially compensate producers for revenue or income losses arising from low commodity prices, increased production costs, reduced production, or natural disasters. However, the supply management systems for dairy, poultry, and eggs “remain unchanged.”

National bodies and provincial commodity marketing boards, granted statutory powers by the federal and provincial governments, control the supply management systems for these commodities. At the national level, the amount of each commodity that producers can market is controlled by a quota system. Imports of each commodity are limited by tariff rate quotas. These allow a specified amount to enter annually under Canada’s trade commitments at little or zero duty, but apply a very high tariff on imports above the specified level or quota amount. Both tools work together to control the supply of each commodity, but the objective is to ensure that producers receive a price that guarantees them a return that covers their production costs. The quota is set to balance supply with demand at that price, and is frequently adjusted to ensure that this balance is achieved. Producers of these commodities must participate in their respective supply management systems, with farm-level production subject to individual quota limits that can only be sold into permitted marketing channels.

Supply management for dairy is divided into a nationally managed system for industrial milk (used to manufacture dairy products such as cheese and butter) and provincial-level systems for the marketing of fresh milk. The Canadian Milk Supply Management Committee (CMSMC) oversees the national system for industrial milk. It is chaired by the Canadian Dairy Commission (CDC), a federal agency that provides a framework for federal-provincial participation. The CMSMC determines the national domestic supply of industrial milk and allocates this volume among provinces.

The Farm Product Council of Canada (FPCC) oversees four national marketing agencies for poultry (chicken and turkey) and eggs that seek to balance the interests of stakeholders from producers to consumers. These agencies (Chicken Farmers of Canada, Turkey Farmers of Canada, Egg Farmers of Canada, and Canadian Hatching Egg Producers) are managed by representatives primarily from provincial commodity boards plus a few members representing processors and consumer associations. The provincial commodity boards regularly consult with their stakeholders to determine their poultry and egg needs. This information is used to set the national production level, which the agencies implement under a quota order that the FPCC must approve. Each provincial board allots its share of each quota to registered producers, and negotiates producer selling prices with processors.

Producers of these commodities point out the benefits of the supply management approach, which they say has significantly reduced price volatility. The stability of prices over time, combined with the guarantee that covers production costs, has served to provide income support. Others point out that these features have resulted in the lack of market orientation for these commodities, as the value of supply management has become capitalized, or incorporated, into the value of the quota. In other words, those who hold quota (i.e., renting it out) benefit more than the producers themselves. Public debate on the future of supply management has gained momentum in the last few years, but Canada’s government remains steadfast in supporting this policy, which benefits the producers of these three commodities and those provinces in which they are concentrated.

Status of the Issue

In October 2012, Canada joined other countries already negotiating the TPP. Attention now is focused on how Canada's supply management systems for dairy, poultry, and eggs might be affected by the TPP and a trade agreement concluded with the European Union. Prime Minister Harper has continued to remain noncommittal on how supply management will be handled should TPP countries come closer to concluding an agreement. He has stated that Canada expects to negotiate and debate "all manner of issues" as a TPP participant, and that Canada will attempt to "promote and to defend [its] interests not just across the economy, but in the individual sectors as well." President Obama, when asked earlier whether Canada would have to drop supply management in order to join the TPP, reportedly only hinted in his response that Canada may have to make some adjustments in this area.

Though U.S. firms export dairy and poultry products to Canada, the import quotas in place under supply management have significantly limited access to this next-door market. Now that Canada is a TPP participant, the National Milk Producers Federation (NMPF), representing U.S. dairy farmers and dairy cooperatives, and the U.S. Dairy Export Council, representing this sector's export interests, want to secure complete free access for U.S. dairy exports into Canada, among other TPP objectives. Both groups also want to see U.S. negotiators tackle outstanding and proposed nontariff measures that have limited, and could limit, access for U.S. fluid milk and cheese in the Canadian market.

One sign of the pressures that Canada's TPP negotiators face is the negative reaction expressed by its dairy producers to the preferential access for specialty cheeses that Canada provided to the European Union (EU) in their free trade agreement concluded in October 2013. The Dairy Farmers of Canada stated it will not support this deal, claiming that subsidized cheese from the EU will displace domestic production of its fine artisan and local cheeses that the industry has worked hard to develop. Acknowledging that "minor compromises" were made that will affect the cheese sector, Harper stated his commitment to compensate producers for any losses and highlighted that his government "kept the principle and the basis of the supply management system." Earlier, an NMPF official commented that the cheese market access granted the EU "falls far short" of what U.S. dairy producers seek to obtain from Canada in the proposed TPP.

Canada's negotiators are monitoring the bilateral U.S.-Japan agricultural market access talks to gauge the pressures they may face if those talks achieve commercially significant openings for U.S. beef, pork, and dairy products in the Japanese market. To the degree that occurs could set benchmarks for what the major TPP agricultural exporters (United States, Australia and New Zealand) will seek in expanded access to Canada's protected market for its supply-managed commodities.

Questions

1. Most of the support for Canada's supply management systems is concentrated in Ontario, Quebec, and the Maritime provinces. What would be the internal politics associated with completely changing these systems or modifying them to allow for increased imports of dairy and poultry products from the United States and other TPP countries?
2. How strong is support among other Canadian economic sectors for maintaining Canada's supply management programs?

3. Could Canada ensure that the objectives of supply management (stable prices and income support to producers) are met if additional imports are allowed? Please elaborate on why or why not this would be the case.

Country of Origin Labeling⁶¹

Issue Definition

Mandatory country-of-origin labeling (COOL) in the United States for specified agricultural products took effect on March 16, 2009. This was the culmination of a near decade-long legislative effort to arrive at an accommodation that addressed the concerns of competing interests. U.S. food retailers are now required to label the country of origin for fresh produce (fruits and vegetables), meats, nuts, and seafood, among other products. As the U.S. meat processing sector geared up to implement COOL, U.S. imports of Canadian cattle and hogs noticeably declined. Concerned that this development adversely affected their livestock sectors, Canada along with Mexico pressed their case using the World Trade Organization (WTO) dispute resolution process. The WTO panels handling this case found that COOL for meat violates international trading rules. To comply with the WTO findings, the United States revised the COOL regulations. Canada and Mexico argue that the changes are more discriminatory than those previously in effect, and they are now awaiting a decision by a WTO compliance panel on whether the revised COOL rules meet earlier WTO panels' findings.

Background and Analysis

Under the Tariff Act of 1930, as amended, most unprocessed agricultural commodities had long been exempt from requirements that every import be clearly marked to indicate country of origin for the "ultimate purchaser." However, provisions in the 2002 farm bill (Section 10816 of P.L. 107-171) require that retailers covered by the Perishable Agricultural Commodities Act (i.e., those which deal in at least \$230,000 per year in produce—fresh and frozen fruits and vegetables) begin to provide such information. Other covered commodities specified in the 2002 farm bill were ground and muscle cuts of beef, lamb, and pork; seafood; and peanuts. Labeling is not required if these commodities are ingredients in processed foods, or if they are sold in dining-out settings.

Passage of the initial COOL provisions in 2002 did not end debate over the value and efficacy of mandatory COOL, particularly with regard to meats. COOL opponents argued that record-keeping and verification costs will far exceed any perceived economic benefits to producers; that smaller-sized farms and firms will have the most difficulty with compliance; that little evidence exists showing consumers actually want labeling; and that COOL is a protectionist policy that undermines free trade. Supporters of COOL countered that compliance would not be nearly as burdensome as some large industry groups and USDA have portrayed it; that studies show U.S. consumers, if offered a clear choice, will pay extra for fresh foods of domestic origin, thereby strengthening demand and prices for them; and that consumers have a right to know where their foods were produced. They pointed out that all but two of the North American cases of "mad

⁶¹ Written by Remy Jurenas, Specialist in Agricultural Policy, Resources, Science and Industry Division.

cow” disease (*bovine spongiform encephalopathy*, or BSE) occurred in Canadian-born cattle, yet the United States is permitting the import of large quantities of Canadian beef and cattle. (COOL opponents argue that country of origin labeling is a matter of marketing, not food safety, and that food safety concerns are best addressed through science-based regulation.)

Initially scheduled to take effect on September 30, 2004, Congress postponed COOL implementation until September 30, 2008, for all but seafood, because of ongoing debate. Some issues were addressed in talks held among key players during consideration of the 2008 farm bill, and incorporated into Section 11002 of the Food, Conservation, and Energy Act of 2008, P.L. 110-246. These provisions retained the implementation schedule, and added other commodities (chicken meat, goat meat, ginseng, pecans, and macadamia nuts) to its coverage. However, several new types of label categories were created to facilitate and simplify compliance in specifying the country or countries of red meat products. For all covered commodities, the amended law also eased recordkeeping and verification requirements, and lowered noncompliance penalties.

Status of the Issue

Following enactment of the amended COOL provisions, the U.S. Department of Agriculture (USDA) moved quickly to issue rules to implement them. The August 2008 interim rule for meat labeling requirements generated the most controversy, in large part because of the steps that U.S. feeding operations and packing plants took to segregate, hold, and slaughter foreign-origin livestock (e.g., from Canada and Mexico) from U.S. livestock. With U.S. bilateral trade agreements with Canada and Mexico having led to free trade in livestock and resulting in a more integrated North American livestock sector, imports of live cattle and hogs from both countries became subject to mandatory COOL. In December 2008, Canada filed a request for formal WTO consultations on COOL with the United States, expressing concern about changes in normal livestock trade flows in reaction to the interim rule and questioning COOL’s legality under international trade rules. Bilateral consultations were held twice, but failed to resolve differences. In October 2009, Canada requested the establishment of a WTO dispute settlement (DS) panel to review its claims. In November 2009, the WTO agreed to establish a panel to examine this and Mexico’s nearly identical case on COOL.

Canada asserted that COOL is inconsistent with several WTO-related trade commitments, including those providing that imports must be treated no less favorably than products of domestic origin; that laws on marks of origin should not damage imports, reduce their value, or unreasonably increase their cost; and that laws, rules, and procedures on country of origin should not themselves create or disrupt international trade. Canadian officials stated that the COOL requirements are “so onerous” that Canadian exporters of cattle and hogs were discriminated against in the U.S. market. U.S. officials regretted that consultations did not resolve Canada’s concerns, and stated their belief that U.S. implementation of COOL provides consumers with information that is consistent with WTO commitments. They noted that countries had agreed that country of origin labeling was legitimate policy long before the WTO was created, and that other countries (including Canada) also require goods to be labeled with their origin.

In November 2011, the WTO dispute settlement (DS) panel found that COOL treats imported livestock less favorably than like U.S. livestock (particularly in the labeling of beef and pork muscle cuts), and does not meet its objective to provide complete information to consumers on the origin of meat products. The panel reached these conclusions by examining the economic effects of the measures taken by U.S. livestock producers and meat processors to implement

COOL, and by accepting arguments that the labeling of meat, indicating where the multiple steps of livestock birth, raising, and slaughtering occurred, is confusing.

In March 2012, the United States appealed the DS panel's report to the WTO Appellate Body (AB). In June 2012, the WTO's AB upheld the DS panel's finding that the COOL measure discriminates against imported Canadian cattle and hogs, and imported Mexican cattle, but reversed the finding that COOL does not fulfill its legitimate objective to provide consumers with information on origin. The Obama Administration welcomed the AB's affirmation of the U.S. right to adopt labeling requirements to inform consumers of the origin of the meat they purchase. Participants in the U.S. livestock sector had mixed reactions, reflecting the heated debate on COOL that has occurred over the last decade.

To meet the May 23, 2013, deadline for the United States to comply with the adopted WTO finding, USDA issued a final rule requiring that labels show where each production step (i.e., born, raised, slaughtered) occurs and prohibiting commingling of muscle cut meat from different origins. COOL's supporters applauded the final rule for providing consumers with specific and more useful information on origin. Domestic opponents decried the rule, arguing that it is more discriminatory than the previous rule and imposes additional recordkeeping burdens on processors and retailers, and in turn, additional costs on consumers. In July 2013, COOL opponents filed suit to stop USDA from implementing the final COOL rule. They lost in lower courts, and appealed. In mid-May 2014, the full U.S. Court of Appeals for D.C. heard their case, and its decision is forthcoming.

Canada and Mexico expressed disappointment with the final USDA rule, and argue that it does not bring the United States into compliance with its WTO obligations. In September 2013, a WTO compliance panel was created to address both countries' request for a determination on whether the final COOL rule complies with WTO findings. The panel considered all three countries' arguments in February, and expects to issue its final report in July 2014. Depending on the outcome of the compliance ruling(s), possible appeals, procedural timelines, and whether or not the case progresses to the retaliation phase and arbitration, the WTO COOL case likely will not be concluded before 2015.

Opponents sought, but did not succeed, in using the 2014 farm bill as a vehicle to repeal or amend COOL to address their concerns about the final rule and to head off the prospect of trade retaliation if the WTO compliance panel rules against the United States. Supporters of the USDA rule argue that U.S. policy makers should not act prematurely to consider any changes to COOL, until the WTO compliance phase runs its course. Efforts by both sides continue to seek, or head off, legislative action on COOL in anticipation of the WTO panel's report.

Questions

1. Reports in meat trade publications have suggested that the COOL requirements have strained marketing relationships between Canadian and U.S. livestock producers and meat processors. What economic adjustments, if any, have occurred in Canada's beef and pork sectors in response to the decrease in Canadian cattle and hog exports to the United States? To what degree have other market developments (e.g., exchange rates, impact of the economic recession, meat exports to third markets) affected the beef and pork sectors in both markets?

2. How does Canada's country of origin labeling program for agricultural commodities and food products compare to that implemented under the U.S. COOL program? Is it a voluntary or mandatory program?

3. What impact, if any, does COOL have on the availability of livestock for slaughter in the United States, and in turn, on the U.S. price of beef and pork?

Intellectual Property Rights⁶²

Issue Definition

The United States remains concerned about Canada's protection and enforcement of intellectual property rights (IPR)—legal rights in various forms (e.g., copyrights, trademarks, and patents) to protect innovations and encourage creative output. The treatment of intellectual property is important to U.S.-Canada relations because of the role of IPR in the two national economies, as well as the high levels of bilateral trade and integration. U.S. stakeholders express concern about counterfeiting and piracy in Canada, as well as the transit of IPR-infringing products across Canada's borders. Areas of bilateral engagement include Canada's efforts to reform its copyright and IPR enforcement systems.

Background and Analysis

Canada and the United States have entered into a range of IPR commitments. Multilaterally, they are signatories to the 1995 World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS Agreement"), which sets minimum standards for the protection and enforcement of various types of intellectual property. In 1997, both countries ratified the World Intellectual Property Organization (WIPO) Copyright Treaty and Performance and Phonograms Treaty ("WIPO Internet treaties"), which focus on IPR protection and enforcement in the digital environment. The United States implemented the WIPO Internet treaties in 1998 through the Digital Millennium Copyright Act (DMCA) (P.L. 105-304). In contrast, Canada did not act upon the treaties until November 2012, when it enacted the Copyright Modernization Act (Bill C-11). This followed legislative efforts in Canada over multiple years to overhaul its copyright regime to bring domestic law in line with international standards. Canada's prior lack of passage of a bill to implement the WIPO Internet treaties was a major sticking point in bilateral relations.

At the regional level, IPR commitments exist in the North American Free Trade Agreement (NAFTA). Canada and the United States also are participants to negotiations on a Trans-Pacific Partnership (TPP) free trade agreement (FTA), which aim to achieve "TRIPS-plus" provisions on IPR, including on digital copyright enforcement, pharmaceuticals, and trade secrets. Canada may wish to join the U.S.-EU negotiations of a Transatlantic Trade and Investment Partnership (T-TIP) FTA, which also are expected to address a range of IPR issues. However, prospects for the future expansion of T-TIP participants are unclear. In 2011, Canada and the United States signed the

⁶² Written by Shayerah Ilias Akhtar, Specialist in International Trade and Finance, Foreign Affairs, Defense, and Trade Division.

Anti-Counterfeiting Trade Agreement (ACTA), designed to build on the TRIPS Agreement. However, ACTA's entry-into-force is uncertain, following the European Parliament's rejection of it in 2012, amid widespread protests by advocates of Internet free speech. Nevertheless, IPR issues discussed in the ACTA have reemerged in the TPP and T-TIP negotiations.

IPR commitments in the Canada-EU Comprehensive Economic and Trade Agreement (CETA, concluded in principle in October 2013) may have implications for the TPP and T-TIP negotiations. A focal point is CETA commitments on geographical indications (GIs)—geographical names that act to protect the quality and reputation of a distinctive product originating in a certain region. Under CETA, Canada agreed to recognize GIs, for instance, on certain cheeses that are generally viewed as common food names in the United States, leading to concern on the part of some Members of Congress and U.S. companies about U.S. market access in Canada.

Bilaterally, a key area of engagement is Canada's enforcement of IPR. Presently, the Canada Border Services Agency (CBSA) is not authorized to seize products at the border that are believed to be pirated or counterfeit, without a court order, which requires detailed information. The United States contends that this lack of *ex-officio* authority limits Canada's ability to effectively enforce IPR. The United States also contends that the enforcement penalties imposed by Canada do not serve as sufficient deterrents for future IPR infringement. In October 2013, the Combating Counterfeit Products Act (Bill C-8) was reintroduced in the Parliament to bolster Canada's IPR enforcement. The bill would provide Canadian customs officials with *ex-officio authority* to seize pirated and counterfeit goods at the border, among other things. Some stakeholders considered Bill C-8 as a way for Canada to implement the enforcement standards of ACTA.

Evolving U.S. concerns with Canada's IPR system are reflected in the "Special 301" report annually published by the Office of the U.S. Trade Representative (USTR). In 2013 and 2014, USTR identified Canada on the Special 301 "Watch List" (a category of criticism for a country's inadequate IPR protection and enforcement). While the USTR noted, as positive developments, Canada's enactment of legislation to implement the WIPO Internet treaties and introduction of legislation to strengthen IPR border enforcement, it also noted U.S. concerns with Canada's IPR regime. USTR cited the long-standing problem of pirated and counterfeit goods entering the U.S.-Canada supply chain, as well as issues with Canada's administrative process for appeals of the regulatory approval of pharmaceutical products. USTR further expressed concern about the use by Canadian courts of a heightened "utility" requirement for pharmaceutical patents, which can invalidate patents on utility grounds years after the patent has been granted. U.S. pharmaceutical companies argue that such decisions contribute to an uncertain business environment in Canada. Eli Lilly, a U.S. pharmaceutical company, challenged Canada under NAFTA's Chapter 11 investor-state dispute settlement mechanism, stemming from the invalidation of one of the company's patent. Some Members of Congress, industry groups, and other stakeholders have expressed concern with Canada's heightened utility requirements, while Canada contends that its practices are consistent with its international IPR obligations.

Status of the Issue

While Canada's passage of the Copyright Modernization Act and the introduction of the Combating Counterfeiting Products Act in the Parliament are viewed as positive developments, the United States remains concerned about Canada's IPR environment, such as in the areas of

border enforcement and treatment of patents. Canada and the United States remained engaged on IPR issues in the TPP negotiations.

Questions

1. What progress has been made in implementing the Copyright Modernization Act? How could Canada's implementation of the WIPO Internet treaties differ from the DCMA?
2. What are Canada's top IPR priorities in its FTA negotiations? How does the CETA affect Canada's negotiating positions in the TPP?
3. How does Canada view new and emerging IPR issues and challenges, such as the protection and enforcement of trade secrets? What is Canada's position on seeking criminal penalties for trade secret theft in the proposed TPP?
4. What measures is Canada currently taking to address trade and transshipment of pirated and counterfeit goods? What steps can Canada take to improve IPR border and domestic enforcement? How could the United States support Canada's efforts? What is the status of Bill C-8?
5. Please describe Canada's approach to patent law and recent judicial decisions regarding utility requirements for patent validity. What are the implications for Canada's innovation and investment climate? What impact, if any, do recent trends in Canadian judicial interpretation of patent utility and Eli Lilly's pursuit of investor-state dispute settlement against Canada have on the TPP negotiations?

Columbia River Treaty Review⁶³

Issue Definition

The Columbia River Treaty (CRT) is an international agreement between the United States and Canada for the cooperative development and operation of the water resources of the Columbia River Basin. It became effective in 1964. The CRT has no specific end date, and most of its provisions would continue indefinitely without action by the United States or Canada. However, beginning in September 2024, either nation can terminate the majority of the Treaty's provisions with at least 10 years written notice (i.e., starting as early as 2014). As of early 2014, both countries were reviewing their positions on the Treaty and formal negotiations may begin as early as late summer 2014.

Background and Analysis

The CRT was precipitated by several flooding events in the Columbia River Basin. It resulted from more than 20 years of negotiations between the two countries. It was ratified in 1961, and implementation began in 1964.

⁶³ Written by Charles Stern, Specialist in Natural Resource Policy, Resources, Science, and Industry Division.

The Treaty provided for the construction and operation of 15.5 million acre-feet of additional storage on the Columbia River and its tributaries, including three dams in Canada and one dam in the United States whose reservoir extends into Canada. Together, these dams more than doubled the amount of reservoir storage available in the basin and provided significant flood protection benefits throughout the basin. The CRT also requires that the United States and Canada prepare "Assured Operating Plans," to allow for more predictable operations for flood control and power objectives in the United States, among other things. In exchange for these benefits, the United States agreed to provide Canada with lump sum cash payments as well as a portion of downstream hydropower benefits that are attributable to Canadian operations under the CRT, commonly known as the "Canadian Entitlement." The Canadian Entitlement has been estimated by some to be worth as much as \$335 million annually.

The CRT has no specific end date, and its provisions would continue indefinitely without action by the United States or Canada. However, beginning in September 2024, either nation can terminate most provisions of the Treaty with at least 10 years written notice (i.e., starting as early as September 2014). Under the original Treaty, the only provisions scheduled to change in 2024 involve flood control by Canadian CRT projects, which are scheduled to transition to "called-upon" operations at that time. This means that the United States would request and compensate Canada for flood control operations as necessary.

The United States and the Canadian governments are both reviewing their positions on the CRT. The U.S. Army Corps of Engineers (Corps) and the Bonneville Power Administration (BPA), in their joint designated role as the "U.S. Entity," undertook a review of the Treaty from 2011 to 2013. Based on studies and stakeholder input, a final "Regional Recommendation" was coordinated by the U.S. Entity and provided to the State Department in December 2013. The Regional Recommendation was to continue the Treaty with certain modifications, including a rebalancing of the Treaty's hydropower provisions, further delineation of called-upon flood control operations after 2024, and incorporation into the Treaty of flows to benefit the Columbia River fisheries.

Separately, the Province of British Columbia (BC) initiated its own studies beginning in 2011, which resulted in a recommendation to continue the Treaty while "seeking improvements within the existing Treaty framework." The principles outlined by BC include broad requirements for called-upon flood control operations, acknowledge the potential ecosystem based improvements "inside and outside the treaty," and state the province's belief that the Canadian Entitlement does not account for the full "range" of benefits in the United States and the impacts on British Columbia.

U.S. stakeholder perspectives on the CRT and its review vary. Some believe that the Treaty should continue but be modified to include stronger provisions related to tribal resources and flows for fisheries that were not included in the original Treaty. Others disagree with some or all proposed changes of this type. Some focus on other potential changes, such as the perceived need to adjust the Canadian Entitlement to more equitably share actual hydropower benefits. For its part, BC has disputed several U.S. assumptions and recommendations during the Treaty review process.

The executive branch, through the State Department, will make the final determination on whether changes to the Treaty are in the national interest and will conduct negotiations with Canada related to the future of the CRT. The State Department's position on Treaty negotiations

with Canada may differ with the Regional Recommendation. Further, the results of future negotiations between the U.S. and Canadian governments are uncertain.

The Constitution gives the Senate the power to approve, by a two-thirds vote, treaties negotiated by the executive branch. If the executive branch comes to an agreement regarding modification of the CRT, the Senate may be asked to weigh in on future versions of the Treaty pursuant to its advice and consent role. In addition, both houses of Congress have weighed in on Treaty review activities through their oversight roles and may continue to do so going forward.

Status of the Issue

The “Regional Recommendation” coordinated by the U.S. Entity was provided to the State Department in December 2013, and the State Department is currently evaluating the Administration’s recommended position on Treaty negotiations. BC’s recommendation to the Canadian government was finalized in April 2014. Both sides could provide notice of their intent to terminate Treaty provisions as early as September 2014, thus negotiations may begin at that point, if not sooner.

Questions

1. Assuming Treaty negotiations will take place, what are the most contentious components of upcoming Treaty negotiations from the Canadian point of view? On what issues is there agreement?
2. Assuming there will be Treaty negotiations, what issues are most important to Canadian stakeholders?
3. How has Treaty review thus far been received from the Canadian perspective? Have Canadian interests been satisfied with the U.S. approach to Treaty Review?

Devils Lake⁶⁴

Issue Definition

Flooding on Devils Lake, a “closed basin” lake in North Dakota with no natural outlets, led to the construction in 2005 of a man-made outlet by the State of North Dakota that empties into a separate river basin in the United States and Canada. The outlet was opposed by Canada and others due to its potential for interbasin transfer of species, parasites, and pathogens. Disagreement over the proposed outlet necessitated the involvement of an independent body to mediate international boundary water disputes, the International Joint Commission (IJC), and monitoring of the water body is ongoing.

⁶⁴ Written by Charles Stern, Specialist in Natural Resource Policy, Resources, Science, and Industry Division.

Background and Analysis

Devils Lake is a natural lake and the primary water body in Devils Lake Basin, a “closed” basin (i.e., a basin without natural outlets) in northeastern North Dakota. The lake is in the midst of an unprecedented wet period which has resulted in significant flooding. Water levels in the lake began to increase in the 1940s and by 2010 had increased by more than 50.8 feet.⁶⁵ The lake has on multiple occasions flooded surrounding homes and farms and damaged local infrastructure, and continues to pose economic issues for the region. Rising lake levels have also resulted in the lake nearing the capacity of its “natural” outlet, which would cause it to spill into adjacent drainage basins in the United States and Canada.

Due to concerns stemming from rising lake levels, including ongoing and increasing flood risks, the Corps of Engineers designed and recommended in 2003 an outlet from Devils Lake. However the Corps estimated a 75% chance that the project would not be economically viable, and environmental permitting was expected by some to further alter or delay physical construction. In lieu of approval for the Corps project, the state of North Dakota went forward with its own planned outlet. From 2003 to 2005 the state constructed a 14-mile outlet from Devils Lake into the Sheyenne River, a tributary of the Red River which runs from Minnesota, through North Dakota, and eventually empties into Lake Winnipeg in Canada. Because federal funds were not used to build the outlet, the project was not subject to the same level of environmental review as federal projects. The outlet was opposed by Manitoba, Minnesota, and Canada, who were concerned that Devils Lake outflows may allow for the transfer of invasive species, fish parasites, and pathogens that would harm sport fisheries in the Red River Basin.

The International Joint Commission, or IJC, is a binational mediation organization established by the Boundary Waters Treaty of 1909.⁶⁶ Typically the IJC acts to approve work that impacts water quantity and quality (on either side of the U.S./Canada boundary), and reports on matters of dispute or difference between two nations. After construction of the North Dakota state outlet began in 2003, Canada requested a joint referral from the United States to the IJC. However, the United States refused, arguing that damage must occur before the treaty is violated. After completion of the outlet in 2005, a joint press release by the United States, Canada, North Dakota, Minnesota, and Manitoba announced a compromise with North Dakota in which the state agreed to install a filter on the outlet made up of sand, rock, and gravel to protect downstream areas from transfer. Additionally, in response to a 2005 request of the United States and Canada, a committee of scientists under the direction of the IJC investigated the risks of biological contamination of fish pathogens and parasites from Devils Lake into the Red River Basin, including those from the outlet and filter. The study was published in 2011.

⁶⁵ Molly Bensley, Terry A. Dick, and Crystal Hudson, et al., *Devils Lake- Red River Basin Fish Parasite and Pathogen Project Qualitative Risk Assessment*, International Joint Commission and International Red River Board, http://www.ijc.org/php/publications/pdf/DEVILS%20LAKE%20%20FISH%20PARASITE%20AND%20PATHOGEN%20RISK%20REPORT%20_8_.pdf. Hereafter Bensley et al.

⁶⁶ The IJC is composed of three U.S. and three Canadian commissioners, who are expected to act impartially and not represent their governments. The IJC has established over 20 local basin boards, including the International Red River Board, to study issues of mutual concern.

Status of the Issue

In its 2011 risk assessment, the committee appointed by the IJC found limited bacteria and pathogens in Devils Lake are not found elsewhere in the basin and could be transferred through a number of pathways, including the current outlet.⁶⁷ However, the panel also concluded that the overall risk to downstream fish and fisheries from parasites and pathogens was low and potential cause for disease was minimal. The International Red River Board (the component of the IJC which produced the study) continues to monitor water quality and fisheries in the Red River Basin as they relate to the Devils Lake outlet.

Questions

1. What is the likelihood of future flooding of Devils Lake and potential overflow into the Red River Basin? Would this flooding significantly increase risks associated with potential disease vectors?
2. What are the ongoing uncertainties surrounding releases from the Devils Lake Basin into the Sheyenne River and the Red River Basin?
3. Did the IJC work as intended in the case of Devils Lake? What is its ongoing role likely to be? What lessons were learned in this process?
4. How have the differences over Devils Lake affected U.S./Canada relations through the IJC?

Ballast Water Management⁶⁸

Issue Definition

Regulatory regimes at the international, national, and state levels are in place to manage and require treatment of ballast water discharges from vessels. The impact of nonnative aquatic nuisance species (ANS, also known as invasive species) has been a concern for several decades. Until recently, these regimes have required minimal ballast water controls (i.e., ballast water exchange and saltwater flushing) for oceangoing vessels entering the Great Lakes-St. Lawrence River system and other U.S. waters. Regulatory agencies now are adopting numeric standards for ballast water discharge that will require installation of treatment technology on most vessels in the near future. Many vessel owners and operators are concerned about the feasibility of achieving ballast water discharge performance standards and also about the need to harmonize requirements.

Background and Analysis

Ballast water discharge has been identified as a major pathway for the introduction of nonnative ANS. Ships use large amounts of ballast water for stability during transport. Ballast water is often

⁶⁷ Bensley et al.

⁶⁸ Written by Claudia Copeland, Specialist in Resources and Environmental Policy, Resources, Science and Industry Division.

taken on in the coastal waters in one region after ships discharge wastewater or unload cargo, and then discharged at the next port of call, wherever more cargo is loaded, which reduces the need for compensating ballast. Thus, the practice of taking on and discharging ballast water is essential to the proper functioning of ships, because the water that is taken in or discharged compensates for changes in the ship's weight as cargo is loaded or unloaded, and as fuel and supplies are consumed. However, ballast water discharge typically contains a variety of biological materials, including nonnative ANS that can alter aquatic ecosystems. The spread of nonnative ANS, such as the zebra mussel, has had a significant impact on the Great Lakes, including economic impacts such as impairment on cooling water systems at power plants.

In 2013 the U.S. Environmental Protection Agency (EPA) issued a permit under provisions of the Clean Water Act (CWA, 33 U.S.C. 1251 et seq.) to regulate certain types of discharges from vessels, including discharges of ballast water, into U.S. waters. The EPA permit applies to seven categories of vessels operating in a capacity of transportation: commercial fishing including fish processing, freight barge, freight ship, passenger vessel, tank barge, tank ship, and utility vessel. The permit includes numeric performance standards for the concentration of living organisms in ballast water discharges. The numeric standards are identical to standards specified in the International Maritime Organization's (IMO's) 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediment.⁶⁹ They also are the same as standards finalized by the U.S. Coast Guard in 2012 under 33 CFR Part 151 and 46 CFR Part 162.⁷⁰

The EPA permit acknowledges unique vulnerabilities of the Great Lakes system to ANS invasion through ballast water discharges, and it includes additional protection for these waters. It requires all vessels that operate outside the Exclusive Economic Zone (EEZ) and more than 200 nautical miles from any shore to conduct saltwater flushing of ballast tanks before entering Great Lakes waters through the Saint Lawrence Seaway System. Also, all vessels that are equipped to carry ballast water and that enter the Great Lakes must conduct open ocean ballast water exchange.

Vessels may comply with the concentration-based numeric treatment limits in the EPA permit in one of four ways, one of which is to discharge treated ballast water that meets the applicable numeric limits (i.e., by using treatment technology). EPA estimates that approximately 2,880 domestic and 5,270 foreign vessels are potentially subject to the ballast water standards, because they operate with on-board ballast water tanks, and the agency anticipates that about 40% of covered vessels will comply by installing a ballast water treatment system. EPA has concluded that several treatment technologies capable of meeting the permit's numeric limits are commercially and economically available now for shipboard installation. New vessels constructed after December 1, 2013, must comply with the permit's numeric limits upon delivery, while existing vessels constructed before that date must comply under a staggered schedule between January 1, 2014, and January 1, 2016. Environmental advocates believe that the

⁶⁹ The IMO, a body of the United Nations, sets international maritime vessel safety and marine pollution standards. Numeric discharge limits in the IMO ballast water convention, referred to as the D-2 standards, will enter into force 12 months after ratification by 30 nations, representing 35% of the world merchant shipping tonnage. As of May 2014, this convention had been ratified by 39 nations, representing 30% of the world merchant shipping tonnage. Canada ratified the convention in 2010. The United States has not ratified the convention.

⁷⁰ U.S. Department of Homeland Security, Coast Guard, "Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters; Final rule," 77 *Federal Register* 17254-17320, March 23, 2012. The Coast Guard's authority for these rules is the Nonindigenous Aquatic Nuisance Prevention and Control Act, as amended by the National Invasive Species Act (16 U.S.C. 4701 et seq.).

performance standards in the EPA permit are not stringent enough to address the ANS problem, and they have challenged the permit in federal court.

Certain vessel classes are not be subject to the ballast water numeric limits in the EPA permit. These include vessels engaged in short-distance voyages (e.g., they travel no more than 10 nautical miles), unmanned and unpowered barges, small inland and seagoing vessels (less than 3,000 gross tons), and existing bulk carrier vessels built before January 1, 2009, that operate solely within the Great Lakes (commonly known as “Lakers”). In general, according to EPA, these vessels face a number of challenges for managing ballast water, and in the case of existing Lakers there currently are no available treatment systems. Thus EPA has concluded that it is more appropriate to require these vessels to use best management practices (BMPs) such as avoiding discharge of ballast water in environmentally sensitive areas, but not require compliance with numeric limits.

A number of U.S. states also have ballast water discharge regulations, including several in the Great Lakes region. Some establish separate permit requirements (e.g., Michigan, Wisconsin, and Minnesota), and a few include numeric discharge standards more stringent than those in the EPA permit (e.g., New York and California).

In 1989, Canada issued guidelines for voluntary ballast water exchange (BWE) outside the Exclusive Economic Zone (EEZ) for vessels entering the Great Lakes, and in 2000, these guidelines were expanded to cover all Canadian waters. In 2006, all vessels entering the Great Lakes were required to manage their ballast water through BWE and saltwater flushing for vessels. Canada’s regulations call for meeting the IMO D-2 performance standard for ballast water treatment when the Convention enters into force, but not before then. The Canadian regulatory agency, Transport Canada, has issued a discussion paper outlining regulatory changes that would be needed to implement the Convention. The proposed regulatory changes would also apply to Laker vessels, which would be required to meet the IMO D-2 standard. However, Transport Canada proposes granting an extension in the timeline for treatment systems to be installed on Laker vessels.

Status of the Issue

Many Canadian and U.S. owners and operators of vessels are concerned about overlap and inconsistency among international, national and state ballast water discharge requirements and have sought better harmonization. For example, although the IMO D-2 standards, Coast Guard rules, and EPA permits detail the same numeric standards, they differ in some aspects, such as compliance deadlines, technology certification, and exemptions or exclusions.⁷¹ The Lake Carriers Association, representing commercial shipping operators, unsuccessfully challenged separate state ballast water rules, which they contend subject shippers to multiple state requirements. Vessel owners and operators also are concerned about the availability of technology to meet ballast water discharge performance standards and compliance deadlines. The Coast Guard has been granting compliance extensions to its ballast water rules because of unavailability of certified technologies.⁷² The Canadian Shipowners Association (CSA) challenged the EPA

⁷¹ For example, Lakers are exempt from the numeric discharge standard in the Coast Guard rule, but are not exempt from the IMO D-2 numeric performance standard. Lakers also are exempt from the numeric standard in the EPA permit, but they are required to utilize best management practices to control ballast water discharges.

⁷² Coast Guard rules require owners and operators of vessels to install treatment technologies that have been certified (continued...)

permit (which does not provide for similar extensions) in U.S. federal court, seeking review of the permit's January 1, 2014, deadline for some existing vessels to install necessary technology and compliance extensions similar to those granted by the Coast Guard. In April, the federal court granted CSA's request to stay the January 1 deadline for vessels operated by CSA members while the court expedites review of the permit as a whole.

Questions

1. Does Canada see a need to harmonize the international, national, and other regulatory regimes that govern ballast water discharges from vessels? If so, how might this occur?
2. If the IMO Convention is not ratified by a sufficient number of countries in the near future for it to go into effect, will Canada pursue the proposed regulatory changes outlined in Transport Canada's discussion paper, including adoption of the IMO D-2 standard?

Electric Reliability, Trade, and Access to Renewable Power⁷³

Issue Definition

The electric power grids of the United States and Canada are physically connected. Consequently, electric power reliability problems can easily cross the international border. This was demonstrated by the 2003 power blackout, which originated in Ohio and eventually spread into eastern Canada and the northeastern United States. The United States and Canada are therefore mutually dependent for the reliable operation of their common electric power systems. The interconnected grid also creates opportunities for trade and joint expansion of the use of renewable power.

Background and Analysis

There are three components of electric power delivery: generation by power plants, transmission over long distances by high voltage power lines, and final delivery over low voltage distribution lines to end-users. The transmission lines that constitute the North American power grid cross state, provincial, and international boundaries. The U.S. and Canadian electricity grids are linked by physical ties and operational economics:

- At the broadest level of organization, the North American grid is divided into regional "interconnections" within which power moves freely (the links among the regions are very limited). The large Eastern and Western Interconnections

(...continued)

by two Coast Guard-approved, third-party laboratories. A Coast Guard official stated in March that only one technology is in the process of being approved, but none has been qualified so far.

⁷³ Written by Richard Campbell, Specialist in Energy Policy; Resources, Science, and Industry Division.

- cover most of the contiguous United States and the heavily populated regions of Canada.
- At the level of major transmission lines, the Canadian grid has evolved by building south from heavily populated areas to connect with U.S. generation and load. Consequently, while the grid in the conterminous United States is a web crisscrossing the lower 48 states, the Canadian backbone system consists of north-south lines closely linked to the United States. More electricity actually moves north and south between the United States and Canada than east and west among Canadian provinces.
 - In terms of system reliability, as discussed further below, the North American Electric Reliability Corporation (NERC) has responsibilities for the reliable operation of the power grid in both countries. Three of the eight regional reliability entities through which NERC performs much of its work extend from the United States into Canada and cover the latter's entire southern tier.
 - Under Executive Order 11423, the U.S. Secretary of State has the authority to receive applications for and to issue Presidential permits for the construction, connection, operation, or maintenance of certain facilities at the borders of the United States with Canada and Mexico. The Department of State determines whether a proposed border-crossing project is in the U.S. national interest, and the analysis of an application for an electricity transmission line is undertaken by the Department of Energy (DOE).

Reliability

In reaction to the 2003 blackout, the Energy Policy Act of 2005 (P.L. 109-58) required the Federal Energy Regulatory Commission (FERC) to designate an Electric Reliability Organization (ERO) charged with ensuring the reliability of the bulk power system, largely by issuing mandatory reliability standards. In 2006, FERC selected NERC for this role. NERC is an electricity industry organization whose reliability recommendations had been voluntary prior to its designation as the ERO. NERC's members include Canadian power companies, and it has memoranda of understanding (MOUs) with Canadian provinces and the Canadian federal government to help coordinate reliability activities. However, NERC does not have the same statutory authority in Canada as in the United States. The MOU between the Canadian National Energy Board (NEB) and NERC recognized NERC as the ERO for the Canadian part of international transmission lines but not for lines located entirely within Canada's borders (which are under provincial, not federal, regulation). NERC currently has agreements with most Canadian provinces that make, or will make in the future, NERC's reliability standards mandatory and enforceable. NERC's standards also cover critical infrastructure protection (including measures to enhance the cybersecurity of the grid).

Transmission capacity and congestion issues that can impair reliability and increase power costs exist in the United States and Canada, and the solution is often to construct new transmission capacity or enhance existing facilities. Many transmission projects are under construction or planned in both nations. However, transmission planning and construction in the United States and Canada face similar challenges, particularly for long-distance projects. These challenges include permitting and siting approvals that often involve multiple jurisdictions, and finding the funding for the large investments in transmission (and power generation) that will be needed to meet demand growth. A few international transmission projects of note include:

- The Northern Pass project is a proposed high capacity transmission line to ship up to 1,200 megawatts of hydroelectric power from Québec to New England. Although this project has received preliminary approval from the U.S. Federal Energy Regulatory Commission (FERC), its future is uncertain because declining power prices in the United States (linked to low natural gas prices) may make the project uneconomical for the Canadian partner in the venture, the large utility Hydro-Québec. However, DOE continues to hold public scoping meetings in affected communities along the U.S. route as part of the federal permitting process.
- The Champlain Hudson Power Express project (Champlain) is a merchant power line to bring hydropower and wind power from Québec to the New York City metropolitan area. The project proposes to transport up to 1,000 MegaWatts of renewable power on a high voltage Direct Current transmission line. Champlain has applied for a Presidential Permit for the project to cross the U.S. border with Canada. FERC granted Champlain conditional authority to sell transmission rights at negotiated rates.

Other transmission projects include the Minnesota Power-Manitoba Hydro agreement (i.e., the Great Northern Transmission Line project) to accommodate sales of hydropower to the United States, and the Soule Hydro, LLC transmission project connecting the BC Hydro Stewart substation to Southeast Alaska.

Authorities in both Canada and the United States are monitoring space weather. The Sun is entering an especially active period for solar storms. Northern latitudes are more susceptible to extreme space weather caused by solar storms. These storms could induce geomagnetic induced currents which can adversely affect bulk power system components such as transformers, or cause voltage instability and power system collapse.

Trade and Renewable Energy Development

The United States is a net importer of electricity from Canada, and imports have been increasing overall, from 42.7 terawatt-hours (TWh) in 2006 to 50.3 TWh in 2007 to 62.5 TWh in 2013. From the U.S. perspective, while these imports can be locally important (e.g., in New York and New England), on a national basis they are very small, equivalent to 1.5% of net U.S. electric power generation (approximately 4,058 TWh) in 2013. Electricity trade is more significant from Canada's standpoint. Canada generated 611 TWh of electricity in 2013, importing 10.7 TWh from the United States, with U.S. exports representing about 10% of Canada's domestic generation in 2013.

The United States relies on coal for about 40% of its electricity production, while Canada derives about 80% of its electricity from nonfossil fuel sources (i.e., hydropower, nuclear, and wind energy). The United States and Canada have both proposed regulations to address greenhouse gas (GHG) emissions from fossil fuel-based power generation. Canada plans to produce 90% of its electricity from "nonemitting" sources such as hydro, nuclear, clean coal (i.e., coal plants capable of carbon capture and storage), or wind power by 2020. Electricity trade between the countries is likely to become intertwined with renewable energy development and transmission planning issues. Both nations currently have policies for the increased use of renewable power. The United States and Canada have established a "Clean Energy Dialogue" (CED) to facilitate the development of low carbon energy sources. Elements of the CED include, among other things,

collaboration on expansion and modernization of the North American transmission grid to improve reliability and facilitate trade in low carbon power; advancement of smart grid technology; and development of electricity storage technology.

Canadian sources of renewable power may have the potential to reduce the need to build new, long-distance transmission projects (which can take up to a decade or more to permit and construct) in the United States. For example, imports of hydropower from Québec into New England and New York, using new but relatively short power lines, have been suggested by the transmission system authorities in those regions as an alternative to building power lines to Midwestern wind farms. Canadian hydropower resources are being considered for eligibility as capacity market resources in the New England Independent System Operator's power market. However, as discussed above, at least one of these projects has been thrown into question by declining natural gas and power prices. Disputes at the state or provincial level can also complicate energy project development. The potential development of new gas resources (i.e., from coal bed methane and tight shale formations) in both the United States and Canada could have a major impact on technology and energy choices in both countries.

In the United States, the intersecting issues of renewable power development, transmission system expansion and reliability, and long-standing difficulties in multi-state permitting of new projects, has spurred suggestions for new regulatory and planning processes. The planning element of some proposals envisions creating transmission "master plans" on a wide geographic scope to facilitate renewable energy development and other purposes. While these proposals are limited to planning within the United States, they will inevitably have an impact on Canada because of the grid connections and the much larger size of the U.S. power system.

Status of the Issues

NERC and FERC are continuing a process of developing and implementing mandatory reliability standards for the grid, with cybersecurity a growing concern. In Canada, the National Energy Board is reportedly working with provincial authorities on implementation of mandatory reliability standards, although it is not clear if in all cases these will be the same as the NERC standards or whether NERC will function as the ERO in every province. Proposed regulations to address greenhouse gas emissions in both Canada and the United States may create increased demand for renewable electricity, even with the increasing production of natural gas. Legislation is currently being discussed in the U.S. House of Representatives to update and streamline the permitting process for cross-border energy infrastructure projects, which is currently based upon several presidential executive orders. Infrastructure investment is seen as a key need in both countries to replace aging electric assets.

Questions

1. Will all Canadian federal and provincial regulators approve and enforce NERC electric reliability standards? To what extent do reliability standards in the United States and Canada have to be fully compatible in order for reliability goals to be achieved?
2. Given that the United States and Canadian power grids are integrated, what steps should be taken to coordinate transmission planning and development of smart grid protocols? Is this an area for NERC to establish a formal leadership role?

3. How can the United States and Canada effectively resolve energy development issues that may involve both federal and state/provincial authorities? Given the likelihood for increasing energy integration, should a formal bi-national body be instituted to oversee energy security issues and enhance energy trade opportunities?

4. How might Canadian and U.S. regulatory initiatives to reduce GHG emissions impact plans for increasing Canadian exports of renewable electricity to the United States, rather than reserving these resources for domestic consumption? Will Canadian hydropower be formally recognized by stakeholders in the United States as a renewable electric resource?

U.S. Energy Security and Canadian Oil Sands⁷⁴

Issue Definition

Canada ranks as the United States' number one source of imported crude oil and thus plays an important role in U.S. energy security. Canada's oil sands make up an increasing proportion of its petroleum resources, and Canada's oil sands producers continue to look primarily to the United States as the major market for their oil exports. Of the approximately 2.6 million barrels per day (mbd) of crude oil (3.1 mbd including petroleum products) Canada has exported to the United States during 2013, almost 60% is delivered to the Midwest. This region's capacity to process increasing volumes of Canadian crude oil is limited in the near term. However, planned refinery expansion coupled with new refinery and infrastructure construction may place the region in a position to receive increased oil exports from Canada in the longer term. Another possibility for processing additional Canadian oil is expanded access to refineries along the U.S. Gulf coast, which is likely to require expanded pipeline capacity.

Although U.S. refinery capacity is forecast to increase from about 17.9 mbd in 2014 to nearly 19.0 mbd in 2030—a 1.1 mbd increase, the changing economics and crude availabilities facing the refining industry may bring these projections into question. Since 2009, the U.S. refining industry has been characterized by plant closures and divestiture. Actual, as well as projected, capacity expansion may not be enough to keep up with Canada's projected increase in oil sand production, especially if the investment climate continues not to warrant expansions to include upgrades for heavy oil processing. Canada is also pursuing additional refinery capacity for its heavier oil. Refinery expansions to accommodate heavy oils are likely to have environmental effects, and Congress may continue to face controversy over the balance between energy economic and environmental goals. In addition, investment and production plans are likely to be altered by the slow growth of demand for petroleum products in the United States, associated with high prices and the ongoing effects of the economic recession that began in the last quarter of 2007.

Another possible impediment to expanded Canadian oil use is Section 526 of the Energy Independence and Security Act of 2007 (P.L. 110-140), which prohibits federal procurement of an alternative or synthetic fuel “unless the contract specifies that the lifecycle GHG emissions are less than or equal to such emissions from the equivalent conventional fuel produced from conventional petroleum sources.” The provision is intended to ensure that federal agencies are not

⁷⁴ By Robert Pirog, Specialist in Energy Economics, Resources, Science, and Industry Division.

spending taxpayer dollars to promote new fuel sources that will exacerbate global warming, and would apply to fuels derived from “oil sands,” that some associate with the production of higher levels of greenhouse gas emissions than fuels derived from conventional, lighter crude oils.

Background and Analysis

When it comes to future oil supplies, production from Canada’s oil sands will likely make up a large share of U.S. oil imports. Oil sands account for about 50% of Canada’s total oil production, and oil sand production is increasing as conventional oil production declines. Since 2004, when production from a substantial portion of Canada’s oil sands was deemed economic, Canada has been ranked third behind Saudi Arabia and Venezuela in proved oil reserves. Canada has about 175 billion barrels of proved reserves and a total of over 300 billion barrels of potentially recoverable oil sands (an attractive investment under high oil price conditions, demonstrated by the billions of dollars already committed to Canadian development). Canadian crude oil and petroleum product exports (from oil sands and conventional petroleum sources) were over 3.1 mbd during the first half of 2013, of which 99% was directed to the United States. Canadian crude oil accounts for about a third of U.S. crude oil imports, and about 14% of all U.S. crude oil and petroleum products supplied during 2013. U.S.-based oil companies are major investors in Canadian oil sands. The infrastructure to produce, upgrade, refine, and transport oil from Canadian oil sand reserves to the United States is already in place although additional pipeline capacity is planned, and may be needed. Oil sands production is expected to rise to about 3.6 mbd by 2030.

Greenhouse gas “emissions intensity” (CO₂/barrel) from oil sands has been identified as being higher than that from conventional oil production. Canada’s federal government classifies the oil sands industry as a large industrial air pollution emitter and expected it to produce half of Canada’s growth in greenhouse gas (GHG) emissions in 2010. Reducing air emissions is one of the most serious challenges facing the oil sands industry. Between 1995 and 2004, the oil sands industry reduced its emission intensity by 29% while oil production rose. Overall, CO₂ emissions have declined from 0.14 tons/barrel (bbl) to about 0.08 tons/bbl since 1990. However, Alberta’s GHG goals of 238 megatons of CO₂ in 2010 and 218 megatons CO₂ in 2020 are not expected to be met.

Status of the Issue

New refinery capacity that would accommodate heavier crude from Canadian oil sands is being planned for Indiana, Michigan, South Dakota, and elsewhere. Some of these expansions or new refineries are several years away from operation. The multi-billion-dollar BP refinery upgrade and expansion in Whiting, IN, originally with an initial expected completion in 2011, is complete and the new facilities opened in December 2013. A new \$10 billion refinery in Union County, SD, being planned to process heavy crude from oil sands, continues to face legal challenges. Environmental groups continue to promote standards for low-carbon emission fuel and oppose the permitting of these refinery projects on the basis that processing heavy crude from Canadian oil sands would generate much higher greenhouse gas emissions than from conventional petroleum sources.

Another impediment to expanded use of Canadian heavy oil in refineries in the United States is the opposition to the construction of the Keystone XL pipeline, which is designed to deliver up to 900,000 barrels per day of Canadian crude oil to new refining capacity that is expected to be built

in the U.S. Gulf Coast region. Opposition to the project in the United States centers on the inherently high carbon emissions of liquids derived from oil sands, while Canadian opposition is focused on likely job losses associated with the export of unprocessed crude oil. Unions in Canada claim that processing the crude oil in Canada, and exporting finished products such as gasoline and diesel fuel to the United States, would create thousands of high-paying jobs for Canadian workers.

Another factor important in determining Canada's ability to export increased volumes to the United States concerns recent reforms in Mexico. Mexico's oil production has contracted over the past years, but recent reforms undertaken by the government promise to reverse the downward production trend. Mexico is opening its oil industry, dominated by PEMEX, the state oil company, to investment by international oil companies. Any increased output by Mexico will likely be sent to the U.S. market where it will compete with rising U.S. production, as well as potentially rising Canadian imports. This competition for a place in the U.S. market may provide an incentive for Canada to diversify its exports in the future.

Questions

1. What changes are necessary to significantly reduce the environmental footprint of heavy oil from Canadian oil sands?
2. How much capital investment in pipeline and refinery infrastructure, and in what timeframe, is needed to support increased crude oil imports from Canada?
3. What would be the impact on U.S. federal and defense fuel procurements if Section 526 restrictions remain in place on fuel produced from Canadian oil sands?
4. As a result of the supply bottlenecks and resultant price discounts on Canadian crude oil, how likely is it that Canadian oil sands development will be slowed because of revised investment strategies by the major oil companies?
5. In light of increasing U.S. oil production and the likelihood of increased Mexican oil production how, and should, Canada diversify its oil export strategy?
6. What infrastructure improvements will Canada need to allow its oil to compete in the broader world market?

Keystone XL Pipeline⁷⁵

Issue Definition

In September 2008, TransCanada (a Canadian company) submitted its first application to the U.S. Department of State for a permit to cross the U.S.-Canada international border with the Keystone XL pipeline project. If constructed, the pipeline would carry crude petroleum produced from the

⁷⁵ Written by Paul Parfomak, Specialist in Energy Policy; Resources, Science, and Industry Division.

oil sands of Alberta, Canada, to a market hub in the United States for further delivery to Gulf Coast refineries. Because the pipeline would connect the United States with a foreign country, it requires a Presidential Permit issued by the State Department. Although similar pipelines from Alberta have been approved in recent years, the permitting process for the Keystone XL pipeline has become highly controversial. Some Members of Congress have expressed support for the proposed pipeline's potential energy security and economic benefits while others have expressed reservations about its potential environmental impacts. Though Congress, to date, has had no direct role in permitting the pipeline's construction, it has an oversight role stemming from federal environmental statutes that govern the pipeline's application review process. Legislative proposals have sought to assert direct congressional authority over permit approval.

Background and Analysis

Canada is the world's fifth-largest petroleum producer. Canadian sources of oil include conventional onshore and offshore wells and, increasingly, Alberta's oil sands.⁷⁶ The United States and Canada maintain extensive trade in crude oil and petroleum products. Canada is the single largest foreign supplier of crude oil and petroleum products to the United States—and the United States is the dominant consumer of Canada's exports. Of the 7.7 million barrels per day (Mb/d) the United States imported in 2013, Canada supplied 2.5 Mb/d (33%), more than the combined imports from the next two largest suppliers—Mexico and Saudi Arabia.⁷⁷ Pipeline infrastructure for Canadian petroleum exports to the United States has been growing rapidly in support of this trade. Five major pipelines with a combined capacity of 3.3 Mbpd currently link Canadian petroleum producing regions to markets in the United States. Two of these pipelines, Alberta Clipper and Keystone Mainline, with a combined capacity of just under 0.9 Mbpd (26% of the total), began service in 2010.

Keystone XL, if ultimately approved and constructed, would add an additional 0.8 Mbpd of cross-border pipeline capacity. Keystone XL would bring Canada's total U.S. petroleum export capacity via pipeline to over 4.1 Mb/d, enough capacity to carry more than 48% of U.S. crude petroleum imports in 2012. Given that Canada actually supplied the United States 2.5 Mbpd in 2013, large increases in Canadian supply could ultimately be possible, although much of the increased crude supply could be destined for foreign markets instead of the United States.

The recent trend of expanding petroleum pipelines from Canada, particularly Keystone XL, has generated considerable controversy in the United States. Proponents of the Keystone XL project, including Canadian government agencies, petroleum industry stakeholders, and pipeline construction workers, have based their public interest justifications primarily on increasing the diversity of the U.S. petroleum supply and on expected economic benefits to the United States, including near-term job creation associated with pipeline construction and operation. Some contend that the Keystone XL project would secure growing Canadian oil supplies for the U.S. market, which could offset imports from less dependable foreign sources. They also claim that if oil sands output cannot flow to the United States, infrastructure to export it to Asia or Europe will likely develop. Others argue that, in the absence of the new pipeline, Canada will increasingly ship its crude to U.S. markets by rail, perceived by many to be a more costly and less safe mode

⁷⁶ U.S. Energy Information Administration (EIA), Country Analysis Brief: Canada, December 2012, <http://www.eia.gov/countries/cab.cfm?fips=CA>.

⁷⁷ U.S. Energy Information Administration, Import/Export data, <http://www.eia.doe.gov/petroleum/data.cfm#imports>

of transportation. Opponents to the Keystone XL pipeline project, primarily environmental groups and affected communities along the route, object to the project principally on the grounds that it supports “dirty” Canadian oil sands development, that a potential spill could pose a risk to groundwater, that alternative pipeline routes avoiding environmentally sensitive areas in Nebraska have not been fully considered, and that it promotes continued U.S. dependency on fossil fuels. Arguments criticizing the greenhouse gas emissions of oil sands production, generally, are based to some degree on the assumption that limiting pipeline capacity to U.S. markets may limit output from Canada’s oil sands. Some opponents also argue that, given the incremental capacity anticipated in other Canadian petroleum pipelines and through increasing oil shipments by rail, the Keystone XL project is not needed.

Status of the Issue

In January 2012, the State Department denied the original Keystone XL permit, citing insufficient time under a 60-day congressional deadline to obtain all the necessary information to assess the project. In May 2012, TransCanada submitted an application to the State Department for a Presidential Permit to build a newly configured Keystone XL Pipeline project. On January 31, 2014, the State Department issued a Final Environmental Impact Statement (EIS), prepared in accordance with the National Environmental Policy Act (NEPA), for the reconfigured project. The release of the Final EIS represents only one step in the State Department’s determination as to whether the project is in the national interest; it does not include a recommendation to approve or deny the permit application. Instead, the document provides a technical assessment of the proposed project’s impacts, including potential socioeconomic impacts, as well as the potential impact of taking no action (i.e., denying the permit). That is, it includes data that will be used to inform the national interest determination; it does not reflect that determination.

A final State Department decision on the re-filed Keystone XL permit application appears unlikely before the fourth quarter of 2014 due to legal challenges to the pipeline’s approval in the Nebraska courts. President Obama has stated that he would grant the Presidential Permit “only if this project doesn’t significantly exacerbate the problem of carbon pollution.” Congress may act to influence this decision in the meantime. Numerous bills introduced in the 113th Congress would effectively approve the Keystone XL Pipeline.⁷⁸

Questions

1. Will the State Department approve the reconfigured Keystone XL pipeline?
2. How might the development of the Keystone XL pipeline affect the regional availability and price of petroleum products in North America?
3. What are the prospects for new Canadian pipelines to Pacific or Atlantic markets and how might the Keystone XL pipeline affect those?
4. To what extent should the Keystone XL pipeline, added to the other recently constructed oil pipelines from Canada, require special safety or environmental oversight?

⁷⁸ See: S. 2314, S. 2280, S. 2170, S. 582, S. 17, H.R. 4550, H.R. 4304, H.R. 4286, H.R. 3895, H.R. 3885, H.R. 3703, H.R. 2674, H.R. 334, and H.R. 3.

5. How might oil supplies from the Keystone pipeline affect U.S. oil imports from other countries?
6. What could be the nature and timing of regional economic effects associated with the pipeline's construction?
7. What are the market and safety implications of increased oil imports by rail if Keystone XL is not constructed?
8. What are the climate implications of Keystone XL and how would the project affect U.S. and Canadian efforts to reduce their emissions of greenhouse gases?

Energy Transportation⁷⁹

Issue Definition

The United States and Canada are increasingly relying on railroads to transport crude oil from new producing regions in the Bakken shale of North Dakota and Montana and the oil sands region in Alberta. Crude oil from both locations is frequently crossing the border for shipment to U.S. and Canadian refineries. About two-thirds of Bakken oil is carried away by train. Pipelines, the more economic means of shipping oil overland, are either not available or have insufficient capacity to move all of the oil (see “Keystone XL Pipeline” above). In an evolving and dynamic oil market, railroads also offer more optionality in moving oil to where it commands the highest price. In 2013, over 400,000 railroad tank cars were loaded with crude oil in the United States, and 150,000 in Canada.

Bakken crude oil, along with recent developments in ethanol transport, represents the first time that hazardous materials are moving in unit train configuration. Unit trains carry a single commodity from a single origin to a single destination, bypassing rail yards where mixed trains are broken down and built up depending on destination. Therefore, unit trains create a large concentration of hazardous material increasing the likelihood that if an accident occurs, it could have major consequences. Oil from the Canadian oil sands region currently moves in shipments of several cars at a time in mixed trains but could also soon be moving in unit trains. Matching the typical throughput of a single pipeline requires four to five 100-car unit trains per day.

Past experience suggests that one can expect a derailment for every 100,000 railcars transported. Several derailments involving Bakken oil have caused large explosions and fires requiring evacuations of nearby residents. In the most serious case, 47 people died following the derailment of a train of oil tank cars in Lac Mégantic, Quebec. This train originated in North Dakota, passed through Ontario and Quebec, and would have proceeded across Maine to a refinery at Saint John, New Brunswick, highlighting the international nature of rail safety enforcement.

The use of long trains of tanker cars, including unit trains, poses difficult challenges for responders whose experience with similar loads may be limited to a single gasoline tank truck on fire. Fires involving multiple tank cars of Bakken crude have been too intense for firefighters and

⁷⁹ Written by John Frittelli, Specialist in Transportation Policy, Resources, Science, and Industry Division.

have been allowed to burn out under watch. Derailments of cars carrying oil sands product have not caused fires, but the oil is particularly dense and difficult to clean up. The issue for policy makers is how to improve the safety of rail transport of crude oil and mitigate the damage when accidents do occur. Since freight rail transportation between the United States and Canada is highly integrated, a harmonized approach by the two countries is desirable.

Background and Analysis

A comprehensive approach to reducing the risk of crude-by-rail accidents involves reducing the likelihood of derailments, addressing the vulnerability of tank cars in derailments, and mitigating the consequences of oil releases. U.S. data clearly identify the leading cause of derailments: broken rails or welds. Broken rails or welds caused nearly one in four (23%) derailments between 2001 and 2010, nearly five times as many as the second leading cause, track geometry. The key to preventing derailments is finding rail defects early enough to allow railroads sufficient time to repair track without interrupting service. This requires inspecting rail frequently with advanced technology that can detect rail imperfections at their earliest stages. Currently, railroads conduct periodic track inspections with specially outfitted vehicles, but it may be feasible to install track-inspection technology on locomotives to achieve near continuous track inspection.

Tank cars can be strengthened to reduce the risk of product release in a derailment, but there is a weight constraint. Railroads have maximum load limits (generally 286,000 lbs. per car), so increasing car weight will reduce the amount of product that can be carried per car. This raises accident exposure as more tank cars are needed to carry the same amount of product. The vulnerability points are often the ends of the tank, where the coupler from a neighboring car can pierce the tank wall. Couplers can be modified with shelves to reduce decoupling, metal shields can be added to the ends of cars, the thickness of the steel can be increased on tank car shells, and a protective metal jacket can cover the shell to reduce the likelihood of puncture. Insulation can be layered between the shell and jacket to delay the effects from nearby cars on fire. The handles of bottom valves can be modified to break off during derailment rather than opening the valve. Pressure relief valves on top of the car can be modified to reduce pressure more quickly. All of these measures are being evaluated, but there is disagreement among railroads, car manufacturers, and oil shippers (who purchase and own most of the tank cars) over which features should be required. Some of these features (such as valves and shields) can be more easily retrofitted to existing cars than others (increased shell thickness).

The third element of addressing the safety of crude by rail is mitigating the consequences of an accident. Congress provides federal grants for training local emergency responders to transportation spills of hazardous material. The funds are raised through registration fees paid by shippers of hazardous materials. The railroad industry and hazardous material shippers also provide hands-on and web-based training to emergency responders through an industry-funded and industry-administered program. Although railroads must provide federal regulators with their plans for dealing with accidents involving hazardous material, the requirements are not nearly as specific and detailed as those required for oceangoing tankers and barges carrying oil. For instance, railroads are not required to ensure by contract or other means that personnel and equipment are available to handle a worst-case spill. A related issue is how much information railroads should provide local communities about the trains carrying crude oil traveling through their district.

Status of the Issue

On May 13, 2014, the U.S. Department of Transportation (DOT) issued a safety advisory to railroads to use newer tank cars that have additional safety features when moving crude oil whenever reasonably practicable. In April 2014, Transport Canada announced that the oldest DOT-111 tank cars (about 5,000 that lack bottom reinforcement) would no longer be allowed for use in transporting dangerous goods and the remaining fleet would either be phased out or retrofitted within three years. Transport Canada expects to finalize regulations by the summer of 2014. The U.S. DOT submitted its proposed regulations on tank car safety design to the Office of Management and Budget for review at the end of April 2014. Final U.S. regulations are also expected in the summer of 2014, and they are expected to be in harmony with Canadian regulations. Railroads, shippers, and tank car builders could issue their own tank car standard but they have not reached agreement on all safety features to be required.

While U.S. DOT is working on finalizing regulations, the agency reached an agreement with railroads in February 2014 that they would voluntarily take certain measures to improve the safety of oil trains by July 1, 2014. The measures include adding braking power, reducing train speeds to 40 mph through urban areas, installing additional wayside wheel bearing detectors, performing one additional internal-rail inspection each year beyond those required by regulation, and conducting at least two high-tech track geometry inspections over crude oil routes. Railroads also agreed to perform a routing analysis of oil trains in an attempt to identify the safest routes, similar to the analysis they currently conduct to transport toxic-by-inhalation hazardous materials. Such a requirement is controversial because avoiding large urban areas can increase the length of time such trains are in transit and because smaller towns and rural areas likely have less capability to respond to emergencies than large cities. Also, it is unclear to what extent alternative routes are available.

In addition to railroad operations, another area of regulatory scrutiny is the flammability of Bakken crude oil. If the U.S. DOT determines that the properties of Bakken oil pose an unusual safety risk, it could require that the oil be processed before shipping, requiring additional facilities at the origin points.

Congress held three hearings on crude by rail safety in early 2014. Rail safety might be addressed in reauthorization of surface transportation funding programs or in reauthorization of rail safety initiatives.

Questions

1. What is the optimum mix of safety measures that could be applied to crude-by-rail transportation?
2. How might new safety requirements affect the economics of crude by rail?
3. Are there any substantive differences in rail safety regulation between the United States and Canada?
4. How can the United States and Canada harmonize rail safety regulations for the benefit of cross border trade and transportation?
5. What is the safety record of pipelines compared to rail transport?

6. How much burden should be placed on the railroads and oil shippers to ensure that communities can adequately respond to crude by rail derailments?
7. How does the ability to move crude by rail affect North America's energy security?

Author Contact Information

Ian F. Fergusson, Coordinator
Specialist in International Trade and Finance
ifergusson@crs.loc.gov, 7-4997

Derek E. Mix, Coordinator
Analyst in European Affairs
dmix@crs.loc.gov, 7-9116

Richard J. Campbell
Specialist in Energy Policy
rcampbell@crs.loc.gov, 7-7905

James K. Jackson
Specialist in International Trade and Finance
jjackson@crs.loc.gov, 7-7751

Remy Jurenas
Specialist in Agricultural Policy
rjurenas@crs.loc.gov, 7-7281

Paul W. Parfomak
Specialist in Energy and Infrastructure Policy
pparfomak@crs.loc.gov, 7-0030

Robert Pirog
Specialist in Energy Economics
rpirog@crs.loc.gov, 7-6847

M. Angeles Villarreal
Specialist in International Trade and Finance
avillarreal@crs.loc.gov, 7-0321

Charles V. Stern
Specialist in Natural Resources Policy
cstern@crs.loc.gov, 7-7786

Claudia Copeland
Specialist in Resources and Environmental Policy
ccopeland@crs.loc.gov, 7-7227

Catherine A. Theohary
Specialist in National Security Policy and
Information Operations
ctheohary@crs.loc.gov, 7-0844

John Frittelli
Specialist in Transportation Policy
jfrittelli@crs.loc.gov, 7-7033

Shayerah Ilias Akhtar
Specialist in International Trade and Finance
siliaskhtar@crs.loc.gov, 7-9253

Acknowledgments

This report was originally written and coordinated by former longtime Specialist in International Relations, Carl Ek.