Maximizing the Potential of the Foreign Trade Zone Concept in Canada

January 2013

Prepared for MITL Partners
Maximizing the Potential of the Foreign Trade Zone Concept in Canada

M. Ferguson and C. Steverango

McMaster Institute for Transportation and Logistics
McMaster University
Hamilton, Ontario

January 2013

mitl.mcmaster.ca
# Table of Contents

Table of Contents................................................................. i
Tables .................................................................................... ii
Figures ................................................................................... ii
Acknowledgements ................................................................... iii

## Executive Summary ............................................................. iv

## 1.0 Introduction ..................................................................... 15
  1.1 Objectives and Scope ...................................................... 16
  1.2 What is a Free Zone? ....................................................... 16
  1.3 Historical Development of the “Free Zone” Concept ......... 18
    1.3.1 Early European Development ................................ 18
    1.3.2 The Development of the U.S. FTZ ......................... 19
    1.3.3 The Rise of the Export Processing Zone ................. 21

## 2.0 Free Zones in the United States and Elsewhere ................. 23
  2.1 The U.S. Foreign-Trade Zone ....................................... 23
    2.1.1 Administration ..................................................... 23
    2.1.2 The Alternative Site Framework ............................. 25
    2.1.3 Geographical Distribution, Exports, Employment and Sub-Zones .... 27
    2.1.4 FTZ Benefits and Costs ...................................... 30
    2.1.5 Manufacturing and Distribution in the FTZ .......... 34
    2.1.6 The Importance of the Inverted Tariff .................. 35
    2.1.7 Issues Surrounding the FTZ ................................. 37
  2.2 Other Free Zones Around the World ............................. 39
    2.2.1 China ................................................................ 39
    2.2.2 United Arab Emirates ........................................... 41
    2.2.3 Singapore .......................................................... 41
    2.2.4 European Union ............................................... 42
    2.2.5 Mexico and Central America ............................... 42
    2.2.6 Iran .................................................................. 43
    2.2.7 Zone Lessons ..................................................... 43

## 3.0 Analysis of the Free Zone Concept in Canada ................. 46
  3.1 Duties and Taxes in Canada ........................................... 48
  3.2 An Overview of Canada’s FTZ-like Programs ................. 49
    3.2.1 The CBSA Programs ........................................... 51
    3.2.2 The CRA Programs ............................................ 53
  3.3 Implications of NAFTA ................................................. 55
  3.4 Point-by-Point Comparison of Canadian-U.S. FTZ Packages 56
    3.4.1 Marketing of the FTZ Packages ........................... 56
    3.4.2 Customs and Security Issues .............................. 57
    3.4.3 Administration ................................................. 58
    3.4.4 Import/Export Orientation and Scope of the Programs 59
    3.4.5 Usage of the Programs ...................................... 59
    3.4.6 Scrap/Waste .................................................... 60
    3.4.7 Treatment of Inverted Tariffs ............................. 60
    3.4.8 Duty Deferral .................................................. 60
    3.4.9 Bonded Warehouses ........................................ 61
Acknowledgements

MITL would like to acknowledge the support of the John C. Munro Hamilton International Airport, the Hamilton Port Authority, the City of Hamilton and CareGo Inc. in the completion of this project.

MITL also gratefully acknowledges the efforts and suggestions of Yvon Pellerin of Radisson FTZ Consultants and Richard Koroscil of Korlon Strategic Services Inc. in reviewing a draft of this report.
Executive Summary

The purpose of this report is to consider the extent to which Canadian policies with respect to foreign trade zones (FTZs) have been effective and to offer suggestions on what could be done to improve matters. To accomplish this goal, a detailed comparative analysis of FTZ programs in the U.S. and in Canada is carried out, supplemented by selected examples from other countries. The report is focused primarily on the FTZ type of free zone. To the extent that knowledge about other zone types and their usage is helpful in putting FTZs into context, these are discussed also.

Synopsis

Canada's two main FTZ programs are the Duties Relief Program (DRP) and the Export Distribution Centre Program (EDCP) although there are other components. There is significant evidence that these programs are suffering from a marketing and marketability problem, among other issues, and that there is an opportunity to improve these programs and have Canada become an even better place to do business. The programs were glaringly omitted from mention in the "World Atlas of Free Zones" published in France and there is anecdotal evidence that even firms of significant size are unaware of the benefits of these programs. This is an important issue for Canada's economic competitiveness.

Canada's programs are accessible to the smallest of firms involved with international trade and should probably be utilized more than they are. The use of what are essentially “free points” in Canada as opposed to “free zones” is actually quite pragmatic and useful but it does create a perception program for international parties used to a zone concept. Since FTZs are at their best when they are highly internationalized, this latter issue is important. As a solution, the Canadian government should simultaneously incorporate both zones and specific firm locations (points) into the FTZ program.

The zones concept could follow the lead established by the recent Alternative Site Framework in the U.S. which defines individual FTZ service areas that are often thousands of square miles in area. The federal government should objectively develop a set of perhaps 20-30 service areas for Canada, with each having some key anchor sites such as Ports, airports, intermodal terminals or significant industrial concentrations. Individual firms will be able to participate as they have to this juncture. Each territory can legitimately be represented as an FTZ in a true zonal sense. Individual municipalities may identify selected sites as part of an FTZ service area but self-declarations of FTZ status will be eliminated to the benefit of the overall FTZ program. As well as clearing up confusion, these changes would generate regional initiatives to grow the programs. The federal government could support selected priority regional initiatives with seed money. With these changes in Canada, there will be better alignment with the U.S. offerings while maintaining the key philosophical basis of the Canadian programs.

This geographical reframing is a pressing issue but other adjustments to the programs are suggested:

- All of the FTZ-like programs need to be marketed in a more coherent and singular manner despite the involvement of two agencies. Basic usage statistics and case studies should be promoted and coordinated regional efforts could be supported in their early stages.
• The influence of the DRP may moderate over time as many duties on manufacturing inputs are being eliminated in Canada. Accordingly, Canada’s FTZ offering can be strengthened through the EDCP by eliminating any restrictions on value-added activities as has always been the case with the DRP. This possibility for many more firms to benefit from the GST/HST benefits of EDCP will assist in the generation of new economic growth.

• The export-orientation of both the DRP and the EDCP can be preserved as there is evidence that this is a sound approach but the export percentages that firms must achieve should be equalized between the two programs whether this is at 50%, 70% or some other level. The 90% level currently associated with the EDCP is too strict.

Introduction

The world contains approximately 3000 free zones across 135 countries that together account for $500 billion of direct trade related value added. A large proportion of these zones have emerged in the past 25 years. About 600 of these zones are considered to be of the FTZ variety. Canada has a unique set of programs that deliver essentially the same benefits as free zones but without the areal boundaries of a zone.

The essence of a free zone is that it is some segregated area, typically outside of customs territory, where flexibility is granted in the payment of duties and taxes and where other types of incentives may apply. Free zones of the world can be differentiated largely based on whether they tend to generate predominately imports or exports and by whether they permit trade-related activities only versus trade and manufacturing. U.S. FTZs, for example, are import and trade-oriented, although they permit manufacturing, whereas most export processing zones (EPZs) of the world are highly export and manufacturing oriented.

Historical Overview

An historical overview provides context for the modern free zone concept. While the roots of the concept can be traced to antiquity, the modern rise of the concept is largely linked to Northern European Ports such as Hamburg. Ports were the natural place for free zone development as they were the places where international commerce came together. Up until the 1880’s, ports such as Hamburg, Bremen, Copenhagen, Genoa and Trieste were essentially “free cities” because the port function was the sole function of the city. Hamburg, for example, joined the German Customs Union in 1888 at which time the Port was fenced in and declared outside the customs union. Manufacturing was allowed in the Hamburg zone and by 1904 the zone supported 80 different plants and employed over 10,000 people.

An important concept relating to free zone development is that of the entrepôt. An entrepôt was a central point where goods arrived and were physically traded before being exported to final destinations. Entrepôts helped to regulate the less reliable supply chains of the day but as trade and supply chains have become more advanced and with movements over long distances, there has been a decline in the number of true entrepôt locations. Strategically located places such as Singapore and Dubai are examples of modern-day entrepôts. Re-export and transshipment trades tend to flourish in
true entrepôt locations but are much less prominent elsewhere. These types of trades did well in 19th century Europe which was densely populated and heavily industrialized with several contiguous independent states.

The development of the U.S. FTZ program in 1934, after nearly 50 years of toying with the concept, was the next major historical development with respect to free zones. Tariffs were as high as 60% at the time for goods entering the U.S. so the foreign trade zone concept was perceived as a counterweight. There were also perceptions that the FTZ program could help major U.S. centres to replace London as a centre of world trade. Throughout the 1930's and 1940's the FTZ program grew very slowly as it was largely targeted at the re-export and transshipment trade but met with little demand. Unlike Europe, there were few nearby foreign destinations as markets for FTZ goods.

To spur increased usage of FTZs, the program was modified to permit manufacturing in 1950. However, value-added inputs such as labour and domestic parts were included in the calculation of duties to be paid when manufactured goods left an FTZ and entered the domestic market. Even as recently as 1970, there were only about ten general purpose FTZs in the United States. After 1980, the long-awaited acceleration of U.S. FTZ activity finally began to occur. It was ruled that there would no longer be duties on FTZ value-added activity in the process of manufacturing. Duties would relate to foreign inputs only. In addition, the concept of the sub-zone, which had first been introduced in 1952, began to gain traction as firms were able to obtain FTZ-status at their own existing plant locations as opposed to more speculative general purpose sites. An additional source of growth was that certain activities such as automobile assembly and oil refining were granted FTZ-status, often to operate in sub-zones, and were able to generate enormous savings through inverted tariff situations.

In summary, the U.S. model of an FTZ evolved over the decades from an "island" model where zone activities were segregated from the domestic economy to an "integrated" model where zones were quite dependent on the domestic economy. The island model was also more associated with exports and re-exports while the integrated model treated the domestic economy as a key consumer of FTZ-outputs and as an important source of value-added inputs. Accordingly, the export-to-import ratios of FTZs in the U.S. fell from 0.71 in 1982 to 0.22 in 2002 even as the value of goods processed by FTZ increased from $3 billion in 1980 to $530 billion in 2007.

A powerful extension of the free zone concept, known as the export processing zone, was developed in Kaohsiung, Taiwan in 1965. Motivations for the initial formation of this zone were the attraction of foreign direct investment, the expansion of trade and employment and the attraction of new technology. From the perspective of prospective investors, one of the biggest attractions was the availability of cheap (often female) labour. New firms were given various incentives to locate in the zone such as a corporate tax holiday and exemptions from import duties on a variety of inputs. The Taiwanese example was studied and imitated and in August 1967 the United Nations drew up a blueprint for export processing zones which was used in many developing countries.

It is estimated that there are approximately 1100 EPZs around the world and that these could account for as much as 15% of world exports. EPZs are probably the most controversial of all free zone types in
that a multitude of regulatory aspects relating to the environment and labour are often relaxed in comparison to FTZs where the main focus is on the relaxation of customs rules.

**The United States Foreign-Trade Zone**

In the United States FTZs are outside U.S. Customs territory but elements such as the movement of goods in and out of an FTZ and site security are closely monitored by Customs. Spot checks and inspections are possible at any time. Zones are subject to all federal, state and local laws and taxes except for federal excise taxes and local inventory taxes.

Each FTZ in the U.S. functions as an independent organization which answers to the U.S. Foreign-Trade Zones Board of the Department of Commerce. For each zone there is a corporation known as a grantee that oversees and administers a zone. In establishing an FTZ, a grantee goes through an elaborate application process with the federal government. Examples of grantees include the City of Phoenix (FTZ #75) and the Dallas/Fort Worth International Airport Board (FTZ #39). An important aspect of the day-to-day operations of a zone, with regard to elements such as providing U.S. Customs with shipment information and servicing the needs of participant firms, is a private sector zone operator.

U.S. FTZs were initially conceptualized as General Purpose Zones, which were generally multi-tenant sites that usually featured a strategic location from a transportation perspective. Most of the initial zones were major U.S. Ports but gradually the concept spread inland. A General Purpose Zone must be located within 60 miles of a U.S. Customs and Border Protection Port of Entry of which there are 329 scattered through the country, often far from federal borders. The introduction of sub-zones in 1952 permitted FTZ locations at existing industrial sites as opposed to more speculative general purpose development sites. In 2008, 82% of FTZ activity actually took place at sub-zones.

FTZ activity in the U.S. is quite unevenly distributed with about 2500 firms participating. More than half of all merchandise received at FTZs is associated with Texas and Louisiana and much of that activity is oil refining activity at sub-zones. Conversely, there are many states that have FTZs, but have virtually no FTZ activity. U.S. FTZs received $534 billion in merchandise in 2010 with 58% of that received from domestic sources. The domestic sourcing of goods has been in a steady decline from levels of about 80% in the early 1990's. The value of goods exported from FTZs is only about 6% of the value of all merchandise received although the rate of increase of FTZ exports has been faster than for the U.S. as a whole. Nevertheless, most goods that exit an FTZ enter the domestic economy. The total FTZ employee count at U.S. FTZs is about 330,000 which is 0.24% of all U.S. jobs.

Problems such as difficulty in Customs oversight of numerous under-utilized FTZ sites and a slow FTZ application process have recently motivated the U.S. FTZ Board to develop an Alternative Site Framework (ASF). Under the new program, which is not yet compulsory, FTZ grantees can have a quicker review process for new sites in exchange for ensuring that existing sites are fully utilized. Under-utilized sites lose their activated status within a set period of time thanks to “sunset” criteria. For each FTZ, the ASF is leading to larger service areas that are typically agglomerations of several counties and
inside each service area, a more dynamic process is available in which prospective “usage-driven” sites can quickly be activated with FTZ-capabilities. Improved technology and information systems are driving these improvements. Each FTZ is limited to 2000 acres of activated space within its service area when summed across "magnet" and usage-driven sites. A magnet site is similar to a general purpose zone. Many existing FTZs have opted to switch to the new framework.

With respect to the U.S. FTZ program, some of the key benefits for firms include the ability to:

- defer or in some cases legally avoid paying duties on imported components
- benefit from inverted tariff situations
- exhibit imported goods without duty implications
- add value to goods in an essentially unlimited manner without duty implications
- manage the entry of goods subject to quotas into the domestic market
- streamline customs processes so that customs fees are not due per shipment
- move goods in-bond from Port of Entry and between FTZs 24 hours per day
- not pay duty on imported materials that end up as scrap/waste
- be exempt for any state or local value-based taxes

These qualitative descriptions do translate into monetary savings in a U.S. FTZ. An example is given of a firm with $100 million in annual imports with the result being a first year savings of $1.5 million and subsequent annual savings of nearly $700,000. These savings can be accomplished with a high return on investment.

Several examples illustrate how manufacturers and distributors benefit from American FTZs:

- Sony is shown to benefit from having an electronics plant so close to its U.S. customer base. Customer feedback is acted upon more efficiently and quality control is enhanced.

- The ability of goods to flow 24 hours a day from the border to an Auto Plant within an FTZ and support just-in-time operations is described as a very significant benefit along with the ability to avoid going through a duty drawback process.

- Parts distributors rely very heavily on the scrap provisions of an FTZ since it is the nature of the business that large quantities of imported parts become obsolete. Their need for larger inventories is well-supported by FTZs also.

- IKEA and Crate and Barrel are examples of major retailers that benefit from FTZs as a distribution platform. Inbound movements are expedited by direct-delivery from the border and outbound movements to retail locations via U.S. Customs benefit greatly from the
streamlined weekly entry process. Weekly entry dramatically reduces the resource demands on Customs as well.

The inverted tariff situation is an important driver of U.S. FTZ business volumes. Generally, for a given country, tariffs escalate along the continuum from raw materials to finished goods. This arrangement increases the likelihood that inputs will be imported rather than finished goods. In rare inverted tariff situations, the domestic manufacturer relying on foreign inputs will actually be at a disadvantage relative to an overseas firm that produces the same final product. Achieving FTZ status will allow the domestic manufacturer to pay the lower duty on the finished product and level the playing field. The granting of FTZ status will depend on whether a net benefit to the U.S. economy is identified. It may be that domestic suppliers of the inputs will suffer from the domestic manufacturer using an FTZ to source more foreign inputs.

With duties on refined products being less than those of crude oil, the oil refining business is by far the largest beneficiary of an inverted tariff. Over 80 refinery/petrochemical sub-zone applications have been approved. Foreign auto manufacturers are also a large beneficiary as the duty on finished vehicles is a fairly low 2.5%. Inverted tariff benefits can be realized even without manufacturing. Speakers carry a 4.9% duty and DVD players and home theater systems have no duty. By bundling the speakers with the DVD players, entire systems can be created within an FTZ and are duty free.

FTZs have been controversial in the U.S., particularly in the 1980's and 1990's. Since then, there has been a focus on bigger picture issues such as large trade deficits and the fact that massive amounts of finished goods are coming from overseas and perhaps bypassing the FTZ program in any case. In the late 1980's, the International Trade Commission determined that FTZs were having a small overall effect on U.S. revenue collection, employment and the economy in general and that by encouraging imports over exports, the program was doing the opposite of its original intent. Certainly, it had never been anticipated that inverted tariffs would turn out to be a main driver. It was questioned whether FTZs had really influenced location activities at all since sub-zones allowed firms to operate where they had all along. In terms of job creation, FTZs are criticized as falling short. Total FTZ employment, at about 330,000 across 250 zones is compared to the 3 million total working in the singular Shenzhen special zone.

Among industry, the biggest critics of FTZs tend to be domestic manufacturers of inputs that are protected by high tariffs. The biggest proponents tend to be large international firms with extensive manufacturing and distribution operations. Over time, the arguments of the latter groups have appeared to win out. There is no question that such firms benefit substantially and that they value the program. The argument in terms of net benefit to the U.S. is that FTZs are a useful "nearshoring" tool. Goods that would otherwise be manufactured overseas are instead being processed in the U.S. with U.S. resources.

Other Free Zones of the World

In China, the concept of the free zone has been used quite extensively with the most famous being the large special economic zones such as Shenzhen, which grew at an astounding 58% per year from 1980 to
1984. In 1984, the Economic and Technological Development Zones was conceived and by 2010, 69 of these were in existence. Special zones acted as windows to the development of a foreign-oriented economy and an accelerant for enhanced inland economic development.

The first actual FTZ was set up in Shanghai in 1990 to assist in an experiment with free trade prior to China's participation in the World Trade Organization. The three targeted functions of Chinese FTZs are export processing, foreign trade, and logistics and bonded warehousing. Upon joining the WTO China's tariffs began to decline and the still relatively new FTZ concept was repositioned somewhat. Since 2004, efforts have been made to build close links between FTZs and nearby ports. FTZs have gotten larger and their logistics and warehousing capability for international commerce has been strengthened. FTZs are preferred locations and hubs that strongly link China's economy (including the hinterland) with the world economy. Currently, there are 15 FTZs in 13 coastal cities and which employ about 275,000 people (a bit less than the U.S. total). FTZ's are noted as being quite effective in the sense that they generate strong direct and indirect economic impacts and in that they have a disproportionate impact on GDP given their limited sizes.

China is a country where different zone types operate side-by-side. The first proper Export Processing Zone in China was surprisingly not set up until the Year 2000. To this point, 61 EPZs have emerged in China with 44 in coastal regions and 17 inland. The EPZ and FTZ concepts are similar in that they are considered outside customs territory but the EPZs have an exclusive focus on exporting. In an EPZ, over 70% of sales should be to other countries whereas in an FTZ all the goods could theoretically be sold domestically as is the case in the United States. The fact that FTZ’s in China are less export-oriented than EPZs can be seen through the handling of the VAT. If a firm in an FTZ sources domestic goods then the VAT must be paid upfront and a refund can only be obtained after the goods are exported. Because EPZs are solely focused on exports, the export rebate is upfront.

In the European Union, the development of the Union itself has placed some restrictions on FTZs that have narrowed the scope of their capabilities. In order to keep a level playing field, the EU has restrictions on state aid to private enterprises and these reduce the scope for incentives. The approximately 75 FTZs that are in place are largely a service to traders as there are fewer customs formalities. The cases of the Netherlands and Belgium are interesting given that enormous amounts of goods flow through their major logistics facilities and in that there are parallels to Canada’s FTZ-like programs. Firms located in large logistics complexes known as “Distriparks” are effectively considered as “free points” and these firms are able to carry out basic customs processes for themselves to speed the flow of goods. These countries also feature a large number of customs warehouses and free warehouses where goods in transit may be stored under Customs supervision.

In Singapore, FTZs were established in 1969 to facilitate entrepôt goods trade with little processing and in this sense come very close to the historical ideal of the free zone concept. Singapore as a whole functions as something similar to an FTZ in the sense that is a highly internationalized enclave with a population of about five million in an area about the same size as the City of Toronto. Virtually all goods which enter Singapore do so duty free although there are exceptions such as alcoholic beverages and
tobacco. There are seven FTZs which provide up to 14 days storage for re-exports/transshipment and also a system of bonded warehouses for longer term storage.

The United Arab Emirates benefits from its strategic location between Asia and Europe and is a major centre of cargo traffic in the Middle East. Dubai was the first Emirate to establish a zone and did so at Jebel Ali. This FTZ has some of the most compelling incentives in the world and these go far beyond the North American FTZ context. 100 percent foreign ownership is permitted along with no restrictions on repatriation of profits or controls on foreign currency exchange. There are no import or export duties relating to the FTZ except for sales made into the UAE and the rest of a customs union within the larger region. Work permits for foreign nationals are easy to obtain and there are guarantees of no corporate or even personal income taxes for between 15 and 50 years from set up.

An interesting and nearby counter-example to the UAE is Iran which has 17 FTZs. The success of these zones has been hampered by an inability to improve the wider business climate within Iran. While policies and incentives are certainly more liberalized within its FTZs, it has been hard to compete with other countries in the region. The general environment in Iran of statist and inward looking policies seems to dampen FTZ credibility. Like U.S. FTZs, the Iranian versions are also quite import-oriented.

In considering the development of U.S. FTZs it is worth noting that considerable U.S. investment goes to supporting EPZs in Mexico and Central America. The Maquila program in Mexico is very prominent and employs over one million in 3700 factories with the export of $80 billion. This latter total dwarfs the exports from U.S. FTZs. Starting in the 1970’s, American investment in EPZs of the Dominican Republic caused explosive growth in non-traditional sectors such as textiles, clothing and footwear.

**Analysis of the Free Zone Concept in Canada**

Canada toyed with free zones from 1861-64 when two free ports were set up at Gaspe and Sault Ste. Marie but were closed because of problems with smuggling. Until 1996 there was a belief that the costs of such programs would outweigh the benefits and that bonded warehouses and the drawback system provided a sufficient mechanism for firms to deal with duties.

In Canada the main FTZ-like programs are run by Canada Border Services Agency (CBSA) and the Canada Revenue Agency (CRA):

- **Duties Relief Program (CBSA)** - The program is intended for export-oriented firms (>70% sales) to defer (for up to four years) or be exempt from duties on imported inputs without having to post a bond. Exemption comes from the re-export of imported goods. Under the program, it is possible to sell or transfer goods between participant firms without duty implications. In 2010, about 400 firms participated in this program and deferred duties of $107M.

- **Customs Bonded Warehouses** - These are an integral part of the Duty Deferral Program though not usually directly associated with global FTZs per se. CBWs offer recourse for duty-relief for import-oriented firms in particular although not those that do any manufacturing. CBWs defer taxes and duties on imported goods at the same time. These totals were $427 million and $273
million respectively in 2009. Total dutiable merchandise stored in the 300 or so CBWs across the country was $4.6 billion in 2009.

- With regard to Drawback, which is essentially the refunding by the CBSA of duties already paid, there were 5000 claims processed in the 2009-2010 fiscal year for a total of $85 million.

- Export Distribution Centre Program (CRA) - This highly targeted program came into effect in June 2001 as a means to help Canadian distributors compete in the North American market. The program offers relief on GST/HST for imported and domestic goods that are ultimately destined for foreign markets but to be eligible, a firm must be export-oriented (>90% sales) and only limited value can be added (<10%). Due to its targeted nature, there are only about 100 firms which utilize the program. The program receives criticism for its tight parameters.

- The Exports of Processing Services Program (CRA) is another very specific program which is targeted at manufacturing service companies that perform processing on goods that they do not own. The goods must belong to non-residents and be exported within four years. Under these conditions, GST/HST is avoided. There are approximately 500 firms that make use of this program.

In comparing the Canadian FTZ-like programs to the American FTZ, there are several significant differences that overall would translate to a U.S. competitive advantage in attracting prospective international business. Given that Canada's programs are currently under federal review, there is a clear opportunity to improve the competitiveness and visibility of Canada's offerings.

- FTZs in the U.S., as secured zones, are treated as outside U.S. customs territory but this is not the case in Canada. Goods for which duty relief will apply are simply tracked in Canada as opposed to being kept outside customs territory.

- The lack of actual zones in Canada, while pragmatic in many ways, creates marketing complications for the FTZ-like programs.

- In the U.S. there is an army of varied entities marketing the FTZ programs. Each FTZ undertakes its own independent marketing efforts. There is NAFTZ which advocates strongly for the concept as well as numerous consultants and zone operators that are also involved in marketing. Canada’s programs are spread across different agencies and web sites and the provision of information in the form of case studies is hampered by the Privacy Act.

- The theme of security is very prominent in the U.S. context and the high security standards of FTZs are typically portrayed as an important asset. While information systems are also critical in the U.S., these are the centerpiece of Canada's programs with the theme of security being less prominent.

- The U.S. program is under the Department of Commerce while in Canada the CBSA and CRA administer the programs. In Canada, there is no equivalent to a localized FTZ grantee or an FTZ
bonded operator as something distinct from a customs bonded warehouse operator. The "single window" access being promoted at Manitoba's CentrePort is a locally-oriented marketing effort, does not offer extensive services, and is not comparable to either a grantee or an operator. In Canada, the process to enroll is much more a direct interaction between firm and federal agency.

- Canada's programs (i.e. DRP and EDCP) are more export-oriented and have specific, high thresholds for the percentage of a firm's sales that are exports. In the U.S. the focus is on whether the granting of FTZ status will be of net benefit to the U.S. economy. The lack of export criteria in the U.S. has thus resulted in vastly more import-oriented activity than export-oriented and also more controversy over the years.

- Controlling for population, Canada's DRP program in particular is actually more extensively used overall. Making the most of FTZ status in the U.S. requires firms of a certain minimum scale and the application process is more onerous. In Canada, the programs are more friendly to small firms and while the application processes for the various programs is disjointed and confusing, it is not actually too taxing. Given these attributes, the big surprise is that some of Canada's programs are not used more extensively than they are, despite their restrictions.

- In Canada, bonded warehouses are an integral component of the Duty Deferral Program. In the United States, bonded warehouses are not part of the FTZ program. Bonded warehouses are relatively more important in Canada in the sense that they offer the potential for simultaneous duty and tax relief to firms that are not export-oriented. In the U.S., bonded warehouses are duty-oriented and used by firms that do not pursue FTZ status.

- In both countries, complete exemption of duties is possible for goods that are exported/re-exported, given that a firm qualifies for the associated program. The duty deferral benefit is stronger in the U.S. as there is no time limit on dutiable goods remaining in FTZ. In Canada, duty can be deferred for a maximum of four years.

- In the U.S., when a final product enters the domestic market from an FTZ, there is the option of having import duties calculated based on the finished product or imported components. Duties as low as zero on finished products drive the powerful inverted tariff benefits in America. In Canada, no such choice is available and duties are linked simply to imported goods.

- The benefits relating to scrap/waste in the U.S. are more powerful in that no duties are owed on waste that does not make it into the final product. In Canada, the exemption of scrap/waste from duties applies only if the associated final product is being exported. In most circumstances then, firms must pay duties on waste in Canada and in certain industries like garment manufacturing this can be very costly. A change in legislation would help to boost competitiveness of relevant industrial sectors in Canada.

- If firms must resort to drawback (refunding) of duties than the process is less painful in Canada in that 100% refunds are possible versus only 99% in the United States. With the GST/HST being
a fact of corporate life in Canada, firms are well acquainted with refund processes. In the U.S.
firms often pay significant fees to brokers to carry out the drawback process.

Because FTZ programs are very much about tariffs, there are inter-dependencies with NAFTA that need
to be considered. Specifically, Article 303 of NAFTA is entitled “Restriction on Drawback and Duty
Deferral Programs” and seeks to avoid situations where goods could exit an FTZ and go to another
NAFTA country without duties being paid on Non-NAFTA inputs. Goods leaving a U.S. FTZ on their way
to Canada have duties collected by U.S. Customs.

Lately, the National Association of Foreign Trade Zones (NAFTZ) has developed a Trade Agreement
Proposal (TAP) which argues that foreign multi-national users of U.S. FTZs are at a disadvantage against
NAFTA firms because the latter can avoid duties on foreign inputs assuming the end-product qualifies as
NAFTA country of origin goods. The consensus on this proposed legislation to level the playing field for
foreign FTZ firms is that it would have unintended effects. It could damage U.S. component makers and
represent a circumvention of NAFTA. TAP does not take into account that NAFTA partners have
reciprocated to the U.S. in lowering tariffs for the benefit of U.S. exporters.
Introduction

According to the World Bank (2008) the world contains approximately 3000 “free” zones across 135 countries that together account for 68 million direct jobs and over $500 billion of direct trade related value added. Much of this zonal expansion has been recent: in 1986 there were only 176 zones spread across 47 countries (Hebb, 2009). These zones are categorized under a variety of names such as foreign-trade zones (FTZs), special economic zones and export processing zones among other titles. There are some key contextual differences between these zone-types that will be covered below. According to the World Bank (2008), the key unifying question that binds the various zone types together is: Does a zone offer a special regulatory framework and incentive regime that is only available within that area and not surrounding areas? If so, it likely qualifies in general as a “free” zone.

The current situation in Canada is interesting in that there are no zones of these types at all. Linking back to the World Bank definition, there are not defined areas where some special, goods-movement oriented programs are available that are not available elsewhere. Theoretically, all locations have equal access to the range of federal programs that make up Canada’s FTZ-like package. This package includes a series of programs that seek to replicate the benefits of actual FTZs without any of the locational constraints. Canada’s unique approach causes problems. The World Atlas of Free Zones, which is a French publication and is an authoritative guide on this topic, portrays Canada as not having free zones, period. In a technical sense this is true but there is no acknowledgment of the programs that are in
place. If a noted authority can make this mistake, then it is not hard to imagine that international investors might make a similar mistake.

1.1 Objectives and Scope

With that brief introduction in mind, the purpose of this report is to consider the extent to which the Canadian policies with respect to FTZs have been effective and to offer suggestions on what could be done to improve matters. To accomplish this goal, a detailed comparative analysis of FTZ programs in the U.S. and in Canada is carried out, supplemented by selected examples from other countries. The report is focused primarily on the FTZ type of free zone. To the extent that knowledge about other zone types and their usage is helpful in putting FTZs into context, these are discussed also.

The outline of this report is as follows. In the remainder of this introductory chapter, an overview of the historical evolution and definitions of the free zone concept is provided. This discussion provides a necessary background so that debates about free zone policy can be put into appropriate context. In Chapter 2 a review of free zones is carried out with a particular emphasis on the U.S. foreign-trade zone example. The emphasis on the U.S. is justified on the basis that it is probably the most relevant comparison for Canada and certainly there is competition for the same business. While the competitive environment is similar, the respective programs are quite different. Some lessons from other countries are discussed also. Chapter 3 focuses on the Canadian context and describes the programs that are in place now along with potential strengths and weaknesses. A comparison with the U.S. program is undertaken. Finally, Chapter 4 offers some concluding remarks to tie the discussion together.

1.2 What is a Free Zone?

In Table 1.1 a series of definitions for free zones are considered as they were originally expressed by their respective authors. These definitions are slanted towards the FTZ concept since this is the focus of the current report. Papadopoulos and Malhotra (2007) propose two key binary categorizations that help to clarify the nature of free zones in the world. On one dimension, they suggest that zones can be differentiated based on whether they tend to generate imports or exports. The second dimension is whether they permit trade only or whether they also encourage manufacturing.

There are about 500 zones that would be identified as FTZs around the world. Some of these are of the "purer" variety and are actually considered to be outside national boundaries but most are within national boundaries and are governed by the rules and regulations of the land (e.g. the United States).

Tiefenbrun (2012) offers a brief review of customs-privileged facilities consisting of five different categories. These are: free trade zones, free ports, transit zones, free perimeters and special types. The free trade zone is noted as being the most frequently used. Goods brought into these locations need not be declared as customs entries in the host country and no bond is required. A free port is quite similar but specifically spans an entire port and the surrounding area. A transit zone is normally a port entry, not typically associated with processing, that permits free transit to a land-locked country. A free perimeter is similar to a free port but typically located in a remote area and geared toward serving local consumption of specific imports. The final "special types" category relates to customs privileges...
available in certain industrialized nations that do not offer bona fide free zones. Some examples are discussed in Section 2.2.

**Table 1-1: Free Zone Definitions**

<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCalla (1990)</td>
<td>Free zones, in general, are politically created but economically driven. They are designated areas in which some relaxation of national laws or regulations are found. Income tax regulations, banking regulations, or minimum wage levels, for example, are found.</td>
</tr>
<tr>
<td>Tiefenbrun (2012)</td>
<td>Quoting Emanuel Celler: &quot;a trade zone is a neutral, stockaded area where a shipper can put down his load, catch his breath, and decide what to do next&quot;</td>
</tr>
<tr>
<td>Lomax (1947)</td>
<td>A segregated area in which goods not otherwise prohibited may be unloaded and stored, subject to varying restrictions as to sorting, grading, repacking, manipulation and manufacture, and which may be reloaded and shipped to foreign destinations, all without the imposition of customs formalities and duties applicable to similar goods entering customs territory</td>
</tr>
<tr>
<td>MacElwee (1926)</td>
<td>The modern free port is an area of a port separated from the customs areas of a nation by a stockade. Ships may enter such a port, discharge, load and depart without customs formalities. The goods may be stored, repacked, manufactured and re-exported without customs formalities. Only when the goods pass the barrier to reach the consuming public of the country do they undergo customs revision and pay the necessary duty. A free port is a &quot;Customs Outland&quot; within the political boundary of a country.</td>
</tr>
<tr>
<td>Grubel (1983)</td>
<td>Separated areas where goods can be brought from abroad without quota restrictions or payment of tariffs and excise taxes and exchange controls and without the majority of statistical reporting regulations aimed at the protection of customers</td>
</tr>
<tr>
<td>World Bank (2008)</td>
<td>Small, fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations, located in most ports of entry around the world.</td>
</tr>
<tr>
<td>Hebb (2009)</td>
<td>A defined space where laws and regulations, especially those related to trade, are more liberal than in the rest of a country. Typically, the territory set aside ... is considered outside a country’s customs regime. This makes the area more attractive for trade activities, since those operating in the zone avoid burdensome tariffs, excise taxes, and usually value-added taxes.</td>
</tr>
</tbody>
</table>
While Table 1.1 reflects viewpoints from different points in time, there are some relevant insights which emerge. One is that all definitions refer to free zones as having definite areal extents, which is in contrast to how the concept is implemented in Canada. Common themes in the definitions include differences in the regulatory environment in comparison to surrounding areas and a focus on transshipment and re-export operations. The recent World Bank definition, and the majority of the others, portray FTZs as being trade-oriented and without manufacturing. It is interesting that the older U.S. definitions (MacElwee (1926) and Lomax (1947)) specifically mention manufacturing although this activity was not possible in a U.S. FTZ at the time those definitions were composed.

1.3 Historical Development of the “Free Zone” Concept

1.3.1 Early European Development

The idea of the foreign trade zone or the “free” zone is not a new one. While there are accounts which detail similar concepts going back to antiquity, Lomax (1947) describes one of the first formal arrangements in 1189 during the Holy Roman Empire. At that time, Hamburg was granted a charter that exempted the city from the payment of customs duties on the Lower Elbe River. Hamburg developed as one of the leading North European Ports and was also very prominent as a “free zone” about 700 years later. Up until the 1880’s, ports such as Hamburg, Bremen, Copenhagen, Genoa and Trieste were essentially “free cities” because the port function was the sole function of the city (McCalla, 1990; Lomax, 1947). Around that time, the “free” prefix came to apply to the port itself as opposed to the entire city and the essence of the modern foreign trade zone was in place. In general, ports were the natural place for free zone development as they were the places where international commerce came together.

Hamburg had not actually joined the German Customs Union until 1888, at which time the Port itself was fenced in and declared outside the customs union. One other important aspect about Hamburg as the prototype free zone was that manufacturing was allowed, whereas it was not allowed in the zones of nearby competitors such as Bremen (McCalla, 1990). The issue of whether or not to allow manufacturing in such zones still persists. In 1904, the zone at Hamburg bustled with activity as it supported 80 different plants and employed over 10,000 people. Orenstein (2010) contends that there is a bit too much emphasis on the North European Ports as the leaders of the modern free zone developments and that eighteenth and nineteenth century examples such as Kingston, Jamaica and Guangzhou, China are also valid prototypes.

The free zone concept for the most part manifested itself in prominent locations on international trade routes and acted to encourage entrepôt trade (World Bank, 2008). Gibraltar (1704), Singapore (1819), Hong Kong (1848) are noted as early examples of free zone oriented entrepôts. An entrepôt was a central point where goods were assembled and physically traded before being exported to final destinations. Because transportation of goods was much less predictable in centuries past and fluctuations in supply and demand were greater, the entrepôt helped to regulate the supply chains of
the day. As trade and supply chains have become more advanced and over longer distances, there has been a decline in the number of true entrepôt locations.

Closely related to the entrepôt concept is what Lomax (1947) refers to as the re-export and transshipment trade. He describes the importance of the re-export and transshipment trade in Europe and notes that the process seemed quite natural in a densely populated and heavily industrialized region based on contiguous independent states, as was the case at the time. Ships would come to free zones at the various ports and break cargo for distribution to the hinterland. Meanwhile, cargo destined for foreign countries would be picked up. These types of trade were integral to the early thinking on what defined a free zone. Lomax pays special attention to the high level of tariffs that prevailed in the 1930's and 1940's. He notes the difficulty in preserving entrepôt type trade without segregated free zones in a high tariff environment and by the same token observes that free zones thrive best in such an environment.

1.3.2 The Development of the U.S. FTZ

With regard to free zones, the most important development in the first half of the 20th Century was the passage of the U.S. Foreign Trade Act of 1934 (McCalla, 1990). The U.S. had dabbled with the concept of the foreign trade zone for nearly 50 years before the Act was passed into law. The first bill had been introduced in 1894 but failed to pass. The 1934 legislation is also known as the Celler Act in honour of Emanuel Celler, the Congressman who championed the concept in the United States. The forerunner of the FTZ in the United States was the bonded warehouse, which was first authorized by the Warehousing Act of 1846. These warehouses offered relief from tariffs but received strict protection from customs guards and inflexible rules for the handling of merchandise which were somewhat relaxed in the 1920s. If FTZs gave the impression of being foreign territory, bonded warehouses were very much the opposite (Orenstein, 2010).

The successful campaign for FTZ legislation may have had something to do with the high level of protectionism at the time, which is often identified as a possible cause of the Great Depression. Tariffs were as high as 60% for goods entering the U.S. so the foreign trade zone concept was perceived as a counter-weight (VirtuosityConsulting, 2009) against the choking of international trade that was taking place. The legislation was not without controversy as there was fear that it would promote imports of cheap components that would put domestic components manufacturers at risk (Bolle, 1999). Congress noted at the time that London was very much a centre of international commerce and that many products that originated from elsewhere were purchased by the U.S. in London. There were thoughts that the U.S. might be able to take over this central role in world trade and that an FTZ program might be one way to accomplish this objective (Orenstein, 2010).

Uptake of the foreign-trade zone concept was slow with limited activity taking place in the 1930's and 1940's. The first zones established were in New York and New Orleans but little developed beyond that. Lomax (1947) commented on some of the difficulties and professed to not being surprised. He noted that the geographic proximity of the U.S. would mitigate against the development of an extensive
transshipment and re-export trade simply because there were many fewer export destinations in close proximity in comparison to the European context. If such trade were to grow, it would have to take place over much greater distances. Lomax did note that in the immediate post-WWII period, the New York FTZ had played a useful role in accommodating some European merchants who had been disrupted by the war.

Out of concern that the FTZ legislation was not properly structured for the U.S. context, modifications were introduced. The concern with free zones and manufacturing had always been that FTZ manufacturers would have an unfair advantage in competing with domestic firms for the domestic market (Virtuosity Consulting, 2009) or that the zones would encourage dumping of foreign products (Orenstein, 2010). The Boggs Amendment of 1950 attempted to address the issue by permitting manufacturing within an FTZ with approval granted on a case-by-case basis. However, upon entry into the domestic market, goods manufactured in FTZs would be assessed duty based on their full value including domestic parts, labour, overhead and profit. Not much change in usage patterns resulted as there were few takers. A more important modification in the long run was the introduction of the concept of the sub-zone in 1952, which added a great deal more locational flexibility than had been possible with defined general purpose zones.

As recently as 1970, there were still fewer than ten cities with FTZs and all of these were ocean or Great Lakes Ports (Bolle, 1999). Since 1980 though, an explosion in activity at U.S. FTZs has taken place. In 1980, $3 billion in shipments passed through the zones collectively with this amount rising to $200 billion by 2002 and $530 billion in 2007. One important cause was the recognition that if increased activity in FTZs was desired then the Boggs Amendment had not gone far enough. Accordingly, the FTZ legislation was modified so that sources of domestic value-added that would occur in a FTZ, such as labour inputs, would be excluded from the calculation of value of goods imported. The assessed value would be kept to a minimum by including foreign content only (Virtuosity Consulting, 2009). Another big impetus to increased FTZ dollar volumes has been specific instances of inverted tariffs that firms have done their best to exploit. Both the inverted tariff and sub-zones are covered in more detail in Chapter 3.

In summarizing the U.S. experience with FTZs, it is clear that the original intent of the 1934 Act had a lot to do with the promotion of exports and re-exports and no doubt these were worthy objectives. As FTZ policies evolved, however, the FTZ concept in the U.S. changed from an “island” model (FTZ_Resource_Center, 2010) to an “integrated” model. In the former case, all activity within a zone is totally segregated from the domestic economy. This is the ideal that was being preserved in the original Celler Act and even up to the time of the 1950 Boggs Amendment. Under the integrated model, U.S. manufacturers are better able to engage in efficient sourcing from both foreign and domestic suppliers and pay duty only on the value of the foreign content portion of the finished product. These newer capabilities, as well as the existence of inverted tariffs, have led to a much greater emphasis on imports that are ultimately destined for the domestic market than had ever been imagined. In terms of dollar values processed, the export to import ratio in FTZs fell from 0.71 in 1982 to 0.22 in 2002 (Virtuosity Consulting, 2009). Of course, while this change has happened, the actual dollar amounts that are passing through FTZs has exploded.
Among the other inducements of higher U.S. FTZ volume has simply been the fact that technology in a wide range of areas such as communications, transportation and merchandise tracking among many other aspects has grown very prominent (Bolle, 1999). Technology has permitted the development of sophisticated international supply chains and has also benefitted from their development. Intense international competition has meant that the savings obtainable through utilization of an FTZ are increasingly attractive.

As of the end of 2008, there has been a substantial change in how FTZs are administered by the U.S. FTZ Board. The main objective has been to reduce the prevalence of essentially dormant FTZ sites and to make more efficient use of resources. The new approach is known as the Alternative Site Framework and is discussed in detail in Section 2.1.4.

1.3.3 The Rise of the Export Processing Zone

While the FTZ concept evolved in the United States, the free zone concept also began to spread around the world. As McCalla (1990) points out, a range of countries in a range of circumstances were experimenting with the concept. He notes the establishment of such a zone in the former Yugoslavia in 1953 for goods flows down the Danube and remarks that if the idea can apply in a communist country, then it is reflective of a universal concept. Ex-communist countries such as Russia are getting involved with free zone constructs as well. Special Economic Zone legislation was passed in 2005 as a means to bypass red tape associated with domestic and international commerce (Hebb, 2009). China has made extensive use of zone concepts of different types in recent decades, including the export processing zone. A more extensive discussion of the recent Chinese experience can be found in Section 2.3.

The first export processing zone per se was developed in Kaohsiung, Taiwan in 1965 (McCalla, 1990). Motivations for the initial formation of this zone were the attraction of foreign direct investment, the expansion of trade and employment and the attraction of new technology. From the perspective of prospective investors, one of the biggest attractions was the availability of cheap labour which happened to be primarily female labour. New firms were given various incentives to locate in the zone such as corporate tax holidays and exemptions from import duties on a variety of inputs. One condition was that all products leaving the zone had to be exported.

This Taiwanese example was studied and imitated and, as a result, one of the key developments in the explosion of free zones around the world took place in August 1967. At that time, the United Nations Industrial Development Organization (UNIDO) recognized the potential of the free zone concept, and more specifically export processing zones, in the context of developing countries. Accordingly, they drew up a plan for a model free zone and this was used a blueprint for many developing countries around the world.

Papadopoulos and Malhotra (2007) provide a useful overview that focuses largely on export processing zones. They estimate that about 1100 export processing zones have developed around the world (out of the larger set of free zones) with about 600 of these being significant. Such zones account for the majority of exports in some countries that use the concept. They estimate that export processing zones
could account for 20% of world trade and 15% of world exports with much of it being associated to developing countries.

These authors also identify that in many ways, the export processing zone is the most versatile of the free zones in that it has a whole range of advantages that other zones may not. To a large extent, these advantages come about as a result of the zone being in a developing country, and potentially highly protectionist environment. In an export processing zone, in contrast to some FTZs, it goes almost without saying that manufacturing and product assembly is permitted. Such zones are noted for generous tax holidays, grants and other concessions in exchange for attracting foreign direct investment largely from developed countries (Tiefenbrun, 2012; World_Bank, 2008). Profits and/or capital can be fully repatriated for firms that choose to invest. Duty free imports of goods and also manufacturing equipment are also possible. EPZs are probably the most controversial of all zone types in that a multitude of regulatory aspects relating to the environment and labour are often relaxed in comparison to FTZs where the main focus is on the relaxation of customs rules (Orenstein, 2010).
Free Zones in the United States and Elsewhere

The purpose of this chapter is to provide an overview of FTZ programs elsewhere and particularly in the United States. Canada’s neighbour to the south provides an apt comparison, and has a rich FTZ history, but is also a competitor in the distribution of goods from overseas. The initial major section considers the foreign-trade concept in the United States in terms of its benefits, administration, utilization and issues that have arisen. The final section offers more of an international overview and some of the lessons that have become apparent.

2.1 The U.S. Foreign-Trade Zone

2.1.1 Administration

FTZs are technically outside U.S. Customs territory but they are under U.S. Customs oversight and supervision. Involved information systems are used to track all merchandise entering and exiting FTZs (Virtuosity Consulting, 2009). Some zones around the world do not require customs documentation or supervision of merchandise as it is admitted, stored or processed in an FTZ but this is not the case in the United States. The location, cost and value of all goods interacting with an FTZ and details about scrap/waste and by-products are all variables of interest for tracking. Zone activities are subject to spot checks and inspections by Customs at any time. Zones are subject to all federal, state and local laws and
taxes except for federal excise taxes and local inventory taxes. There are exceptions where goods can be admitted into an FTZ that could not be entered into U.S. Customs territory (Emken, 2012).

FTZs in the U.S. are each their own distinct entity but must answer to the U.S. FTZ Board. The Grantee is a corporation, made up of public and/or private stakeholders (but more typically public), that oversees and administers a zone. The grantee goes through a fairly elaborate application process with the U.S. FTZ board to in order to have the zone itself approved. Some examples of grantees include the City of Phoenix (FTZ #75), the Dallas/Fort Worth International Airport Board (FTZ #39), the Port of Portland (FTZ #45) and the Foreign Trade Zone of Central Texas Inc. (FTZ #183).

General Purpose Zones must be located within 60 miles of a U.S. Customs and Border Protection Port of Entry of which there are 329 scattered through the country. Many of these locations are at interior sites far away from actual federal borders. General Purpose applications that are spatially too close to an existing FTZ General Purpose Zone are likely to be denied unless some convincing justification is provided. In every application to the FTZ Board, the opinion of the relevant Customs and Border Protection Port Director is influential in the ultimate success of the application. The Port Director needs to address whether customs can service the FTZ sites.

Sub-zones were first legislated in 1952 and allowed existing industrial sites to participate in the FTZ program as a satellite of a general purpose zone. Other things being equal, it is generally more difficult for a sub-zone to be approved than a general purpose zone. A sub-zone can only be approved when there is a clear “public benefit”, such as increased employment, without a negative impact on domestic competitors.

For either a general purpose or subzone, the application is made to the U.S. Foreign-trade Zones Board which is part of the U.S. Department of Commerce. Up until recently, a general purpose application would take about 18 months while a sub-zone process might take 12 months (Bolle, 1999).

The day-to-day operations of an FTZ are carried out by an operator. In the case of a general purpose zone, a bonded zone operator is chosen by the grantee (Tiefenbrun, 2012) and this operator will service the needs of tenant firms involved with the FTZ. In this context, the operator is quite likely to be a private sector firm with expertise in areas such as warehousing and logistics. In the case of a sub-zone, the role of the operator is likely to be played by the firm which defines the sub-zone.

The U.S. FTZ Board has been making some significant regulatory changes to the FTZ program in recent years. One is the Alternative Site Framework discussed below and another is a set of revised regulations that mostly relate to technology improvements in areas such as electronic filing of documents. These are designed to improve interactions with U.S. Customs and are the first revisions to this set of regulations in about 20 years (Whiting, 2012). One objective of the new measures is to promote use of FTZs by small and medium sized firms (Hanback, 2008). From the perspective of firms, it is becoming increasingly important to utilize advanced software applications to be in synch with the new regulations. Of course, such capabilities are well-aligned with the concept of leaner supply chains.
2.1.2 The Alternative Site Framework

The Alternative Site Framework (ASF) is a new conceptualization of certain aspects of the FTZ program which seeks to eliminate red tape and reduce resource requirements among the grantee, the government and firms. The new framework was implemented at the end of 2008 in an effort to spur a more effective and efficient use of FTZ-related resources. The ASF is essentially based on a trade-off (U.S._FTZ_Board, 2008) that every grantee needs to evaluate: The FTZ Board will be able to provide FTZ status more quickly and predictably to firms within a service area that need it but the grantee must take on additional responsibility to ensure that FTZ sites are fully utilized for the activities they are designed to serve. Under-utilized sites within a service area will lose their activated status within a set period of time. In other words, there is a new “use it or lose it” philosophy that applies to specific sites within an FTZ.

It is possible to reorganize an existing FTZ to take advantage of ASF benefits and it is also possible for entirely new FTZ applications to be considered under the ASF format. The U.S. FTZ Board (2008) has noted that many FTZs are defined on a speculative basis, without initially being tied to specific users, and the result has been too many unused FTZ sites and increased oversight uncertainty for the U.S. Customs and Border Protection agency.

The ASF conceptualizes two new types of sites within FTZs. These are “magnet” sites and “usage-driven” sites. The magnet site is similar to traditional FTZ sites (e.g. Industrial parks and port facilities) and analogously are speculative in nature in that they seek to attract new activity that is not always identifiable when a zone is set up. Magnet sites are thus similar to the framework that was already in place and are not the main focus of what the ASF seeks to achieve. There is a general goal of no more than six magnet sites per grantee (U.S._FTZ_Board, 2009). The most common activities within magnet sites are warehousing and distribution but production can occur. No U.S. FTZ Board application is needed for the former but for the latter a production notification must be sent to the FTZ Board and a response should arrive within four months. If there are issues with the application due to the nature of the production activity then a more detailed application might be required which might take 12 months to process. Improved technology is a large part of the reason why some applications can be turned around in as little as four months (Whiting, 2012).

A usage-driven site is for a specific company that wishes to operate within an FTZ service area. It offers a great deal of flexibility in where zones can be located for those firms that cannot move to magnet sites. The designation would be tied to the specific company and limited to the space needed by that company. If the company vacated the site, the FTZ designation would terminate and the process would need to start over if a future occupant of the site was interested in FTZ activities (U.S. FTZ Board, 2009). The usage-driven site is also known nowadays as a "within service area sub-zone." Usage-driven sites can be set up very quickly under the ASF with approvals taking as little as 30-45 days. If manufacturing activity is involved then the process and time spans are comparable with the similar situation within a magnet site.
Figure 2-1: Service Areas of Two FTZs Under the Alternative Site Framework
There is really a third type of site which has to be treated slightly differently if an FTZ has been reset under the ASF. These are sub-zones that are outside of the service area. These may be distribution or manufacturing firms that are also not within any other FTZ but would like the benefits of FTZ status. An application has to be done through one FTZ to which the sub-zone would be linked and filed with the U.S. FTZ board. This application will take 5 months to process and from that point an additional 12 month process may be required depending on the nature of manufacturing activity.

Whether magnet sites or usage-driven sites, each FTZ grantee is limited to a maximum of 2000 acres of sites that are “activated” or being monitored by U.S. Customs and Border Protection. This limit has been in place since long before the establishment of the ASF. Under, ASF, the 2000 acres are allotted to the various sites to create site-specific size activation limits. An activation tracking system is under development that would provide more flexibility in terms of site-specific activations in this respect.

Given the new focus on keeping FTZ sites active and not lying dormant, there are on-going “sunset” tests that remove unused sites from the list of active sites. Magnet sites can be terminated after five years and usage-driven sites after three years if there is insufficient foreign-oriented activity of the type that justifies FTZ status. If there is sufficient activity then the sunset deadline is extended for an additional term. Among the list of magnet sites within a grantees service area, there will be one site which is designated as the anchor site and this will not be subject to the same sunset criteria.

The concept of the “service area” appears to have taken on new significance with the advent of the ASF. A service area is basically a catchment area within which an FTZ grantee can propose FTZ sites. Service areas are most typically groupings of adjacent counties where each county has agreed to participate. This is illustrated for FTZs centred in Columbus, Ohio and Phoenix, Arizona in Figure 2.1. The service areas for these FTZs average 17,500 square miles even though the distribution of magnet, usage-driven and sub-zone sites is fairly centralized within each region. Defining an a priori service area reduces required FTZ board administration when potential zone users appear and need FTZ designation quickly, wherever that might be in the service area. The options for the allocation of a grantee's 2000 acre allotment are maximized.

### 2.1.3 Geographical Distribution, Exports, Employment and Sub-Zones

Table 2.1 illustrates several things about FTZs in the United States. One is that all of the States are represented although the zones in some states are effectively not functioning. Another is that more than half of all merchandise received is linked to two states: Texas and Louisiana. This outcome reflects the importance of the FTZ concept to oil refining. The total dollar value of merchandise received at U.S. FTZs was about $456 billion in 2009. These volumes are actually heavily affected by the deep recession of that year and rebounded to $534 billion in 2010. The peak year was 2008. in 2010, 58% of received merchandise arrives comes from the domestic economy with this percentage being in a steady decline from about 80% in the early 1990's (U.S._FTZ_Board, 2011). Approximately 7% of U.S. imports by value is handled at FTZs. One thing that Table 2.1 does not indicate is that the pharmaceutical, automotive and oil industries were the primary beneficiaries of FTZ status.
With regard to exports, they make up only about 6% of the total dollar volumes processed by FTZs, which somewhat contradicts the original conceptualization of the 1934 FTZ Act. However, Griswold (2012) notes that from 2009 to 2010 exports from FTZs increased 23% which was a rate of increase well ahead of total U.S. export growth.

Table 2-1: Presence and Characteristics of Foreign-Trade Zones by State (2009)

<table>
<thead>
<tr>
<th>State</th>
<th>Locations</th>
<th>Employment</th>
<th>Annual Volume ($000’s)</th>
<th>Exports ($000’s)</th>
<th>Active Firms</th>
<th>Active Sub-zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>33</td>
<td>51,384</td>
<td>138,249</td>
<td>5,478</td>
<td>425</td>
<td>49</td>
</tr>
<tr>
<td>Louisiana</td>
<td>6</td>
<td>17,498</td>
<td>91,922</td>
<td>824</td>
<td>90</td>
<td>17</td>
</tr>
<tr>
<td>California</td>
<td>18</td>
<td>19,220</td>
<td>27,422</td>
<td>1,857</td>
<td>291</td>
<td>16</td>
</tr>
<tr>
<td>Ohio</td>
<td>10</td>
<td>35,534</td>
<td>23,049</td>
<td>1,902</td>
<td>171</td>
<td>9</td>
</tr>
<tr>
<td>Illinois</td>
<td>8</td>
<td>17,349</td>
<td>23,019</td>
<td>500</td>
<td>75</td>
<td>8</td>
</tr>
<tr>
<td>Kentucky</td>
<td>2</td>
<td>19,145</td>
<td>18,678</td>
<td>1,884</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>New Jersey</td>
<td>5</td>
<td>15,087</td>
<td>18,266</td>
<td>368</td>
<td>26</td>
<td>12</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>7</td>
<td>19,939</td>
<td>15,961</td>
<td>225</td>
<td>28</td>
<td>8</td>
</tr>
<tr>
<td>Michigan</td>
<td>7</td>
<td>11,134</td>
<td>15,625</td>
<td>663</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Mississippi</td>
<td>3</td>
<td>16,126</td>
<td>11,304</td>
<td>864</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>South Carolina</td>
<td>3</td>
<td>8,549</td>
<td>10,535</td>
<td>3,596</td>
<td>118</td>
<td>6</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>3</td>
<td>11,126</td>
<td>10,106</td>
<td>1,261</td>
<td>102</td>
<td>16</td>
</tr>
<tr>
<td>Alabama</td>
<td>5</td>
<td>9,766</td>
<td>7,157</td>
<td>1,979</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Florida</td>
<td>20</td>
<td>5,756</td>
<td>5,746</td>
<td>1,703</td>
<td>242</td>
<td>9</td>
</tr>
<tr>
<td>Indiana</td>
<td>6</td>
<td>4,162</td>
<td>5,179</td>
<td>1,037</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>Washington</td>
<td>13</td>
<td>2,301</td>
<td>5,088</td>
<td>139</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Tennessee</td>
<td>6</td>
<td>8,253</td>
<td>3,921</td>
<td>626</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>Georgia</td>
<td>3</td>
<td>5,117</td>
<td>3,644</td>
<td>496</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1</td>
<td>1,584</td>
<td>3,993</td>
<td>474</td>
<td>239</td>
<td>3</td>
</tr>
<tr>
<td>Delaware</td>
<td>1</td>
<td>6,348</td>
<td>2,490</td>
<td>13</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Virginia</td>
<td>5</td>
<td>2,901</td>
<td>1,552</td>
<td>135</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Missouri</td>
<td>3</td>
<td>1,720</td>
<td>1,440</td>
<td>219</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>4</td>
<td>1,003</td>
<td>1,299</td>
<td>18</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Arizona</td>
<td>6</td>
<td>14,253</td>
<td>1,298</td>
<td>332</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Alaska</td>
<td>5</td>
<td>813</td>
<td>1,297</td>
<td>75</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Maryland</td>
<td>4</td>
<td>1,052</td>
<td>1,297</td>
<td>21</td>
<td>92</td>
<td>1</td>
</tr>
<tr>
<td>Arkansas</td>
<td>2</td>
<td>1,710</td>
<td>1,294</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>New York</td>
<td>13</td>
<td>1,850</td>
<td>1,048</td>
<td>274</td>
<td>123</td>
<td>5</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>3</td>
<td>2,769</td>
<td>1,097</td>
<td>164</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>West Virginia</td>
<td>3</td>
<td>1,712</td>
<td>827</td>
<td>324</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nevada</td>
<td>2</td>
<td>465</td>
<td>665</td>
<td>4</td>
<td>87</td>
<td>1</td>
</tr>
<tr>
<td>Minnesota</td>
<td>3</td>
<td>425</td>
<td>636</td>
<td>6</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>North Carolina</td>
<td>6</td>
<td>4,467</td>
<td>452</td>
<td>26</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Nebraska</td>
<td>2</td>
<td>901</td>
<td>200</td>
<td>59</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Kansas</td>
<td>2</td>
<td>686</td>
<td>181</td>
<td>17</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3</td>
<td>2,541</td>
<td>135</td>
<td>49</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>New Mexico</td>
<td>2</td>
<td>346</td>
<td>129</td>
<td>48</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Iowa</td>
<td>3</td>
<td>2,479</td>
<td>116</td>
<td>15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>1</td>
<td>780</td>
<td>75</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Oregon</td>
<td>4</td>
<td>337</td>
<td>29</td>
<td>10</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2</td>
<td>586</td>
<td>23</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Colorado</td>
<td>2</td>
<td>207</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Connecticut</td>
<td>4</td>
<td>10</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Vermont</td>
<td>2</td>
<td>432</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Idaho</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maine</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Montana</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South Dakota</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Utah</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>257</td>
<td>330,843</td>
<td>455,743</td>
<td>27,590</td>
<td>2,523</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Derived from (NAFTZ, 2011)

In terms of number of firms and total employment in FTZs, the totals in Table 2.1 are higher than in years past. Firm totals were 1531 in 1983 and 2101 in 1986 with employment totals for those years being 32,509 and 137,538 respectively (U.S. ITC, 1988). The huge gains in employment in the mid 1980's
have much to do with existing industrial locations being turned into sub-zones. In 1986, even after the growth in employment, FTZs accounted for only about a tenth of one percent of total national employment. Nowadays the percentage is about 0.24%.

The absence of any real FTZ activity in some states is a point worth expanding upon. The creation of an FTZ in and of itself does not appear to guarantee a favourable outcome. The success of an FTZ in terms of handling large dollar volumes has to do with a host of locational and other factors which may have little to do with issues such as duties on imported goods. As Erickson & Associates (2010) colorfully note: “If an FTZ is placed in the middle of nowhere then nothing will happen.”

**Table 2-2: Spread of U.S. General Purpose and Sub-Zones**

<table>
<thead>
<tr>
<th>Year</th>
<th>General Purpose</th>
<th>Sub-Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936-40</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1941-45</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1946-50</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>1951-55</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>1956-60</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>1961-65</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>1966-70</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>1971-75</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>1976</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>1977</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>1978</td>
<td>41</td>
<td>8</td>
</tr>
<tr>
<td>1979</td>
<td>49</td>
<td>10</td>
</tr>
<tr>
<td>1980</td>
<td>59</td>
<td>11</td>
</tr>
<tr>
<td>1981</td>
<td>67</td>
<td>13</td>
</tr>
<tr>
<td>1982</td>
<td>74</td>
<td>18</td>
</tr>
<tr>
<td>1983</td>
<td>91</td>
<td>30</td>
</tr>
<tr>
<td>1984</td>
<td>108</td>
<td>59</td>
</tr>
<tr>
<td>1985</td>
<td>118</td>
<td>83</td>
</tr>
<tr>
<td>1986</td>
<td>127</td>
<td>93</td>
</tr>
<tr>
<td>1987</td>
<td>138</td>
<td>106</td>
</tr>
<tr>
<td>2009</td>
<td>257</td>
<td>260</td>
</tr>
</tbody>
</table>

Source: Derived from U.S. ITC (1988)

Perhaps the biggest change in FTZ utilization in the past thirty years has been the rise of the FTZ sub-zone as shown in Table 2.2. Note that there are as many sub-zones (260) as there are granted FTZ locations (257). Sub-zones became an effective means for the FTZ concept to be utilized within a pre-existing business outside a general purpose FTZ zone. In 2008, some 82% of zone activity took place at sub-zone facilities (Tiefenbrun, 2012). Each sub-zone is formally linked to a single general purpose zone. Automobiles accounted for 87% of all sub-zone shipments in 1986 (U.S. ITC, 1988) but oil refining surpassed the auto industry in sub-zone importance starting about a decade later.
2.1.4 FTZ Benefits and Costs

Table 2.3 provides a list of FTZ benefits that are frequently mentioned in the U.S. context but are not necessarily unique to the United States. Some foreign FTZ locations, such as Dubai, are more aggressive in offering additional incentives such as tax holidays on top of these types of benefits. A range of incentives are also available in many export processing zones around the world which would tend not to apply in North America. There are also examples elsewhere of a more relaxed regulatory environment such as in terms of labour laws.

**Table 2-3: Compiled Benefits of U.S. Foreign-Trade Zones**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duty Deferral</td>
<td>A firm is shielded from paying duties on goods until those goods leave the FTZ and enter the domestic market. There are thus cash flow benefits. A related benefit is the possibility of Indefinite or long-term storage of goods and maintaining a stock of spare parts.</td>
</tr>
<tr>
<td>Savings from Inverted Tariffs</td>
<td>Inverted tariffs can apply when imported inputs to a manufacturing process have a higher duty than the final product. Usually with authorization, a firm can elect to pay the rate applicable to the finished product rather than the component.</td>
</tr>
<tr>
<td>Exhibition/Trial Use Advantages</td>
<td>Many FTZ locations have exhibition capabilities where goods not available to the domestic market can be viewed by potential importers without any duty implications. Such a capability reduces uncertainty. A potential importer can test goods, such as machinery, before committing to it. Such machinery can be assembled and installed before duties are owed on goods processed with it.</td>
</tr>
<tr>
<td>Quota Advantages</td>
<td>In cases where quota apply to goods imported into the domestic market, the FTZ can be used to store goods until such a time as some quota room becomes available. No quota charges on Non-NAFTA re-exports. Inputs subject to quota may be manufactured into a product not subject to quota.</td>
</tr>
<tr>
<td>Streamlining of Customs Procedures</td>
<td>&quot;Weekly Entry&quot; process: customs filing takes place once per week rather than once per shipment, Reduced broker and processing fees as a result. Harbor Maintenance Fee paid quarterly and not by shipment. Greater likelihood of achieving C-TPAT tier 3 status and minimize random inspections.</td>
</tr>
<tr>
<td>Zone to Zone Transfers/Direct Border Processes</td>
<td>Goods can move between foreign trade zones in an &quot;in-bond&quot; manner without duty charges being triggered. Goods associated with low risk/ repetitive shipments can also move in-bond from the original port of entry without triggering such charges or inspection. Direct shipments from the border can facilitate 24 hour just-in-time operations. Temporary removals of merchandise into customs territory is also possible in some circumstances.</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Volume Reduction/Scrap/Defective Goods</strong></td>
<td>There are many manufacturing processes where the volume of goods going in is more than what comes out due to scrap, defective goods or natural volume reduction in the case of some food products. The implication is less duty payable. FTZs also offer the ability to measure quantities before paying duties or insurance rather than the reverse.</td>
</tr>
<tr>
<td><strong>Insurance Benefits</strong></td>
<td>Customs Supervision of FTZs may lead to lower security and insurance costs and duty payable on FTZ merchandise does not need to be included in calculation of insurable value.</td>
</tr>
<tr>
<td><strong>Location Advantages</strong></td>
<td>FTZ sites may have highly strategic locations and more advanced physical infrastructure oriented to transportation and logistics.</td>
</tr>
<tr>
<td><strong>Duty Exemption</strong></td>
<td>In the context of re-exporting, dutiable imported goods could be processed and shipped to another country with no duties being due.</td>
</tr>
<tr>
<td><strong>Exemption of Domestic Value Added</strong></td>
<td>Domestic inputs such as value-added labour and manufacturing processes can be employed along with imported goods to make an output. These value-added inputs do not increase the dutiable value if the end-product comes into the domestic market. This is in contrast to the same production operations being done overseas.</td>
</tr>
<tr>
<td><strong>Tax Savings</strong></td>
<td>Exemptions from inventory taxes (as in some U.S. states) and excise taxes. Savings in selected cases relating to state or local taxes that may not specific to FTZs.</td>
</tr>
<tr>
<td><strong>Bulk-breaking, Packaging and Labelling</strong></td>
<td>There is flexibility in how goods can be re-configured for different foreign markets while duty free status is preserved. Even in a non-manufacturing context, there is thus a lot that can be done to goods without any real processing taking place.</td>
</tr>
<tr>
<td><strong>Logistical Benefits</strong></td>
<td>Inventories can be maintained for Just-in-time applications; advanced transportation and distribution facilities and enhanced infrastructure. Admission of goods on weekends and after-hours. Reduced Inventory cycle times can result among other logistics benefits.</td>
</tr>
<tr>
<td><strong>International Returns/Quality Control</strong></td>
<td>An FTZ can enable the avoidance of duties for exported merchandise that is returned. An FTZ also offers an easy means to return imported merchandise that is not up to standards without triggering duty payments.</td>
</tr>
</tbody>
</table>

In terms of U.S. FTZ benefits, Tiefenbrun (2012) perhaps offers the most thorough discussion. With respect to streamlined customs and no formalities, the example is offered of the New York FTZ where piers in New York Harbor are adjacent to the FTZ so that merchandise can literally be transferred from vessel to warehouse in minutes. This same FTZ is noted for its exhibition/showroom advantages. A notable European heavy machinery manufacturer makes use of the FTZ to display its products and to increase sales in the United States. Despite being outside U.S. Customs territory, an owner of goods has
full access to merchandise which can translate into the ability to get a bank loan, for example, using the goods as collateral.

Food processing firms are notable beneficiaries of FTZs. Products can be processed or manipulated to qualify for low duties and freight charges (Tiefenbrun, 2012). Canning of fruits, vegetables and fish products is often done in FTZs and refrigeration capabilities often play a significant role. Caviar is stored in the New York FTZ for up to two months before re-export. Another famous food-related example relates to Brazil Nuts which are left to "cure" in an FTZ and end up weighing less due to reduced water content. When imported into the U.S., lighter weight translates into less duty (Orenstein, 2010).

Table 2-4: Case Study of Potential FTZ Savings

<table>
<thead>
<tr>
<th>Fact Pattern</th>
<th>Assumptions</th>
<th>1st Year</th>
<th>On-going</th>
</tr>
</thead>
<tbody>
<tr>
<td>1529 Entries</td>
<td>1,500 entries</td>
<td>$135,000.00</td>
<td>$135,000.00</td>
</tr>
<tr>
<td>64 Canadian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Mexico</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAFTA Entries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated average broker fee per entry: $90</td>
<td>$52 x $100 (with weekly entry)</td>
<td>$129,800.00</td>
<td>$129,800.00</td>
</tr>
<tr>
<td></td>
<td>Estimated average MIP per entry: $200</td>
<td>$1500 x $200</td>
<td>$300,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$25,220.00</td>
<td>$25,220.00</td>
</tr>
<tr>
<td></td>
<td>MPF Savings</td>
<td>$274,780.00</td>
<td>$274,780.00</td>
</tr>
<tr>
<td>Imports: Estimated $100 Million</td>
<td>Average Inventory: Estimated $36 million</td>
<td>Cost of Capital 4%</td>
<td></td>
</tr>
<tr>
<td>Average Duty Rate: 2.5%</td>
<td>$36 Million x Avg Duty Rate 2.5%</td>
<td>$900,000.00</td>
<td>$36,000.00</td>
</tr>
<tr>
<td>Re-export: Estimated $10 Million</td>
<td>Re-export average 10% of total imports</td>
<td>$10 Million x Avg Duty Rate 2.5%</td>
<td>$250,000.00</td>
</tr>
<tr>
<td>Estimated 1st Year Savings in an FTZ</td>
<td>Recurring Annual Savings Estimate (assuming same volumes)</td>
<td>$1,554,580.00</td>
<td>$690,580.00</td>
</tr>
</tbody>
</table>

Source: Gersper (2010)

The FTZ program in the U.S. is a federal one but there may be additional local and state incentives that would apply to certain FTZs (Virtuosity Consulting, 2009). These incentives tend to come about as a result of fairly intense competition between states for new investment. Incentives may relate to site development and facilities and equipment, workforce development and state and local tax incentives. State tax incentives can take the form of a wide range of tax credits for job retention and R&D investments among other aspects. Local property taxes can be reduced or eliminated for long periods of
There are numerous benefits associated with a U.S. FTZ but the process to take advantage is not straightforward. There are a large number of consulting firms that have developed in the U.S. with the purpose of making sure that firms can benefit from the FTZ program. Gersper (2010) outlines the process and benefits from the perspective of one such firm. He notes that firms can order a data set from the U.S. government and actually analyze all import transactions to see if FTZ-status could be viable. An example of a firm with $100 million in annual imports is covered in Table 2.4 and the result is an estimated first year savings of $1.5 million and subsequent annual savings of nearly $700,000 and a high return on investment. The potential for a firm to save money is of course one of the most powerful of all FTZ benefits.

**Costs to Firms**

There are costs associated with using an FTZ. These include fees for applying to establish site within an existing FTZ in the first place and also fees due to the FTZ itself if the organization assists an applicant in manners such as sponsoring an application. Once the site is activated, a firm will owe annual fees to the FTZ grantee which will depend on the size of the warehousing or manufacturing operation. These appear to be in the range of $2500 to $10,000 per year depending on the size of the operation. So there are fixed costs associated with operating within an FTZ. For that reason, small firms that do not do much importing or exporting may not see sufficient return on investment to justify the expense of setting up within an FTZ (Whiting, 2012; Aron, 2002).

There are Customs Fees associated with the movement of goods. The Merchandise Processing Fee, which was recently increased, is paid for goods leaving an FTZ and entering U.S. Customs Territory and the amount is $3.45 per $1000 estimated value. There is a minimum charge of $25 and a maximum of $485 per entry. This fee is reduced somewhat by utilizing the weekly entry procedure which lumps all shipments (entries into domestic territory and exports) together into one form for a seven day period. Frequent importers can spend large sums of money on this fee alone (Whiting, 2012) but the FTZ is essentially a tool to effectively manage this fee and keep it down to perhaps $25,000 per year. The weekly entry process is cost-efficient for firms and is also important for the government. FTZs handle about 7% of U.S. imports each year by dollar value but account for less than 1% of import transactions and this is a large savings for customs administration (Whiting, 2012).

One interesting observation about benefits is that operations in an FTZ require careful accounting of a range of processes. Feedback from firms indicates that the discipline required to meet all the protocols reduces inventory error, receiving and shipping concerns, and waste and scrap (Emken, 2012).
2.1.5 Manufacturing and Distribution in the FTZ

One of the turning points for the FTZ concept in the U.S. was when manufacturing activity became permissible and other types of value-added inputs (e.g. labour) could be added without tax or duty implications. Until then, FTZ activity was fairly stagnant.

In the U.S., FTZs make it easier for manufacturing operations with international inputs to take place close to the customer. According to Lydon (2008) the location of the east coast Sony Electronics plant, which is near Pittsburgh in a FTZ, means that goods can be ground shipped to 60% of its customer base within 24 hours. Feedback from the local market can be more easily understood and acted upon by local engineering staff. Quality problems with outsourced components are more likely to be found at the plant as opposed to customer homes.

With respect to the manufacturing of vehicles in FTZs, Barnes (2006) contends that direct delivery of parts alone is sufficient reason for a company operating on a just-in-time basis to locate within an FTZ. While duties are often highlighted in relation to the FTZ concept, Barnes points out that the cost of a "line down" situation because parts have not arrived far outweigh any savings on duties. The ability of goods from the border to go straight to an FTZ manufacturing plant, 24 hours a day is thus a very significant benefit.

The ability to never pay duties in the first place is important for the auto and other industries and much better than applying for a drawback refund well after the fact. Barnes points out that only 99% of duties are refundable by drawback anyway. The 1% loss can be significant when dealing in large quantities. Even more significantly, most drawback recipients use specialized brokers to file their claims and may have to pay 10 to 25% of the refund. FTZs are a means to avoid having to pay anti-dumping duties on components where the U.S. government seeks to protect domestic manufacturers of those components. Firms without the FTZ protection can never get drawback refunds on these types of special duties.

The FTZ program is well-utilized by major retailers such as Wal-Mart and IKEA for their distribution operations. IKEA stages distribution to more than 20 stores in Canada and the U.S. from its U.S. base in an FTZ in California (Hanback, 2011). Goods arriving from overseas can be deconsolidated, inspected and repackaged prior to distribution to the retail locations. There are no duties on goods that are re-exported to Canada. Crate and Barrel is an example of a major retailer that chose to locate in a General Purpose Zone in New Jersey. Up until the introduction of the Alternative Site Framework, location in a GPZ would come about much faster than having to apply for sub-zone status.

According to Hanback (2011), direct delivery and weekly entry procedures are very important for distribution. For the inbound trip to the distribution centre, perhaps from overseas, the process of moving goods from the west to east coast can be sped up by days thanks to direct delivery from the west coast port. Meanwhile, the weekly entry process greatly streamlines outbound movements from the distribution centre to retail locations. Zone-to-zone transfer capabilities are also viewed as being potentially significant for distribution processes.
An interesting example relating to Auto Parts Distribution is provided by Ostheimer (2011). He notes that it is the nature of parts distribution that large inventories are needed and an unavoidable fact is that large numbers of imported parts become obsolete and must be destroyed. A useful aspect of an FTZ is that duty does not need to be paid on these obsolete parts.

2.1.6 The Importance of the Inverted Tariff

It was estimated by the Foreign Trade Zones Board that nearly 50% of all foreign goods entering via FTZs do so in an inverted tariff situation (Bolle, 1999). There are those that say inverted tariffs have been the main impetus for FTZ growth in the United States (Virtuosity Consulting, 2009). It is clear that inverted tariffs have been important but perhaps the first questions to ask are: what is an inverted tariff and how do they come about in the first place?

In the general literature on trade (Carbaugh, 2008), it is typical for tariffs to be escalating along the continuum from raw materials to finished goods. Thus, other things being equal, the duty on importing a finished product will be higher than the duty on raw materials or components. This conceptualization makes sense: if a country wishes to protect its manufacturing base then discourage the importation of finished products more than the importation of the raw materials that would contribute to the finished product. Conversely, the inverted tariff seems irrational in that it is the finished goods that are associated with the lower duty. A domestic manufacturer who imports the same components used in the foreign firm's final product has to pay higher duties than the foreign firm that brings the final product into the United States! If anything, that activity is effectively being encouraged to move to the foreign location.

In terms of how inverted tariffs actually come about, it has nothing to do with FTZ zones but the latter improve the ability of domestic firms to cope with the issue. Inverted tariffs have come about either inadvertently or intentionally (Bolle, 1999). In the former case, multilateral tariff agreements under GATT have reduced duties across the world but they are complex negotiations involving a large number of products/components and parties. As a result of negotiations, a low rate on a finished product in one country is likely matched by a similar rate in other countries for access to their markets. In certain instances, it works out that intermediate goods entering into the U.S. will have higher rates than the finished product. For the "intentional" case, the inverted tariff will again result from the negotiating process but one that was entered into with the desire to protect a domestic maker of components/inputs from foreign competition. Thus, in some domestic cases, there may be more emphasis on protecting the component maker with a high duty than the maker of the finished product. In fact, the finished product may not be getting made in the U.S. at all.

For the U.S. manufacturer of a finished product, or at least a firm that depends on international components, the FTZ offers an opportunity to take advantage of the inverted tariff scenario. By locating in an FTZ, effectively outside U.S. Customs territory, the firm can use U.S. resources and inputs to carry out the manufacturing process along with required foreign inputs. But when the finished product leaves the zone to enter the domestic U.S. market, these foreign inputs will generate duties associated with the lower rate for the finished product and this can generate substantial savings.
While FTZ zone or sub-zone status can be used to eliminate the adverse effect of an inverted tariff, there is an application process that a manufacturer must follow in order to qualify and it is not a given that all applications will be accepted. Components in question must achieve “privileged foreign status” (Bolle, 1999). If approved, the component will typically be dutied at the same rate as the end-product of which it forms an integral part. In some cases, it may be difficult for an inverted tariff application to succeed as the government may not overtly want to encourage the importing of a component that is being produced domestically (Bolle, 1999). In other cases, where an application is judged to be in the public interest, it is more likely to succeed.

Overall, the ability to address an inverted tariff via an FTZ is available on a case-by-case basis and is dependent on being judged to have a net positive effect in the United States. Industries where there have been inverted tariffs include oil refining, auto manufacturing, electronics, chemicals, food products, pharmaceuticals, apparel and textiles, steel and machinery. Some specific examples of application denials include TV tubes, ethanol, chain saws and sugar among several others (Bolle, 1999).

**Examples by Industry**

By far the largest beneficiary of an inverted tariff has been the domestic oil refining industry. Since the 1990's over 80 refinery/petrochemical sub-zone applications have been approved (Poe & Heldebrand, 2006). The duties for a variety of refined products are lower than the duty for crude oil. By 1995, it became possible to address this inverted tariff situation by obtaining FTZ status. Exxon Mobil alone has five refinery complexes that participate in the FTZ program. Overall, it is estimated that the inverted tariff benefit within FTZs is $40 million per annum. On the other hand, the benefits of duty deferral are estimated to be a much more modest $3-4 million per year. There is an interesting example involving crude oil and jet fuel where a complete duty exemption applies. It is typical for firms to buy foreign crude, refine it into jet fuel, move it in-bond to another airport-oriented FTZ and then use it to fuel an airplane bound internationally.

While oil refining is the biggest beneficiary today, the auto industry was the first to take advantage of inverted tariffs within FTZs in a large way. It is quite possible that every auto plant in the United States is under FTZ status (Ostheimer, 2011) and much of this has to do with taking advantage of inverted tariffs. As an example, the duty on an AM/FM radio is 4.4% while it is 2.5% for the entire vehicle. Tiefenbrun (2012) has described the FTZ as the single most effective means to reduce the costs of manufacturing autos in the United States. With many components being dutied at 6-8%, savings of $5 to $8 per car are possible.

It is not only the large industries that are able to obtain an inverted tariff benefit. Quoizel Inc., a lamp and light fixture manufacturer with over $35 million in sales, is an example of a firm that moved to an FTZ at least partially because of the benefits which can accrue from an inverted tariff (Aron, 2002). The duty on parts is higher than the duty on lighting fixtures and lamps, which makes it preferable to distribute their product in the U.S. fully assembled. This medium sized firm is estimated to save $50,000 per year through the inverted tariff.
The inverted tariff benefit can also apply in situations where no manufacturing is taking place at all (Spencer, 2011). As an example, speakers carry a 4.9% duty and DVD players have no duty. Meanwhile, home theater systems are dutiable at zero per cent. By repacking these input goods, an entire system can be free from duty. For every $10 million in speakers, the savings would be $490,000.

2.1.7 Issues Surrounding the FTZ

By the late 1990’s, FTZs were becoming less of a political issue. There was less of a focus on the particular competitive effects of zone status and more on bigger picture issues such as trade deficits and having huge amounts of finished manufactured goods imported (Bolle, 1999). In addition, using zone status to benefit from an inverted tariff, for example, may have seemed like small savings for some labour intensive domestic manufacturing operation that could operate far more cheaply in Mexico for example. Thus FTZs were being viewed less as a tool that could singlehandedly keep a U.S. plant from relocating. Bolle (1999) believes that to the extent there is a focus on zones, it has shifted to the micro-level and whether specific sectors can benefit.

In the mid 1980’s, there was concern about the effect on U.S. industries of the 1980 amendment to the FTZ legislation. The General Accounting Office and the International Trade Commission examined the issue and determined that FTZs were having a small overall effect on U.S. revenue collection, employment and the economy in general. There was a somewhat larger effect on the domestic components industry, for example in auto manufacturing (Bolle, 1999). There was concern that easy access to foreign auto parts was costing the U.S. jobs in auto parts sectors. In fact, foreign parts imported by sub-zones increased tenfold between 1982 and 1986 (Tiefenbrun, 2012). By the end of the 1980's it was concluded that, in essentially encouraging imports over exports, the FTZ program was doing the opposite of its original intent. The Foreign-Trade Zones Board claimed that the original wording of the Act referred to the promotion of foreign commerce in general but the general history suggests otherwise.

The concerns of industry and labour at the time (U.S._ITC, 1988) had to do largely with a perceived negative impact on domestic industries. There was worry about Japanese “transplant” firms and their reduced tariff liabilities leading to a net decrease in U.S. employment. There was concern about the stimulation of imports, rather than exports, and how this scenario could damage domestic industries and their supplier. Another issue was that once a single important firm achieved FTZ status then other domestic competitors would need to follow. This was viewed as a costly process that would tend to favour the foreign transplanted firm. The main counter argument of the time, and one which persists today, is that FTZs have encouraged the retention of production activity that might otherwise have shifted overseas and also they may encourage shifting of new production activity to the United States. This pattern was most evident in the auto manufacturing sector.

Criticism of FTZs comes from Orenstein (2010) in reference to the net benefits of FTZs to the U.S. economy over the years. The FTZ program is criticized as being complicit in turning the U.S. into an “empire of warehousers” and notes that to the extent that FTZs are involved in manufacturing, they account for a much larger share of manufacturing GDP than they do manufacturing employment. Total
employment in FTZs, at about 330,000, is contrasted with the 3 million employees working in the Shenzhen free zone itself. The suggestion is thus that the vast majority of labour intensive work is thus taking place overseas and is being sorely missed in the United States.

Some have found it unsettling that the inverted tariff impact had been essentially unanticipated and yet this was one of the primary drivers of FTZ savings. There were questions as to whether the FTZ concept had really influenced location activities. Another criticism is that FTZ status has not affected employment levels significantly (U.S. ITC, 1988) and that FTZs account for such a small percentage of U.S. total employment (Bolle, 1999). Much of the economic activity has been associated with sub-zones which are typically pre-existing locations with job counts not really dependent on FTZ status.

Controversies still arise, especially as the FTZ program expands into new types of industries. When an applicant is given FTZ status in a new industry, it can generate an outcry among interest groups. In general, zone critics tend to be domestic manufacturers of inputs that are protected by high tariffs (Spooner, 2011). Sometimes, these high tariffs might be based on anti-dumping rules, which make it much more difficult for foreign firms to sell into the U.S. market. In many cases, the protected U.S. firms have fought very hard to gain tariff protection in the first place.

One recent example relates to requests for FTZ status by Dow Chemical and REC Silicon. These firms are consumers of silicon metal which is subject to anti-dumping tariffs. Previously, a smaller firm, also a consumer of silicon metal had successfully achieved limited FTZ status for a five year period (Spooner, 2011). In response, Dow Chemical and REC Silicon demanded the same treatment but in the end were denied. The domestic supplier of silicon metal is Globe Specialty Metal which had been hard-hit in the past from Chinese and Russian dumping of the metal and which had lobbied hard for protective tariffs to protect domestic jobs. Clearly, having many of its key customers achieve FTZ status and not have to pay any duties for key silicon metal inputs would have been very bad for its business. Globe Specialty Metal also had the support of the United Steelworkers Union which was very concerned about the possibility of job losses.

Other recent controversies have developed in the textiles and steel industries. La Z Boy and Bassett Furniture had wished to achieve FTZ status so that they could import upholstery fabric duty free (Spooner, 2011). Previously, the government had never approved FTZ status in the textiles industry. Textiles stakeholders protested strongly on the grounds that U.S. suppliers would be damaged. In the end, FTZ status was approved in this instance because the furniture firms succeeded in making the case that their future depended on it and because no U.S. supplier was found to manufacture the particular products of interest to the two firms.

ThyssenKrupp developed a new steel mill in Alabama for the production of stainless steel and requested FTZ status to benefit from an inverted tariff that applies on many imported raw materials. Interestingly, the steel industry had in no way benefited from FTZ status in the U.S. to this point. Domestic steel makers and unions objected on the grounds of negative impacts on domestic steel firms and domestic producers of raw materials. In the end, the FTZ board opted to grant sub-zone status only to the extent that stainless steel production was for export (U.S._FTZ_Board, 2010). Interestingly, one of the reasons
for partial denial of the status was the other U.S. producers would have trouble implementing FTZ procedures themselves if they were to apply for FTZ status. The FTZ Board notes that many existing producers operate through mini-mills that are not integrated at a single site and which have products moving between several facilities during the manufacturing process. This is in contrast to the new ThyssenKrupp facility where operations are contained to a single site.

In the 1980’s and 1990’s major amendments to FTZ legislation were still fresh in peoples’ minds. Over the years, a general recognition has developed that FTZ status is very important for many companies. FTZ status is noted as the one of the top ten location factors for most companies and for most multi-nationals it is a must-have element (Aron, 2002). Recent legislative focus has certainly shifted to issues such as maximizing the efficiency of the FTZ program through improvements such as the Alternative Site Framework.

Taken as a whole, U.S. FTZs appears to be a useful “nearshoring” tool in some instances. Goods that would otherwise be manufactured overseas can instead be manufactured domestically and to the benefit of the U.S. economy. As tariffs are constantly negotiated to lower and lower levels the tariff differences between components and finished products have tended to decrease and these decreases could reduce savings (Bolle, 1999). However, there are a number of non-tariff benefits to U.S. FTZs that are likely to keep the programs in high demand for firms of sufficient scale.

2.2 Other Free Zones Around the World

The purpose of this section is to outline some of the interesting developments in other FTZs around the world. There is somewhat more emphasis on FTZs as opposed to other types of free zones. Country-by-country descriptions are beyond the scope of this section and instead, selected cases are discussed.

2.2.1 China

China is one of the more interesting case studies for the use of free zones in that it has used different types quite extensively. The seeds of the new openness in the Chinese economy were sown in the late 1970s and already by the early 1980’s, initiatives were bearing fruit. Four large special economic zones had been established and by 1981, these four large zones in coastal regions accounted for about 60% percent of total foreign direct investment in China. In an effort to properly classify these zones against the multitude of zone types, the World Bank (2008) refers to these large and diverse zones as “Freeports” as opposed to Special Economic Zones. The Shenzhen zone, with its advantageous location near Hong Kong, accounted for about 50% of FDI on its own and grew at an amazing 58% per year from 1980 to 1984. By 1984, 14 coastal cities were being permitted to accept foreign investment. A key development in 1984 was the development of the Economic and Technological Development Zone. These are more localized developments than the Freeports. By 2010, 69 of these zones had been established along with a similar number of high-tech industrial development zones. Special zones acted
as windows to the development of a foreign-oriented economy and an accelerant for enhanced inland economic development (UNESCAP, 2005).

FTZs in China were set up to experiment with free trade prior to Chinese participation in the World Trade Organization (Zeng, 2010). FTZs are defined areas ranging from 1 to 10 km² and support a wide range of business activities. The three targeted functions of Chinese FTZs are export processing, foreign trade, and logistics and bonded warehousing. Accordingly, firms inside an FTZ are entitled to tax refunds on exports, import duty exemptions and concessions on Value Added Tax. FTZs are the only locations in China where foreign companies can operate in their own currencies if so desired (Liu, 2004).

When China actually entered the World Trade Organization, and began the process of bringing its tariffs in line with developed countries around the world, there was a need to re-position the FTZs somewhat since some of its original advantages had been reduced. Since 2004, extensive efforts have been made to build close links between FTZs and nearby ports. As a result, FTZs have gotten larger and their logistics and warehousing capability for international commerce has been strengthened (Zeng, 2010; Liu, 2004). Liu sees China's FTZs as preferential locations and hubs that strongly link China's economy (including the hinterland) with the world economy. Currently, there are 15 FTZs in 13 coastal cities.

The first state-level FTZ is Shanghai Waigaoqiao which commenced in 1990 and, like other FTZs that emerged, has functioned as if outside Chinese Customs territory. The Waigaoqiao FTZ was noted to be growing at 4.22 times the rate of Shanghai by Liu (2004). In another example, The Shenzhen FTZ is composed of three distinct zones which have a total area of 2.47 km². Note, for the sake of comparison, that the 2000 acre maximum for a U.S. FTZ translates into 8.1 km². The entirety of Shenzhen, of course, is referred to as a Special Economic Zone and the FTZs are components of this larger area.

In Liu's (2004) research, the economic impact of China's FTZ are estimated and found to be quite substantial. He notes that they occupy 0.0005 per cent of the Chinese land mass but generate 0.6 percent of Chinese GDP. FTZ's employ about 275,000 workers which is actually comparable to the amount employed by U.S. FTZs and were estimated to support over 400,000 jobs in China indirectly. By 2002, the value of imports and exports associated with Chinese FTZs was at $30.4 billion which accounted for 4.9% of the national totals (Liu, 2004).

It is useful to compare the Chinese FTZs with the Chinese EPZs. Interestingly, the first Export Processing Zone in China was set up quite recently in the Year 2000. To this point, 61 EPZs have emerged in China with 44 in coastal regions and 17 inland (Zeng, 2010). The two concepts are similar in that they are considered outside customs territory but the EPZs have an exclusive focus on exporting. In an EPZ, over 70% of sales should be to other countries whereas in an FTZ all the goods could be sold domestically. EPZs permit fewer business activities: export processing, warehousing to assist export processing and transportation providers to service export processing. The lesser export orientation of Chinese FTZ’s can be seen through the handling of VAT tax. If a firm in an FTZ sources domestic goods then the VAT must be paid upfront and a refund can only be obtained after the goods are exported. Because EPZs are
solely focused on exports, the export rebate is upfront. The goods from EPZs also benefit from a more streamlined customs clearance than those of FTZs.

According to Liu (2004), the Chinese experience with the FTZ has been a beneficial one and develops an economic impact model to estimate its effects. Liu estimates the direct and indirect effects of FTZ activity on the Chinese economy. He also notes that there are a range of social benefits derived from FTZs such as improvement of local industrial infrastructure, improved communication with the outside world and improved internationalization of connected cities. In a note about the U.S. experience with the FTZ, Liu views the program as useful for "trade protection" of U.S. interests and predicts that FTZs in general will flourish. While he does not explain his comments in depth, he is likely alluding to the ability of the FTZ to encourage increased manufacturing on the U.S. mainland while making use of some foreign inputs.

2.2.2 United Arab Emirates

The liberalized environment in which FTZ activities take place in the United Arab Emirates (UAE) is informative. The UAE were formed in 1971 and had a population of 4.3 million in 2004 which had increased to 7.5 million in 2010 despite the recent world economic crisis. The environment is enhanced through a customs union that was formed with other regional partners in 2003. These partners include Bahrain, Saudi Arabia, Oman, Qatar and Kuwait. The UAE benefits from its strategic position between Asia and Europe and is a major centre of cargo traffic in the Middle East. Dubai in particular has gained a reputation as a major distribution centre.

With respect to FTZ operations, Dubai was the first Emirate to establish a zone and did so at Jebel Ali. The zone is noted for its high-calibre infrastructure and communication. Locating within the zone is made to be quite attractive (KPMG, 2006). 100 percent foreign ownership is permitted along with no restrictions on repatriation of profits or controls on foreign currency exchange. There are no import or export duties relating to the FTZ except for sales made into the UAE and the rest of the customs union mentioned above. It is also made relatively easy to obtain work permits for foreign nationals. As if these aspects were not enough, there are guarantees of no corporate or even personal income taxes for between 15 and 50 years from set up.

2.2.3 Singapore

FTZs were established in Singapore in 1969 to facilitate entrepôt goods trade (UNESCAP, 2005) with little processing and in this sense come very close to the historical ideal of the free zone concept. Singapore as a whole functions as something similar to an FTZ in the sense that is a highly internationalized enclave with a population of about five million in an area of 710 square km. This area is about the same size as the City of Toronto. There are seven FTZs with six for sea cargo and one for air cargo and these provide a wide range of infrastructure and services for the storage and re-export of dutiable goods. Goods can be stored in an FTZ without any customs documentation until released into the domestic market. They can be processed and re-exported with minimum customs formalities. Virtually all goods which enter Singapore do so duty-free. FTZs provide 72 hour free storage for import/export of conventional and containerized cargo and 14 days free storage for transshipment/re-export cargo. Singapore also employs
a system of bonded and licensed warehouses from which goods could move from an FTZ for longer term storage. The domestic goods and services tax is charged only if the goods are released into the domestic economy.

2.2.4 European Union

There are in the neighbourhood of 75 FTZs in the European Union scattered across many countries. Several countries including Austria, Belgium, Hungary, Slovakia and Sweden do not feature free zones. UNESCAP (2005) has gone so far as to say that the free zone concept as originally conceived in Europe no longer exists. While there technically are free zones, the programs are very narrow with little or no processing allowed. One explanation is that the rules of the EC place restrictions on state aid to private enterprises so the use of various incentives to support free zones has been curtailed. The free zones that are in place are largely a service to traders and impose fewer customs formalities.

It is instructive to consider the situation in the Netherlands and Belgium as these countries house two of the largest deepwater Ports in Europe at Rotterdam and Antwerp and which give rise to enormous flows of goods and general cargo transshipment. Both the Netherlands and Belgium have no free zones or ports in the sense of zonal enclaves. There are, however, a large numbers of customs warehouses and free warehouses where goods in transit may be temporarily stored under Customs supervision.

One important trend in Europe is the concept of the European Logistics Centre. These involve multinationals and smaller companies where the key concept is pan-European distribution for greater efficiencies. Goods stored in a European Logistics Centre are seen as being in-transit from the perspective of Customs and are thus not subject to duties or customs procedures until they enter into the “community.” These goods can be easily re-exported as well. Each firm located within large logistics complexes known as “Distriparks” is considered as a “free point” but the larger Distripark development is not seen as a free zone. In the Netherlands there are about 1,500 of these free points which are really just individual firms. It is possible for a firm to carry out basic customs processes itself if it has fulfilled certain security and IT standards for more efficient movement of goods. In the Netherlands, distribution centres can define tax obligations up front using a formula based on operating costs (UNESCAP, 2005). This type of program is in keeping with a general Dutch approach to streamlining and reducing red tape. Another example of this thinking in the Netherlands is the tonnage tax on marine vessels.

2.2.5 Mexico and Central America

In the America’s, some of the most dynamic EPZ-oriented free zones have been in Mexico, the Dominican Republic and Costa Rica (World Bank, 2008) and these are mostly driven by private investment. Costa Rica, for example, has benefited from a large investment from INTEL which accounts for significant percentage of GDP. For the most part, the fortunes of these zones have been quite focused on the United States and much of the direct investment is of U.S. origin. One famous zone, which due to its strategic location acts as more of a transshipment and re-export point, is the Colon FTZ in Panama.
The Maquila program in Mexico has been very prominent and is associated with a lot of manufacturing in sectors such as electronics, apparel, auto parts and apparel. The Maquilas are linked to 3700 factories which employ over one million and export $80 billion (World Bank, 2008). Apart from EPZs being accused of taking away manufacturing jobs in North America, they also compete to take jobs away from one another. In the period 2000 to 2005, the Maquilas suffered heavily from intense Chinese competition (Sargent & Matthews, 2009) but have stabilized somewhat since then.

The development of EPZs in the Dominican Republic was quite explosive (Schrank, 2008) and heavily dependent on U.S. foreign direct investment. From virtually nothing in the mid-1970s, over 80% of exports came to originate from EPZs and over 500 firms were located within these zones. The export profile, as a result, changed radically from agricultural commodities to various non-durable consumer goods such as textiles, clothing and footwear. In recent years problems with Asian competition and unfavourable currency exchange has posed a challenge.

2.2.6 Iran

In Iran there are 17 FTZ zones that have been established but the success of these zones has been hampered by an inability to improve the wider business climate (Hakimian, 2011) within the country. Iran has featured statist and inward looking policies at a time when other nations in the region (e.g. UAE) have been competing intensely for foreign direct investment. Policies and incentives are more liberalized in the FTZs. Similar to Dubai, 100% foreign ownership is permitted along with 100% repatriation of capital and profit. Bureaucracy is simplified and there are more flexible labour laws than in the country at large. Overall, Hakimian (2011) is of the opinion that such policies are perceived as lacking credibility given the bigger picture in Iran.

There are some interesting parallels between the development of free zones in Iran with those of the United States. Many of the Iranian zones were developed in the 1980’s and were seen as attractive “back doors” to the global economy given some of the domestic issues of the time. These perceptions mirror the U.S. attempts to counteract the protectionist sentiment during the Depression with the 1934 Act. One other interesting parallel is that like U.S. FTZs, Iranian zones have turned out to be quite import-oriented. There are some differences though, while U.S. zones house a range of foreign firms, foreign investment in Iranian zones has been modest and restricted to two or three of the locations.

2.2.7 Zone Lessons

The list of other countries with FTZs is long and includes places such as Brazil, Ireland, Japan and many others. Korea has been a prominent user of the concept. As an example, the Masan Free Trade Zone alone was associated with $4.24 billion in exports and $2.33 billion in imports in 2005 (Deloitte, 2008). As was mentioned, even North Korea is involved in the concept in collaboration with China and there are many African examples.

The World Bank (2008) in an examination of zones primarily in developing countries has arrived at some generalizations about the success or failure of these entities. It characterizes zones as one tool in a portfolio to create jobs, generate exports and attract foreign direct investment. Zones cannot be
construed as a substitute for a country’s larger trade and investment reform initiatives. According to Hakimian (2011) this conclusion is confirmed in the experience of Iran.

**Table 2-5: International Overview of Free Zone Attributes/Policies**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>International Standard</th>
</tr>
</thead>
</table>
| **Concept of Extra-territoriality** | Outside Domestic Customs Territory  
Eligible for National Certificates of Origin  
Eligible to Participate in National Trade Agreements |
| **Eligibility of Benefits**       | No minimum export requirement  
Manufacturers and Services  
Foreign and Local Firms  
Expansions of existing enterprises  
Private developers of zones |
| **Foreign and Local Ownership**   | No limitations  
Equal Treatment |
| **Private Zone Development**      | Clearly defined in legislation  
Eligible for full benefits  
Competition from government-run zones on a level playing field |
| **Sales to the Domestic Market**  | Liberalized  
Provided on a blanket basis rather than case-by-case  
Treated as import into domestic market (subject to import duties and taxes) |
| **Purchases from Domestic Market**| Treated as exports from the domestic market |
| **Labour Policies**               | Full consistency with international labour standards  
Specialized dispute settlement mechanism |


The World Bank (2008) report has a fairly free market oriented view of what makes for an effective zone. It views the most successful zones as ones that can compete on the basis of their value proposition rather on the provision of incentives. Some incentives are noted to be ineffective and a drain on public resources. Certain zones in the Middle East in particular have gone farthest in terms of the incentives offered such as personal income tax exemptions for foreign workers and zero corporate taxes in perpetuity. One logical incentive mentioned is to offer zone enterprises full access to the domestic market on a duty-paid basis.

Overall, the most viable way to offer a compelling value proposition, in its view, is to promote private rather than public development of zones. These types of private run zones are evolving into efficient distribution, production and trade facilitation hubs that are enabling decreased logistics costs. It is seen as better for a zone if the authorities remain focused on purely regulatory functions but not owning,
developing or operating the zone. It is better to operate on a cost recovery, market-oriented, customer-focused basis rather than a subsidized basis.

A streamlined regulatory environment is another important theme. Some zones around the world suffer from weak administrative bodies and overly centralized decisions. In other cases, there are restrictive controls on zone activity and cumbersome regulations. In free zones of Jordan, for example, firms are not permitted to own land within a zone. To get a zone moving in the right direction, a focus on rapid physical transfer of merchandise through simplified customs processes is viewed as critical. The idea of "one stop shops" or "single window access" is an important one for consolidating and expediting government approvals.

Table 2.5 outlines some of the main zones principles that the World Bank (2008) discovered in its review of world-wide free zone implementations. The central tenets represented include: the concept of being outside domestic customs territory, a liberal set of eligibility and ownership criteria, a prominent private role, strong linkages with the domestic market and adherence to international labour standards.
Analysis of the Free Zone Concept in Canada

In Canada, of course, actual free zones are not applied. Grubel (1983) provides a brief historical overview and points out that in the period 1861-1864, two free ports were set up at Gaspe and Sault Ste. Marie but were closed because of problems with smuggling. He notes that the topic of FTZs were brought up over the subsequent years but never implemented. There were two main reasons according to Grubel that FTZs had not gained traction:

- There was a belief that the benefits in the form of increased trade volumes would be too small in relation to expected administrative costs of operating the zones.

- The system of bonded warehouses and drawback services were judged to achieve essentially the same objectives but with lower costs and without firms having to relocate within a zone. The drawback system itself was judged to allow every firm to be its own FTZ in the sense that duties could be refunded.

While these statements may have been true up until the time of Grubel’s work, perceptions changed in the decade after and new programs were introduced to simulate the benefits of FTZs without implementing the zones themselves. From a duty perspective, the time of peak tariffs was around the time of the Great Depression but for nearly 50 years after WWII, the General Agreement on Tariffs and
Trade (GATT) served to break down the barriers to trade on a worldwide basis and in the process greatly reduced the magnitudes of duties associated with international trade. Even so, Canada developed its programs and free zones of different types popped up all over the world.

In terms of why this happened, it is true that while duties declined substantially, trade itself exploded. For example, the quantity of containerized trade has quadrupled in the past two decades. In parallel, supply chains have become increasingly complex, globally-oriented and highly competitive. The need to save small percentages has become increasingly important. Whiting (2012) notes that advances in technology, information systems and electronic recordkeeping collectively have been favourable for generating interest in FTZ-type programs.

It has been noted that there is much more than tariffs for firms to worry about in terms of regulatory barriers. Hebb (2009) characterizes the Post-WWII period as one of increasingly complicated strategic trade noting that trade has become physically easier but with more complex webs of regulations between different nationalities and levels of government. These factors are all viewed as being stimulants to the development of FTZs.

**Figure 3-1: Distribution of Duties Collected by Province (2010)**

![Figure 3-1: Distribution of Duties Collected by Province (2010)](image)

Source: Canada Border Services Agency
The purpose of this chapter then, is examine the FTZ-like programs in Canada as they have evolved and to put these programs in context. There will be an emphasis on how Canada's programs compare to those of the United States. The FTZ-like programs in Canada have come under considerable recent criticism from business interests. The programs have been criticized as being too “narrowly targeted”, too focused on export activity and too esoteric. The Canadian Federal Government has taken notice and is conducting a full review of the programs.

3.1 Duties and Taxes in Canada

Before getting into the specifics of the programs, it is worth describing existing patterns with respect to duties and taxes. In a typical year, the CBSA collects about $3.5 billion in duties and $16 billion in value added taxes -- so there is a significant potential pool of savings for FTZ-like programs to address despite a lower tariff environment. In Figure 3.1, the pattern of duties collected by the province in which goods are cleared is displayed. Given that NAFTA movements are duty free and that Ontario and Quebec are in central Canada, the pattern on the surface might seem somewhat surprising. Clearly, goods are proceeding in-bond from major ports such as Vancouver and actually being cleared in locations that are located closer to manufacturers and processors. The results would suggest that being located in central Canada is not a limitation for participating in an FTZ program.

In Figure 3.2, duties collected are broken down into the major goods categories. The major subcategory in #87 is auto-parts related. Categories relating to apparel, textiles and footwear are important also. The duties associated with many of these categories will be reduced considerably as a large number of tariffs on manufacturing inputs, machinery and production equipment are to be eliminated. Some have already been eliminated. The stated objective to is turn Canada into a “tariff free zone” for manufacturing by 2015. It has been estimated by the Canadian Finance department that the removal of tariffs on about 1800 products will save about $435 million in duties per year. This is in the neighbourhood of about 12% of all duties collected prior to the modifications. Despite the tariff eliminations, it is worth keeping in mind that FTZ programs around the world have thrived despite significant tariff reductions in recent decades. Duties are an important aspect but there are other benefits to be considered.

Some of Canada’s programs are oriented to relief from GST/HST so it makes sense to briefly describe the nature of these taxes and how businesses comply with them. The GST was implemented in 1991 as a tax on the final consumption of goods and services in Canada. Exporters need to pay GST on imported or domestic goods which act as inputs into final products for export but the exporter will receive a periodic refund for those expenses. Exporters do not need to charge GST if the purchaser is not a consumer and the goods are destined for a foreign market. The GST is neutral in terms of the use of domestic or foreign inputs for exported finished goods. Interestingly, the Manufacturers' Sales Tax, which preceded the GST, applied only to domestic inputs and actually had the effect of favouring imported goods (Virtuosity Consulting, 2009).
The Free Zone Concept in Canada

Figure 3-2: Distribution of Duties Collected in Canada by Type of Goods (2010)

The net amount of GST that a business will pay is the difference between what it collects in selling its products and services and what it must pay for domestic or imported inputs. For most domestic firms, more will be collected than has been paid so the firm will owe money to the government equal to that difference. For many exporters, the reverse is true since not much GST is collected. Given that a firm qualifies, the tax-oriented FTZ programs aim to eliminate the cash flow difficulties of waiting for a refund. In general though, the constant collection and payment of GST with many transactions is a fact of business life for Canadian firms.

3.2 An Overview of Canada's FTZ-like Programs

The programs that are in place have emerged in something of an ad hoc manner and at different points in time. Figure 3.3 offers a summary of the programs that capture many of the benefits associated with free zones and Table 3.1 offers a brief synopsis of the main programs that were added to supplement the existing bonded warehouse offering. The first thing to note is that two different agencies are involved. The Canada Border Services Agency (CBSA) runs all of the programs that are oriented to relief from duties while the Canada Revenue Agency (CRA) administers programs that are oriented to relief from GST/HST.
Previously, the CBSA and the CRA were united as part of the Canada Customs and Revenue Agency but a split of the single agency into two was engineered in 2003. This split along with the events of 9/11 had a negative effect on the functioning of the various FTZ-like programs. Marketing of the programs became more difficult after the split and much focus shifted to security and border concerns. It has been claimed (Virtuosity Consulting, 2009) that the Duty Relief Program is the “true” Canadian FTZ program and not the GST/HST-oriented programs run by the CRA. However, the programs were originally intended to function together to give an overall FTZ-type solution (InterVISTAS Consulting, 2005). Also, there are numerous examples from around the world where free zones offer relief from value-added taxes.

In the decade after Grubel (1983) lamented the absence of FTZs in Canada, changes to the Canada Customs Act in 1996 ushered in a new era where FTZ-like benefits would be made available without the zones themselves. With regard to the CBSA duty-oriented programs there are three main components: the Duties Relief Program, Customs Bonded Warehouses and Drawback. From a cash flow perspective, for a firm, drawback would be the least attractive of the options in that the process involves going after a refund for duties that have already been paid. Duties must be paid on imported goods within 30 days and there is four years to make a claim for a refund. Claims are also possible on damaged or obsolete imported goods that were never re-exported.

---

**Figure 3-3: Canadian Duty and Tax Relief Programs**

- **Canadian Duty / Tax Relief Programs**
  - **Canadian Border Services Agency (CBSA)**
    - **Duty Oriented**
      - **Duty Deferral Program**
  - **Canada Revenue Agency (CRA)**
    - **GST/HST Oriented**
      - **Export Distribution Centre Program (2001)**
      - **Exporters of Processing Services Program**
      - **Drawback**
      - **Duty Relief Program (1996)**
      - **Customs Bonded Warehouses (1952)**
3.2.1 The CBSA Programs

Duties Relief Program

Ideally, from the perspective of a firm, duties need not be paid in the first place and this is exactly what the Duties Relief Program (DRP) seeks to achieve. To participate in the Duties Relief Program, a firm needs to go through an application process with the CBSA which does not appear to be particularly onerous. The catch is that the program is intended for exporters and re-exporters. For a firm to qualify, 70% or more of its sales should be export-oriented but apparently there is some leeway in enforcing this ratio (Virtuosity Consulting, 2009). If associated imported inputs are ultimately exported then no duty is due and otherwise duties are paid when the associated goods are released into the domestic market (duties must be paid within four years regardless). Firms that do not qualify for the duties relief program will have to pay duties upfront and get a drawback refund if exports take place.

The Duties Relief Program has an array of benefits (Virtuosity Consulting, 2009; InterVISTAS Consulting (2011)) such as no requirement for a security bond, and no customs fees. It is possible to sell or transfer goods between firms which participate in the DRP program without duty implications. Finally, there is more flexibility than the U.S. FTZ in storage of domestic versus imported inputs and in the ability to swap usage of these classes of inputs. The emphasis of the DRP is on record-keeping and tracking of goods in terms of the interactions between firms and the CBSA. Records relating to imported goods must be kept for six years and the CBSA can perform audits for up to four years after goods were imported. There are no specific security requirements associated with the DRP, which is quite different from the U.S. FTZ program.

Table 3-1: Description of Canada’s FTZ-like Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duties Relief Program</td>
<td>Permits a wide range of processing functions, everything from minor adjustments to repair, to full-fledged manufacturing and does not require the separation of domestic and export production. Allowed up to four years to re-export.</td>
</tr>
<tr>
<td>Drawback</td>
<td>Refunds duties paid on imported goods that were processed in Canada and later exported.</td>
</tr>
<tr>
<td>Exporters of Processing Services Program</td>
<td>Manufacturing companies import certain goods that will eventually be re-exported without paying GST/HST. Managed by the CRA, monitored by the CBSA.</td>
</tr>
<tr>
<td>Export Distribution Centre Program</td>
<td>Tax-free import of goods for minimal processing, including inventory for resale and parts to be used during processing, for businesses with an export revenue percentage of 90% or more. Managed by the CRA, monitored by the CBSA.</td>
</tr>
</tbody>
</table>

Source: Derived from CBSA, (2010)
Customs Bonded Warehouse

A key component of the Canadian Duty Deferral Program is the Customs Bonded Warehouse (CBW) program which was established in 1952. This is particularly so because Canada’s other FTZ-like programs are oriented to companies which export, so CBWs are the only means by which many of Canada’s 100,000 or so importers have access to duty deferral. One critical advantage of the CBW program is that it offers simultaneous relief from all federal import fees such as duties, GST, HST and Excise Taxes. The DRP, on the other hand, is purely focused on relief from duties so is not nearly so comprehensive in this respect. In 2009, CBW operators remitted $427M in GST and $273M in duties from all CBW facilities (CBSA, 2010) so it is interesting to note that the program actually offers more relief from the GST than duties. The fact that duties are generally declining or being eliminated while GST/HST are not going away further enhances the profile of the CBW.

CBWs can be operated by firms for the storage of their own goods or by entrepreneurs who store the goods of other firms. CBWs are all privately owned and operated and can be located in an array of locations such as an industrial structure, conference room at a trade show or part of an office building. Goods that are of high value or subject to high rates of duty are typical candidates for storage in a CBW. While the CBW program is run by the CBSA, other government departments are involved to some extent. These include the Canadian Food Inspection Agency, Health Canada, Transport Canada and others (CBSA, 2010).

In 2007 there were 340 of these facilities nationally and by 2009, this number had dropped to 313 (CBSA, 2010). About 1/3 of CBWs are in Southern Ontario. Possible reasons for the decline in facilities could relate to changes in the economy that are requiring less storage over longer periods of time or the fact that fewer goods are subject to duties thanks to trade agreements such as NAFTA (CBSA, 2010).

The dutiable value of the goods stored in CBWs amounted to about $4.6 billion in 2009 but of course the actual duty paid on this merchandise, if removed from the facility, would translate to a small percentage of this number.

Apart from the GST/HST aspects, the CBW program differs significantly from the Duty Relief Program (DRP). One of the most important is that in a CBW manufacturing activities are not allowed although some minor types of manipulation, which do not change the condition of the goods, are possible. Another key difference is that a CBW requires the posting of a security bond by the operator that reflects 60% of the value of duties and taxes that would otherwise be paid. These bonds can range in size from $10,000 to $500,000 (CBSA, 2010). The amount of the required bond is reviewed every year by the CBSA. The CBW is similar to the DRP in that the maximum timeframe for deferral of duties is four years. One limitation of CBWs is that goods can only move in-bond between CBWs under certain circumstances depending on the processes to be carried out. More flexibility is permitted under the Duties Relief Program. Operators of warehouses noted that such movement capabilities would allow certain CBWs to specialize in specific operations (e.g. repackaging, labelling) and thus increase efficiencies.
Sufferance Warehouses are not directly related to FTZ type programs in Canada but they are also operated by the CBSA and have some similarities to the CBW program. There are about 1200 such facilities in Canada which is nearly four times the amount of CBWs. The facilities are similar in that an operator owns and runs the facility and must provide a security bond to cover the short term handling and storage of goods. Sufferance Warehouses essentially provide importers, freight forwarders, carriers and brokers with a secure area to store in-bond goods and they permit goods to proceed straight through the border to inland facilities for CBSA processing. Since the time limits for goods to stay in a sufferance facility are 40 days for general goods and 4 days for perishable goods, these facilities are not for long term storage or duty deferral. According to the CBSA (2010), there are too many sufferance facilities which leads to low volumes for many of them.

One interesting note about CBWs and Sufferance Warehouses is that the CBSA is able to administer the programs in quite a cost effective manner. The programs are administered for about $1.6 million each which translates to about $1300 spent per sufferance facility and $5000 per CBW (CBSA, 2010). Fees paid by operators of the facilities cover about 1/3 of these costs.

**Drawback**

The purpose of the drawback program is to allow businesses to recover duty already paid on imported goods that are subsequently exported or on imported goods that are consumed or expended in the processing in Canada of subsequently exported goods (CBSA, 2010). In the CBSA fiscal year 2009-2010, 5000 drawback claims were processed for a total value of $85 million. This can be compared with the total of $21 billion in revenue that the CBSA collected during that same period. Over 80% of drawback claims in 2009-2010 originated from Quebec and Ontario (CBSA, 2010).

**3.2.2 The CRA Programs**

With regard to the programs administered by the CRA (Figure 3.3, Table 3.1), both programs seek to address the cash flow aspects of GST/HST paid on inputs before export. It is important not to confuse the EDCP with Export Development Canada (EDC) in the sense that both have quite similar acronyms and both are associated with the promotion of exports in some manner. Export Development Canada is a federal export credit agency which can offer loans and other services to businesses interested in developing internationally. This type of agency is typical in many countries but its underlying concept is unrelated to free zones in any way.

**Export Distribution Centre Program**

The Export Distribution Centre Program (EDCP) was proposed in the 2000 federal budget and came into effect in June 2001 following amendments to the Excise Tax Act. In conjunction with the Duty Deferral Program, the idea was to provide both tax and duty relief for imported goods to be re-exported from Canada with minimal value added work in Canada. Originally, the Canada Airports Council offered a strong supporting role in developing the new legislation as there was considerable optimism at that time in the ability of Canadian airports to play a role in hosting distribution operations (InterVistas Consulting, 2005).
The EDCP was conceived as a program that would help ensure the competitiveness of Canadian firms in the context of North American Distribution and be competitive with U.S. FTZs in this respect. While having an actual U.S. location is an obvious advantage for goods ultimately destined for a U.S. market, Canada had other advantages that the EDCP sought to enhance. These included a lower cost environment, less stringent security requirements and some advantageous locations along trade routes (InterVistas Consulting, 2005).

Because, the objectives of the EDCP are tightly defined, the parameters for eligibility are very strict. It is quite specifically targeted at firms that export at least 90% of their sales and which do not add significant value to or significantly process the goods that they are exporting. No more than 10% in value can be added to the goods and only through basic activities such as reassembling, testing, cleaning, sorting or trimming. The tight parameters of the program have caused the EDCP to receive probably the harshest criticism of all the Canadian FTZ-like programs. For the limited number of firms that are eligible for the EDCP, the benefits are actually quite powerful. The GST/HST exemption applies to the imported goods that are to be re-exported but it also applies to domestic inputs used in the limited permissible value-added activities.

Participation in the EDCP program has been very slow to progress. As of September 2004 only 30 companies were using EDCP and only 12 were using EDCP in conjunction with the Duty Deferral Program. More recently, it was estimated that about 100 mainly small and medium sized firms located largely in the Quebec-Windsor Corridor make use of the program (InterVistas Consulting, 2011). Uptake of the program by firms in the vicinity of airports got off to a particularly slow start considering the initial interest expressed by that sector (InterVistas Consulting, 2005).

The characteristics of the Canada Bonded Warehouse have some similarities to the EDCP program in that the CBW can be used for certain EDCP type activities (Virtuosity Consulting, 2009). A business authorized to use EDCP can carry out a wider range of activities to customize goods for certain markets whereas it is much more limited in terms of what can be done within a CBW. One big difference is that 90% of what is released from an EDCP participant needs to be destined for foreign markets whereas there are no such restrictions when goods leave a CBW. In terms of the GST, there is relief on imported goods under the CBW whereas the EDCP offers relief on both imported and domestic goods since the vast majority of goods is destined for foreign markets.

Criticisms of the EDCP relate largely to the 10% restriction on value added and the 90% of firm sales being oriented to exports (Tretheway, 2011; InterVistas Consulting, 2005). An example is offered within the sports apparel industry where basic sports jerseys are manufactured overseas and then arrive in North America ready for some customization (e.g. logos) to be sold in local markets. Even this type of value-added would be considered over 10% in Canada and thus could not take place under the EDCP. In most scenarios such as these, goods will tend to head straight for a U.S. FTZ for storage, customization and ultimate delivery to a final U.S. market and Canada is cut out of the loop (Tretheway, 2011). With the ability to add somewhat more value, there could be more of a role for Canadian distributors to play in what would still essentially be a distribution operation.
Tretheway (2011) notes problems with the general marketing of the EDCP programs in conjunction with the other FTZ-like programs. The programs are viewed as complicated as is the application process to multiple authorities. There is concern with issues such as the potential need to post bonds. Trethaway recounts an example where overseas containers for the auto industry were to be shipped to Sault Ste. Marie for storage and access to the auto complex down the Interstate 75 Corridor. When the logistics of setting up an FTZ-like zone in Sault Ste. Marie were outlined, the prospective shipper opted instead to access the I-75 Corridor entirely via the United States.

**Exporter of Processing Services Program**

The Exporter of Processing Services Program (EOPS), which was established prior to the EDCP, also offers relief from GST/HST payments under certain very specific circumstances. The program is intended for manufacturing service companies. For a fee such firms perform services, such as assembly and alteration, on goods that they do not own. It applies for goods that are imported but belong to non-residents who are not closely related to the firm using EOPS. Within four years of the original processing, the goods must be exported from Canada. It is estimated that the EOPS program is utilized by a surprisingly large 500 firms (InterVISTAS Consulting, 2011) given that marketing efforts are understated at best.

**3.3 Implications of NAFTA**

The main objective of NAFTA, and other similar free trade agreements, is that goods designated as originating in member country A can be exported to member country B without payment of duties. Of course in this day and age of global supply chains, it is not unusual for overseas inputs to be used in the manufacturing of goods that are considered "Made in the U.S.A." or "Made in Canada." On the surface then, any duty due on the inputs could thus be avoided if shipped from an FTZ to another NAFTA country. In contrast, goods entering into the same domestic territory in which the FTZ is located would typically have some duty to pay prior.

In recognition of the need for NAFTA and FTZ type legislation to not give some unfair advantage, these types of scenarios were addressed. In the legal text of NAFTA, there is a section that deals specifically with FTZ-type programs. It is entitled "Article 303: Restriction on Drawback and Duty Deferral Programs." The purpose of this section is to prevent situations where firms can avoid duty payments on non-NAFTA inputs by processing in NAFTA country B and then not owing any duty on the final product when shipped to NAFTA country A. With Article 303 in place, it could be just as easy to undertake the whole manufacturing and distribution process in country A. It was the U.S. that pushed for Article 303 out of concern that non-NAFTA suppliers would use Mexico or Canada as a platform for gaining duty free access to the U.S. market. In particular, there was concern about scenarios where little value added work was being done in Mexico or Canada (Virtuosity Consulting, 2009). There are several anecdotal examples available where Article 303 is achieving its intended objectives. There are firms that operate in Canada, for example, that opt to source inputs from the U.S. rather than overseas suppliers in order to achieve duty free access to the U.S. market.
For the most part, under Article 303, duties are assessed as they would be if entering the domestic territory directly from an FTZ even though the goods end up in another NAFTA country. So in the case of goods exiting a U.S. FTZ and moving to Canada, duties are collected by the U.S. authorities just as they would if entering into U.S. domestic territory. There is a provision which may result in some further duty relief, in the form of drawback, in certain situations. Article 303 insists that all parties must keep the others informed about duties that are getting collected in these re-export situations.

More recently, a debate has been taking place in the United States about a perceived disadvantage that some FTZ firms are facing because of NAFTA and other Free Trade Agreements (DeRosa & Hufbauer, 2008; Seyoum & Ramirez, 2012). The National Association of Foreign Trade Zones developed a Trade Agreement Proposal (TAP) and has been lobbying to have legislation passed on the matter. In essence, foreign multinationals that utilize FTZs to get close to their U.S. markets are arguing that they are at a disadvantage against Canadian or Mexican companies which do not have to pay duties on components when selling into the United States (assuming the final product qualifies as NAFTA country of origin goods). In selling a comparable product, an FTZ firm from some non-NAFTA country would be responsible for at least some duty in entering the domestic market. The TAP proposal would seek to eliminate the duty paid in order to get the same treatment as a NAFTA firm outside the United States. Moreover, FTZ firms could use conditions of other U.S. free trade agreements (e.g. with Jordan or Morocco) as they see fit to derive favourable duty impacts for themselves.

DeRosa and Hufbauer (2008) have employed gravity modeling techniques to show that granting NAFTA-like privileges for multinationals operating within FTZs would boost FTZ activity and create more U.S. jobs. Bølle (2010) and Seyoum & Ramirez (2012) argue that the proposed legislation could prove damaging to U.S. component makers and stir up controversy with NAFTA and other free trade partners. From the Canadian perspective, the passing of TAP would be an issue of concern since it would threaten segments of NAFTA trade that have built up over the past two decades. To an extent, TAP represents a circumvention of NAFTA and does not take into account that the NAFTA partners have reciprocated in lowering their tariffs for the benefit of U.S. businesses.

### 3.4 Point-by-Point Comparison of Canadian-U.S. FTZ Packages

#### 3.4.1 Marketing of the FTZ Packages

One of the big differences between the respective FTZ packages is the marketability of the programs and the degree to which marketing has taken place. In Canada, there are no zones per se, only marketing constructs that imitate the benefits of zones. As many private stakeholders are fond of pointing out (RAC, 2012), Canada is the only G-8 nation that does not feature actual zones. The complication is that international parties are quite comfortable with the zone concept and this causes a disconnect (Vancouver_Airport_Authority, 2011). Further evidence of this disconnect is illustrated by a recent French publication entitled: “Free Zones of the World.” This publication is positioned as being an encyclopedia on the topic and yet Canada’s programs are not mentioned. The reader is given the impression that Canada has no FTZs or related programs whatsoever and that NAFTA is unwinding whatever is in place.
The fact that the federal government must adhere to access to information legislation and the Privacy Act does not help the marketing of the programs which would be enhanced by referencing third party participants and their success stories. There are essentially no publicly available case studies which feature the usefulness of the Canadian case studies. Information that is available is presented one program at a time in a fashion that suggests it is geared towards parties who know what they are seeking. This is in stark opposition to the situation in the United States. One also gets the impression that Canadian firms are not keen to share their experiences with other firms in any case.

Intervistas Consulting (2004) identified a lack of awareness of the programs at that time. It was noted that trade and investment officials at overseas embassies and consulates did not know much, if anything, about the available programs. An observation was made that industry associations at the time were not doing much to promote the programs and did not seem to know much about same themselves. Nowadays, there is anecdotal evidence that certain firms of a significant size lack awareness of the possibilities under the existing set of programs.

Despite the absence of zones in Canada, the federal government has only recently begun to use the FTZ acronym to market its programs and to highlight the benefit that FTZs can be developed anywhere in the country. This is in contrast to earlier marketing that identified the programs by name without linkage to the FTZ acronym. Despite marketing spin, the pure FTZ concept as seen in the U.S. is more elegant as benefits derive seamlessly from the identification of a separate area outside customs territory. Canada's FTZ-like programs come across as being more contrived as they seek to imitate the benefits of actual zones.

In the U.S. there is an army of unrelated entities marketing the FTZ programs. Each FTZ undertakes its own independent marketing efforts. There is the National Association of Foreign-Trade Zones (NAFTZ) which advocates strongly for the concept. There are numerous consultants which actively highlight the advantages of FTZ status so as to generate consulting revenue and operators are also involved in marketing. Because the value proposition is more neatly captured with an actual zone concept, the benefits are more clearly outlined and seem more accessible to the potential FTZ participant.

3.4.2 Customs and Security Issues

The imprint of U.S. customs is more prominent in the workings of the U.S. FTZ program than is the case for Canadian FTZ-like programs. For one, there are customs fees that have to be paid when goods enter U.S. domestic territory. This is not the case in Canada. For another, the security aspect is emphasized much more in the U.S. context whereas in Canada the emphasis is on documentation and recordkeeping. In Canada, goods are “isolated by information systems rather than fences and guards” (InterVistas Consulting, 2005). In the U.S., employees in general purpose zones or sub-zones are screened thoroughly.
In the U.S. the high security standards associated with FTZs are highlighted as a benefit for participant firms in the sense that they will be achieving best practices in their operations. As a CBP officer notes: "For us, FTZs are as secure as it can get" (NAFTZ, 2012). FTZs are very much intertwined with the issue of border security and the facts that there are secure facilities, vetted personnel, trusted relationships between customs and importers and oversight of other government agencies such as the FDA and the EPA are integral elements of the whole program.

This is not to say that security issues are not taken very seriously in Canada but the tone is different. An interesting example is a discussion of interactions between the CBSA and the major rail companies (CBSA, 2010). It was noted that the rail companies restrict access of the CBSA to their bonded warehouses for safety and efficiency reasons and that a train will not be delayed if there is one car identified on that train that needs inspection.

Related to the increased sensitivity to customs issues is the geographical basis for the U.S. FTZ system. FTZ general purpose zones are to be within 60 miles of the nearest customs port of entry. In Canada, no rules to that effect were discovered although the CBSA (2010) does note some of the difficulties in ensuring that outlying facilities such as bonded warehouses are in compliance.

### 3.4.3 Administration

Administration of the FTZ programs is done quite differently in the two countries. In the U.S. there is active administration at multiple levels. The U.S. FTZ Board, which is part of the Department of Commerce, oversees the operation of the program. There is a unique grantee for each FTZ which is responsible for the viability of that zone as an independent operation and typically there are a zone operators that runs the FTZ on a day-to-day basis. The local Customs Port of Entry is very involved with the day-to-day operations of each zone as well.

In Canada, the FTZ-like programs are run by the CBSA and the CRA so the programs are quite different at the federal level and there is no identifiable separate organization along the lines of an FTZ Board. The closest in Canada to this intermediate layer of administration, are entities such as CentrePort in Manitoba that are geared towards looking after localized interests. CentrePort appears to be more of a marketing organization and does not provide any extensive services to prospective firms. The role is less fundamental than an FTZ grantee and much less involved in day-to-day operation issues than a zone operator.

The concept of the zone operator at U.S. FTZs is described as a significant operational advantage (Global_Container_Terminals, 2011) for the purposes of liaison activities and marketing. The zone operator also files documentation of behalf of the actual importer while in Canada this must be done by the "importer of record" or a customs broker (Virtuosity Consulting, 2009). With the multiplicity of programs in Canada it is not hard to see how an operator could make the application and on-going compliance associated with the programs more palatable for smaller firms especially.

To assist smaller firms in particular, the concept of a zone operator may be an important one if zone-based FTZs are to gain any momentum in Canada. Small companies are more likely to find Canada’s
programs time consuming and expensive to administer (InterVistas Consulting, 2005). The concept of operators and a “master license” for an area has been raised for Canada but operators are normally private sector logistics-oriented firms that require sufficient demand for their services. In more speculative locational scenarios, there is considerable risk.

**3.4.4 Import/Export Orientation and Scope of the Programs**

A significant difference between FTZ programs in Canada and the U.S. has to do with the eligibility of firms to participate. In Canada, there are enforced guidelines relating to percentage of sales derived from export sales and percentage value added restrictions (for the Export Distribution Centre Program). In the U.S., there are no obvious, rule-based criteria for determining eligibility for FTZ status. The process to achieve FTZ status in the U.S. is fairly involved (although it has gotten less so with the introduction of the Alternative Site Framework). Applications for FTZ status are handled on the basis of whether the granting of the status would provide a net benefit for the U.S. economy. In Canada, firms that do not meet the simple criteria are essentially ruled out from the start. Firms that might possibly be accepted in the U.S. are a non-starter in the Canadian context. Of course in Canada, CBWs are offered as a fallback position for duty and tax deferral which offers less utility if processing activities are required. With an overall focus on exports, the Canadian programs have a lot in common with the traditional thinking about how an FTZ is supposed to work (as opposed to how they actually work in the U.S.) and also quite a bit in common with restrictions seen in certain export processing zones.

**3.4.5 Usage of the Programs**

As of 2010, there were approximately 400 companies licensed under the Duties Relief Program (CN, 2011) and there could be approximately 1000 companies involved across the suite of FTZ programs. Compare this tally to the approximately 2500 firms that take advantage of the U.S. FTZ programs. Controlling for the size of the two countries, the Duties Relief Program alone appears to be keeping up to the U.S. on a firm-by-firm basis. The same cannot be said for the more limited use of the EDCP program at about 100 firms but the tight eligibility constraints go a long way to explaining the outcome.

When it comes to the linkage between usage and dollar benefits, information is rather scant on both sides of the border but especially in Canada. The annual report put out by NAFTZ is focused on merchandise values going in and out of FTZs but is not specific about dollar savings. There are, however, various case studies and spreadsheet templates available in the U.S. which give a reasonable idea on a firm basis if not on a macro basis. In Canada, confidentiality is paramount and thus there is little public information with dollar amounts attached. A CN document (CN, 2011) suggests that the Duties Relief Program was associated with the collection of $107M in duties in 2010 which had been getting deferred. For the sake of comparison, data for 2010 indicates that $1.1 billion in duties were collected by U.S. Customs from goods exiting an FTZ (Bolle & Williams, 2012). Proportionally, these results seem comparable.

There is the matter of how usage is versus how it could be. In Canada, it is actually surprising that more firms are not involved in the Duty Deferral Program since bonded warehouses are included. In this sense the export constraints of the DRP and EDC programs are to some extent compensated. There are
a few hurdles to be cleared in getting involved with the Canadian programs but they are not high ones. On the other hand, achieving FTZ status in the U.S. is more like clearing a single, rather tall hurdle. Metaphors aside, achieving U.S. FTZ status is certainly a more costly process (could cost up to $100,000 with on-going annual fees) than the free application for any of the Canadian FTZ programs.

3.4.6 Scrap/Waste

One of the big differences between a U.S. FTZ and the Canadian programs has to do with the treatment of scrap or waste. In a U.S. FTZ, duties are never paid on the waste products which do not make their way into the final product. In Canada, this relief from duties is only possible to the extent that the waste can be linked to goods destined for export. Otherwise there is no relief. An example of an industry in Canada that suffers from this reality is the garment industry. If sales are largely domestic, which is often the case; there is no duty relief on all the imported but wasted fabric under the Duties Relief Program. By the same token, GST/HST will need to be paid on inputs. For a large enough firm, the losses for this aspect alone can reach into the millions of dollars.

3.4.7 Treatment of Inverted Tariffs

A big driver of FTZ dollar volumes in the U.S. is the inverted tariff, which can also be thought of as a tariff anomaly. The key aspect that generates savings for firms is that the lower duty applying to the finished goods can be applied against the inputs as well. In Canada, there is no mechanism for this to take place: duties relate to inputs and finished products made within Canada’s boundaries are treated as of domestic origin. In the U.S. the finished product exiting an FTZ is treated as if it has just entered the country even though it has been manufactured on U.S. soil. So the U.S. program is very powerful in this respect. The big hurdle in the U.S. case is for FTZ zone status to be granted in an inverted tariff situation as the U.S. FTZ Board has to carefully weigh the pros and cons of such a change. As described in Chapter 2, there are several examples where such status was not granted.

In Canada, it is not the case that domestic firms have no recourse if an inverted tariff becomes an issue. It is possible for firms to push for a revision of the tariff schedule under the Customs Tariff Act so that the duty on the inputs can be reduced or eliminated. Such changes are administered through Finance Canada and can take place by parliamentary legislative amendment, Order in Council or temporary remission. Apparently the majority of cases are addressed through the Order in Council process (Virtuosity Consulting, 2009). In terms of an overall comparison, an inverted tariff situation is something that can really be exploited under the U.S. FTZ program whereas in Canada it is something that firms can try to seek relief from.

3.4.8 Duty Deferral

The deferral benefit appears to be stronger in the U.S. in that goods can be stored (and therefore duty deferred) in an FTZ indefinitely whereas in Canada the longest period for which duty can be deferred is four years. In both cases, duty can be deferred on goods that will ultimately enter the domestic market and in both cases duty is payable only on the inputs and not on any value added. Of course the U.S. FTZ
program did not implement its relaxed standards on value added until 1980 which corresponded with the beginning of rapid FTZ growth.

### 3.4.9 Bonded Warehouses

The positioning of bonded warehousing differs between the U.S. and Canada. In Canada, bonded warehouses are positioned by the CBSA as an integral component of the Duty Deferral Program. In the U.S., bonded warehousing is not mentioned in the context of the FTZ program. In both countries there are large numbers of companies that may be interested in duty deferral but are not able to take advantage of the U.S. FTZ program or are not eligible for the Canadian programs. In these cases, bonded warehouses offer a solution when little or no processing is required. In the U.S. the reliance on bonded warehousing is likely to come about because the firm has insufficient scale for an FTZ but in Canada it is more likely that the firm is not sufficiently export-oriented.

As of 1992 there were 1273 Bonded Warehouses in the U.S. which accounted for about 2% of the $18.3 billion in duties that were collected that year (Virtuosity Consulting, 2009). In comparison, 2010 Customs Bonded Warehouses in Canada resulted in the deferral of $200 million in duties and $513M in GST/HST (CN, 2011). The fact that CBWs in Canada are also a powerful deferral tool against GST/HST makes them relatively more useful than they are south of the border.

In the U.S., FTZs are considered as outside Customs territory but this is not the case for a bonded warehouse. Records are audited regularly by U.S. Customs and bonded merchandise must be kept separate from other goods. While no duty is paid when the goods arrive, a liability is incurred and must be settled when the goods depart. Relative to the FTZ program, one disadvantage of the assessment taking place upon entrance is that duty will ultimately be paid on any damaged goods or scrap.

In an FTZ, the firms have control of their goods and this permits movements or manipulation 24 hours a day. In a U.S. bonded warehouse, goods can only be inspected and transferred during business hours with specific Customs authorization required for every movement. It is permissible for goods to move from one bonded warehouse to another. A Customs Bond is not required for goods entering an FTZ as all admissions are covered under the bond of the FTZ operator. Bonds are required for all bonded warehouse entries. Goods can be stored indefinitely in an FTZ but there is a five year limit in a bonded warehouse. It is for reasons such as these that Lomax (1947) has referred to the U.S. Bonded Warehouse system as “cumbersome.” Further details about U.S. bonded warehouses are available from U.S. Customs (U.S._CBP, 2010).

### 3.4.10 Treatment of Value Added Taxes

In terms of value-added taxes such as the GST/HST, the U.S. FTZ may not be the best point of comparison because the U.S. has no VAT. In the U.S., there are states that tax inventories but FTZs are exempt from such taxes. One of the more frustrating aspects in Canada is that VAT and duties, with the exception of CBWs, are not addressed with the same program. The fact that it can be done for CBWs
begs the question of why it can’t also be done for the export-oriented programs (DRP and EDC). As seen in Section 2.2.1, China’s relatively new export processing zones offer a rebate upfront on VAT since the end-product is destined for foreign markets. While it was somewhat outside the scope of this study, there are other countries such as Germany and Mexico which offer better treatment of VAT than is the case in Canada (Virtuosity Consulting, 2009).

3.4.11 Duty Exemption

Full duty exemption applies for both countries when imported goods are ultimately exported, most likely as part of a finished product. The duty exemption capabilities of the U.S. FTZ program are further enhanced in that imported goods that are eliminated or destroyed in the form of scrap, wastage etc. are exempt from duties. It does not matter whether the associated end product is headed for domestic or international markets. In Canada, a similar exemption for imported goods that don’t make their way into the final product only applies if the associated final product is exported. So this is another export-oriented filter applied by the DRP that is not applied in the comparable U.S. programs.

3.4.12 Drawback Programs

In Canada, duties are 100% refundable whereas in the United States they are only 99% refundable. It is probably fair to say that drawback processes are more a “fact of life” in Canada where firms have to go through a similar process all the time for the settling of GST/HST accounts. Moreover, in Canada the drawback component is referred to as an integral part of the Duty Deferral Program whereas in the United States there is little or no mention of drawback in relation to the FTZ program. It was noted that brokers are often utilized in the U.S. to go after the refunds and they take a substantial commission.

3.5 Are Actual Zones Required?

The question of the significance of a zone concept is an obvious one. Some see the lack of a zone concept in Canada as a real problem (Global Container Systems, 2011) noting that not having zones is a marketing limitation. The rationale is that so many potential international users of FTZ programs in Canada are used to actual zones. It is noted that the customers of railways, ports and terminal operators in Canada often ask why there are no familiar FTZ programs as found elsewhere. One of the risks in Canada is being perceived as "out of step" with other jurisdictions, most notably the United States. But there are also significant examples (e.g. Netherlands) where there are also no FTZs per se. Moreover, the Canadian system is cheaper and more flexible than geographically defined FTZs (InterVistas Consulting, 2005). The potential for enhanced security could be the only tangible reason why defined zones offer an advantage.

It is ironic that with the Alternative Site Framework, the U.S. that has sought to release some of the locational shackles associated with zones. Many of the limitations of the U.S. system, in essence, have been associated with the use of zones. In many ways, the ASF is moving towards what is already in place in Canada. The process for a new zone site to be developed within a service area has been greatly accelerated along with the possibility to shut a site down from an FTZ perspective due to insufficient demand. Defined general purpose zones in the U.S. have been noted by stakeholders as being
"speculative" in many cases as successful outcomes have been hit and miss. Even the development of sub-zones after the 1950s had a lot to do with a perceived need for locational flexibility along with the use of pre-existing facilities. So there is evidence in the U.S. that zones have been seen as a limiting factor.

Many of the reasons for defining zones have to do with the realities of developing countries. Virtuosity Consulting (2009) offers some reasoning which seems to reflect more the export processing zone context. These include the possibilities that zones can be used to socially limit the influence of foreign capital and management practices on domestic culture or that zones can offer a more focused approach when there are limited public resources. There is also evidence that zones are useful for infant industries and can be used as a prototyping area before wide-spread development takes place. Zones may also be helpful if management and worker skills are in short supply.

Hebb (2009) strongly argues for a true zone concept as a key economic development tool for the Maritimes and key strategic sites such as the Port of Halifax. An important component of his reasoning is that zones offer more localization potential to allow individual regions to take their destiny into their own hands and that the current programs do not offer the full range of benefits available to various free zones around the world. The fact that FTZ-like programs in Canada are federally administered and not regionally differentiated thus appears to be a sore point to some stakeholders in Eastern Canada at least. Hebb argues that the clustering of activity that zones support makes it easier to optimize infrastructure for tenants, to recover costs through operating fees and to entice prospective firms through incentives such as tax holidays. Zones are portrayed as places where there is less potential for red tape and where the problems of dealing with different levels of government in establishing commerce can be more easily overcome through consolidation into one administrative body. Hebb believes that burdensome national trade policies can be relaxed through actual free zones so that individual regions can trade the way they like. Moreover, they are seen as a tool to combat inter-provincial, non-tariff trade barriers (see (Darby, Beckman, St-Maurice, & Lemaire, 2006)).

Conversion to actual FTZs and/or enhanced free zones would be an expensive proposition. The CBSA (2010) notes that doing so would require a high investment in resources and likely changes to existing trade-related legislation and regulations. On the other hand, the current situation has the potential to degenerate into a free-for-all between different regional entities. There is recognition across the country that marketing approaches that do not mention the term “FTZ” are less likely to succeed so various municipal entities are rushing to declare themselves as FTZs. However, this is being done in an ad hoc manner that does nothing to bring a sense of clarity to the Canadian package.

A possible solution to the zone problem may reside in some initiatives from over a decade ago that did not come to fruition and in the example being set by the service areas of the Alternative Site Framework in the United States. Around the year 2000, there was an initiative in Canada to define FTZ territories in Canada and to grant a master duty deferral license to an operator of each territory. Along with the impact of 9/11, the initiative was placed on the backburner because of difficulties in identifying bonded operators to be responsible for the duties and taxes of tenants/clients in each territory.
In the judgment of this report, the answer to the question of this section is “Yes” but not in the way that FTZs have traditionally been viewed. The specific recommended approach is covered in Chapter 4.
Conclusions

Lomax (1947) in his review of foreign trade zones provided a memorable appraisal of the concept saying that it did not represent an "open sesame to expanded foreign commerce." While the U.S. FTZ program is quite different today than in 1947, a similar statement could apply today. This brief concluding chapter of the report, which is divided into three sections, describes some of the reasons why. The first addresses thoughts about FTZ programs in general and in Canada. The third addresses what should be done in Canada.

4.1 General Observations

- FTZs are quite different from Export Processing Zones although both are referred to as free zones. Most of the difference relates to the domestic context in which a zone operates. Due to lower cost labour inputs, developing countries are naturally more oriented to EPZs. FTZs are more oriented to developed countries and to enhanced management of the supply chain. China is an unusual case in that both zone types and others are operating at the same time.

- FTZs are more esoteric and complex than other economic development tools and incentives. If a jurisdiction lowers corporate tax rates then the implications are quite clear to all parties. In contrast, adding a feature to an FTZ program may get lost in the shuffle and the nature of the
benefit may not be apparent to all. In the end, FTZs help firms to save money and to more effectively manage their cash flow and their supply chains. There are a large number of firms and multinationals for which the benefits of FTZs are seen as indispensable.

- The original ideal of the FTZ was linked to the concept of the entrepôt and to the re-export and transshipment trades as opposed to intensive value-added work. In essence this conceptualization of the FTZ, as captured in the original 1934 legislation, failed to work in the United States and the program was liberalized in a variety of ways to drive greater business volumes. The net result is that the U.S. FTZ is far more integrated into the U.S. economy and there is now more activity present. However, the overall net benefits to the U.S. economy have not been demonstrated in a clear cut way and there is no doubt that FTZs have generated their share of controversy. FTZs in the U.S. have not provided a large number of jobs in proportional terms. Firms that benefit from FTZs, however, appear to be influential advocates.

- The U.S. version of an FTZ is a strong version in terms of the capabilities granted to firms. The ability to carry out extensive manufacturing and to take advantage of inverted tariffs while largely servicing the domestic economy are powerful capabilities. While the benefits to the firm participants are unquestioned, there is more debate when it comes to overall net benefits for the United States.

- U.S. FTZs are becoming increasingly “free point” oriented though they are not promoted that way. The introduction of sub-zones and the rise of the new Alternative Site Framework with its more rapid “on-off switch” for prospective/declining sites illustrate this reality. Large service areas for individual FTZs in the U.S. allow for the possibility of an FTZ site effectively “anywhere.” The fact that most FTZ business in the U.S. is not channeled through the traditional general purpose zones is another significant piece of evidence. Countries such as the Netherlands and Belgium are further along the path of being “free point” oriented although their programs are for more restrictive than the U.S. in terms of permitting value added work.

- The pattern of FTZ usage in the U.S. is very uneven and much of the activity is driven by key activities such as vehicle assembly and oil refining. Many FTZs are virtually if not totally dormant. A related finding is that general purpose FTZs, which are developed more on the “build it and they shall come” mantra are quite speculative relative to sub-zones and the new “usage-driven” sites.

- In general, the more international trade links that a location or associated firms have, the more likely that an FTZ can thrive.

- The rise of electronic information systems incent the rise of free points over free zones and somewhat decrease the importance of security via physical barriers such as fences. The U.S. has chosen to maintain and promote its high security status in the FTZ context.
• With grantees, operators and consultants involved, there is generally a lot of localized (as opposed to federal) activity that takes place to make an FTZ a success. With large general purpose sites the risks are higher so attainment of FTZ status needs to make business sense.

4.2 Observations about the FTZ Concept in Canada

• The marketing and marketability of FTZ-like programs in Canada is rather poor with their fragmented and somewhat esoteric natureshouldering a good share of the blame.

• It is often said that Canada’s programs capture all the benefits of FTZs in other countries and are even better in the sense that an FTZ can be established anywhere. Overall, this statement is not true. From the perspective of a firm, the U.S. programs are far more powerful. As examples, the U.S. program has stronger features relating to duties on scrap, the duration of duty deferral, the ability to benefit from inverted tariff situations and the ability to benefit from FTZs without being an exporter. With regard to locational flexibility, if one is speaking about a general purpose FTZ then the ability to locate anywhere is a hollow victory – there are only a handful of larger-scale sites in Canada that have suitable attributes. From the perspective of an individual Canadian firm, however, the ability to benefit from the programs regardless of its existing location is a useful thing.

• It is interesting that Canada has one FTZ program (DRP) where unlimited value-added work is possible and another (EDCP) where very little value-added is possible. In the U.S., there is no such bifurcation of the FTZ concept.

• Canada’s existing programs are actually quite consistent with the rise of information technology and security through recordkeeping as opposed to fences. In Canada, what we have developed are “free points” as opposed to “free zones” and this philosophy should continue. While Canada is prudent to pursue “points”, the marketing decision to promote the idea of an FTZ everywhere has probably created more confusion than benefit because it causes a cognitive disconnect for much of the international audience, which has grown used to the concept of the zone.

• Saying that the benefits of FTZs in the U.S. are stronger is not to suggest that their programs are more enlightened. If anything, the experience in the U.S. suggests that Canada’s insistence on targeting export-oriented firms is prudent and prevents unintended effects and controversy.

• Canada’s programs are friendly to small and medium enterprises providing that the firms are exporters. If not, the Customs Bonded Warehouse program provides double relief from taxes and duties but at the expense of processing flexibility. Given that the application processes for the programs are not daunting or expensive, it is actually surprising that more firms do not participate. There is anecdotal evidence that even firms of significant size in Canada do not know about the programs or at least their full benefits.
• The “single window” concept that has been most actively tested at Manitoba’s CentrePort does not seem to be a powerful motivator for firms to locate there and take advantage of Canada’s FTZ-like programs. In principle, the single window concept is a good thing and any trouble that is being encountered at CentrePort is more likely related to the difficulty of getting general purpose FTZs to flourish. There is an ample history in the first 50 years of U.S. FTZs to support this assertion.

• The Customs Bonded Warehouse program is quite important in Canada since the DRP and EDCP are export-oriented. For many firms, CBWs are the main recourse for deferring duties and taxes. Nevertheless, there are examples where import-oriented firms are suffering unduly. As an example, some new initiative is needed to spare import-oriented firms from paying duties on scrap/waste by-products. The latter is a significant problem in the Canadian textiles industry for firms not eligible for the main FTZ programs.

4.3 An FTZ Approach for Canada

Having reviewed the FTZ concept in some detail, we are now in a position to answer the fundamental question of this research: What is the best way to maximize the potential of the concept in Canada? The points below seek to answer that question:

• All of the FTZ-like programs need to be marketed in a more coherent and singular manner despite the involvement of two agencies. Basic usage statistics and case studies should be promoted to assist with marketing. Ideally, there would be one program from the perspective of the participant/prospective firm and a single point of contact.

• Especially with many relevant tariffs in Canada being eliminated, the benefits related to GST/HST in Canada need to be stepped up. The EDCP should be brought in line with the DRP in the sense of unlimited value-added being possible so that all firm-types could benefit. If restrictions are to be imposed, it should focus on reserving the programs for export-oriented firms. Canada’s export orientation in its two main programs has been consistent whereas the same cannot be said for value-added activities. Whether the export sales percentage is 50% or 70% or some other number, it should be equalized between the DRP and EDCP. The ability to defer or be exempt from GST/HST on imported and domestically sourced goods would provide strong incentive for export-oriented firms to utilize the programs.

• It is important for Canada to communicate the concept of a zone in the marketing message but be able to back the assertion up. A way to do this is to adopt the U.S. concept of the extended service area under their Alternative Site Framework. While the delineation of these service areas in Canada would have to be determined, it is not hard to imagine that there could be 20-30 across the country. These service areas can legitimately be referred to as FTZs and the most active areas within can be referred to as magnet sites for the larger logistics-oriented developments or free points/node sites for individual existing firm locations. In so doing, the
The Free Zone Concept in Canada

general approach in Canada would find greater alignment with that of the United States and with the perceptions of international investors.

- In the shorter run, there is the possibility that federal government could allocate seed money to FTZ service areas to assist with local marketing efforts and the establishment of entities to carry this function out. In the long run (>10 years) FTZ service areas would ideally be self-sufficient with the free market rendering its verdict to determine which are viable.

- In Canada, it will be important to avoid the problem of small municipalities or towns declaring themselves as FTZs as this undermines the credibility of the federal programs. With a federal marketing message that FTZs can occur anywhere, it is not surprising that these self-declarations are beginning to occur. Using an FTZ defined as an unambiguous service area, there will be latitude for small municipalities to participate as free points or magnet sites and to be part of the FTZ offering for a larger, more objectively determined area. The process for defining these service areas can be consultative.

- In the U.S., some FTZs are essentially inactive and such an occurrence is likely in some service areas in Canada. Ideally, FTZ service areas would be defined with some prominent magnet sites in mind. But not all potential magnet sites will be viable and able to support a private sector operator to serve tenants and help manage the relationship with CBSA/CRA. Thus, there may be service areas that are much more dependent on firms acting as free nodes and as their own site operator. In many cases, this will be more pragmatic and will not require a local marketing entity.

- There is no doubt that the trickiest part of further developing the FTZ concept in Canada will be the handling of general purpose/magnet sites, where tenants are not necessarily known at the outset. These sites should be chosen carefully and considerable local support and interest should be evident. A localized private sector operator, which is an important element in the United States, will need to see the potential to make a profit in serving tenants via the FTZ program and other means. The first tier of potential magnet sites in Canada would appear to be the Ports of Vancouver and Halifax, the largest Great Lakes Ports and potentially airport locations such as Pearson, Winnipeg and Hamilton. Large intermodal developments such as CP Vaughan and Calgary Logistics Park are possibilities. The major rail firms are well-positioned to offer their services as FTZ operators and to some extent may be doing so already.
References

The Free Zone Concept in Canada


InterVISTASConsulting. (2011). Feasibility of a British Columbia Foreign Trade Zone (FTZ) Program (pp. 75).


The Free Zone Concept in Canada


Vancouver_Airport_Authority. (2011). Arrivals Duty Free - Keep it in Canada; Foreign Trade Zones - Do it in Canada. Retrieved from


