

**Bermuda in the World Economy:
Economic Relations with Asia, Canada, Europe
and the United States - 2014**

**Prepared Exclusively for the
Government of Bermuda**

**TRANSNATIONAL ANALYTICS LLC
Washington, D.C.
June 2015**

BERMUDA IN THE WORLD ECONOMY – 2014

TABLE OF CONTENTS

I. Executive Summary	5
Note on Terminology in the Study	7
II. Overview of Bermuda’s Economy	9
III. Bermuda and the World in Summary	13
IV. Bermuda and North America: United States and Canada	16
UNITED STATES.....	16
CANADA	28
V. Bermuda and Big Europe: United Kingdom, Germany and France	31
UNITED KINGDOM.....	31
GERMANY	38
FRANCE	41
VI. Bermuda’s International Financial Investment Position – Asia and Beyond ..	44
1. Trends in Portfolio Investment of the World with Bermuda.....	46
2. Bermuda’s Portfolio Investment Partners: Mainland China, Hong Kong, and Singapore.....	50
MAINLAND CHINA.....	51
BERMUDA AND CHINA’S FDI.....	53
SINGAPORE	54
HONG KONG.....	55
3. Bermuda as a Capital Market to Augment Needed Global Capacity.....	56
4. Aircraft Finance and Other Asset-Based Securitization	57
5. Portfolio Investment in Bermuda Insurance Linked Securities and Reinsurance Financial Instruments.....	60
VII. Conclusions	64

APPENDICES

<i>APPENDIX A: Where Did the Role Bermuda Plays in the World</i>	
Economy Come From and Why?.....	67
“Onshores” Begat “Offshores.”	67
Chronology	68
A Little More Comment on the Chronology.....	72
<i>APPENDIX B: Methodologies and Notes.....</i>	73

Economic Data.....	73
Tracking Investment with Bermuda	74
Employment	76
APPENDIX C: References and Sources.....	77

TABLES

<i>Table 1: Overview of Bermuda’s Economic Relations with Major Trading Partners. 2013*</i>	15
<i>Table 2: U.S. and Bermuda Exports, Imports and Balance of Trade in Goods: 2006-2014</i>	20
<i>Table 3: U.S. Services Exports to and Imports from Bermuda: 2006-2013</i>	24
<i>Table 4: Sales by United States and Bermudian Affiliates of Majority Owned Multinationals by Country: 2002-2012</i>	26
<i>Table 5: Canada Economic Relations with Bermuda: 2008-2013</i>	30
<i>Table 6: UK Exports, Imports and Balance of Trade in Goods with Bermuda: 2004-2014</i>	34
<i>Table 7: UK Service Exports to and Imports from Bermuda: 2006-2012</i>	35
<i>Table 8: Bermuda Special Purpose Insurers and the UK</i>	36
<i>Table 9: German Economic Relations with Bermuda: 2006-2013</i>	39
<i>Table 10: Germany Services Trade (receipts) by Industry Type with Bermuda: 2005-2013</i>	40
<i>Table 11: France Economic Relations with Bermuda: 2005-2012</i>	42
<i>Table 12: Portfolio Investment Positions In and Out of Bermuda with Study Countries and the World: 2001, 2007- 2013</i>	47
<i>Table 13: Country Ranking of Leading Foreign Holders of U.S. Securities Ranked as Holders of U.S. Long-Term Treasuries: 2013</i>	49
<i>Table 14: Mainland China Economic Relations with Bermuda: 2007-2012</i>	52
<i>Table 15: Singapore Economic Relations with Bermuda: 2007-2012</i>	54
<i>Table 16: Hong Kong Economic Relations with Bermuda: 2006-2012</i>	55
<i>Table 17: Bermuda Special Purpose Insurers (SPVs) and Aircraft, Asset-Based Securitization: Illustrative Deals Based in Bermuda</i>	59
<i>Table 18: Bermuda Special Purpose Insurers (SPIs) and ILS Funds with the rest of the world</i>	62

FIGURES

*Figure 1: Bermuda’s Economic Contribution to the U.S. Economy: 2008-2014:
Country Summary of Study and Examples from Press17*

*Figure 2: Bermuda’s Economic Contribution to the Canadian
Economy: 2008-2014.....28*

Figure 3: Bermuda’s Economic Contribution to the UK Economy: 2008-201432

*Figure 4: Bermuda’s Economic Contribution to the German
Economy: 2008-2014.....38*

*Figure 5: Bermuda Economic Contribution to the French
Economy: 2008-2014.....41*

*Figure 6: Bermuda’s Economic Contribution to the Asian
Economies: 2008-201451*

I. Executive Summary

This summary indicates that Bermuda has:

- a significant economic profile in the world economy supporting 500,000 jobs worldwide even after the effects of the global financial crisis and recession. (Chapters IV and V),
- provided more than \$50 billion in trade in financial and transportation services that are key to the United States and the United Kingdom economies (Chapter III),
- starting in 2012, shifted its economic role in the world and grew rapidly to provide a highly responsive capital market to United States investors. (Chapter VI). Bermuda is now a destination for financial investment by pensions and governments amounting to more than \$20 billion,
- retained its economic competitiveness based on a financial regulatory environment that is supportive of investors and responsive to partner governments, such that new financial flows grew by \$15-\$25 billion in last two years (Chapter II),
- continued to adapt to the demands of U.S. and Chinese investors for important business needs otherwise unmet in their own national economies. (Appendix A).

More specifically, this study analyzes Bermuda's economic role in the world economy, particularly, with the United States and Canada; the major European economies - the United Kingdom, Germany and France; and China including Hong Kong and Singapore, between 2007 and 2013.

The study finds that Bermuda stands out among its peers and other advanced economies for the size and geographical reach of its economy based on a large captive insurance and reinsurance industry; rapidly expanding stock exchange, and its shipping industry. Bermuda experienced almost \$50 billion in two-way trade with these eight countries in 2013.

Bermuda has an outsized economic presence in these economies – it supports close to 500,000 jobs in the world – 70,000 in the UK and almost 330,000 in North America including 300,000 in the United States, 80,000 in the rest of Europe and about 10,000 in three Asian economies.

Bermuda is the leading global reinsurance provider with one-third of the top global reinsurance companies managed owned and operated on Bermuda. Large economies

depend on Bermudian reinsurance to cover losses for homeowners, businesses and governments. Bermuda's insured financial capacity covered 75% of Florida state windstorm protection, \$3 billion of Super-storm Sandy losses, \$35 billion for U.S. business and homeowner insured catastrophic losses between 2001-2013, including 9% of insured losses of September 11 Terror Attack. Bermuda reinsurance provides 11% of U.S. crop insurance capacity covering 600,000 farmers and foresters in 50 states.

Bermuda is a leader in marine transportation trade accounting for close to \$10 billion in ship purchases, shipping management and shipping multinationals, supported by a global reach that transports energy to U.S. and UK ports.

U.S. and Canadian pension funds and state governments and other tax-exempts have recently increased their investment profile in Bermuda. While U.S. and European private equity and investment funds have traditionally relied on Bermuda as a funding center, in the last 3 years, U.S. tax exempt entities sought \$8 billion in Bermuda's capital market as a means to add liquidity in a secure regulatory environment.

Bermuda is recently successful in offering capital structures for financing asset-based securitization and insurance linked securities, raising at least \$15 billion and as much as \$25 billion between 2009 and 2013 to the benefit of U.S. homeowners and U.S. and European airframe manufacturers.

Bermuda maintains its prominent position in the world economy through efficient regulation and financial innovation. That is, when and where there are financial capacity shortages, as has been the case in the United States and Europe, Bermuda meets these needs with effective access to judicial courts, legislation, and proportional risk-based, but reliable regulation.

Where other national financial institutions are found to be too constrained to meet economic development needs, Bermuda provides the well-regulated and deep financial intermediation to help China invest and grow.

These new structures can and do create scores of jobs in Bermuda but not the hundreds or thousands that competing "primary" financial centers like London and New York experience. Even the job creation of the Bermuda Stock Exchange is modest compared to a potential "primary" financial center institution. For example, introducing a secondary financial trading platform in Bermuda linked to the Bermuda Stock Exchange would produce hundreds of jobs. Furthermore, when Bermuda expands its Islamic-law compatible financial capacity to include Islamic review commissions to handle financial relations with the Middle East, more jobs could accrue.

Note on Terminology in the Study

This study is meant to inform a broad audience by presenting widely published economic data from a variety of comparable national, private and international statistical sources. The goal is to define better Bermuda's role with a diverse group of countries that rely on Bermuda in different ways. To best express Bermuda economically, this study uses widely accepted economic terms and concepts that are discussed in detail in Appendix B. Since many readers do not have the time and inclination to wade through the Appendix as they start to read, this note provides a brief orientation. Bermuda performs a number of economic functions in the world economy. The economic concepts and data are matched to the functions.

First, Bermuda is an economic power unto itself. It has its own world-class multinationals that make independent economic decisions. Therefore, the study examines "trade in services" and that term is used a lot. For example, the United States "exports" insurance services in the form of fees charged to Bermuda for that insurance coverage and "imports" insurance services from Bermuda in the form of payments to U.S. homeowner and farmer and business property losses due to tort liability, hurricanes, fires and floods. This is the dominant form of economic relationship between Bermuda and the United States and the United Kingdom.

Second, Bermuda is a financial center. While it does not lead the world in banking services nor investment funds, it has about \$500 billion of assets under management and that is growing, particularly with Canada, the United Kingdom and continental Europe. These cross-border investments largely take the form of "foreign direct investment" and "portfolio investment." "Portfolio investment" in and out of Bermuda is relatively large. Pension fund investments in Bermuda are a recent example. Such "portfolio investment" is passive, involving little control and can span a wide range of asset classes – stocks, government bonds, corporate bonds, CDOs and other asset based securities, mutual funds, ETFs and so on. Since Bermuda has a stock exchange and mutual fund industry, "portfolio investment" is substantial. It is one of the fastest growing forms of economic activity between Bermuda and the rest of the world after the global financial crisis.

Third, Bermuda is a residency for multinational "holding companies." In this respect, the International Monetary Fund and partner countries, like China,

identify Bermuda as a destination of large sums of “foreign direct investment (FDI).” FDI is cross-border investment associated with mergers and acquisitions where the investor takes management control. Irish companies place their FDI in Bermuda when they transfer their ownership of aircraft and engines to Bermuda special purpose trusts and exempt companies. Nordic and Singapore companies place their FDI in Bermuda when they locate their energy shipping fleets for use in the United States on Bermuda ship registers. Most importantly, Chinese and Hong Kong companies place their FDI in Bermuda because Chinese banks and financial institutions are not yet capable of providing the same level of asset protection and effective, low-cost financial service capacity as in Bermuda. In this respect, Bermuda’s role is to provide “financial intermediation” for China. Financial intermediation is the flow of funds from China and Hong Kong lenders through financial intermediaries (such as banks and funds in Bermuda) on its way to borrowers in China. This is important because “intermediation” is thought to increase the productivity of their internal investment and accelerate economic development in China.

Lastly, this study makes the point that investment and exports can support jobs in host countries. The idea that jobs in the United States or the United Kingdom are “supported” by economic activity with Bermuda is well documented by the U.S. Department of Commerce. U.S. exports to Bermuda support U.S. jobs. There are jobs coming from the “direct” economic activity of one company exporting to another country. Also, there are jobs coming from the “indirect” economic activity that that same export. “Indirect” jobs derive from the increase in jobs when supplying companies sell their U.S. products to the exporting U.S. Company.

II. Overview of Bermuda's Economy

This impact study analyzes the international economic relationship between the Bermuda and eight key national economies where Bermuda's businesses are most active, specifically as it pertains to cross-border trade and financial account positions. This study updates an earlier analysis prepared for Business Bermuda (the predecessor of Bermuda's Business Development Agency) that covered the period ending in 2010. Of course, there is a significant difference in Bermuda, global financial markets, and the world economy between then and now. In essence this report captures the entire period of economic change and recovery from the financial crisis of 2008 until the latest period that available public data can capture, i.e., 2013 or in some cases 2014. This study looks at Bermuda's economic role with its most important economic partners and its most important business sectors.

The analysis captures Bermuda's innovative economic role supporting these large nations through the published government data of that partner country. That is, we use United States government economic surveys to summarize Bermuda's contributions to the United States.

That said, a large part of Bermuda's strength is found in the innovativeness seen in its finance, economic, and professional services, government agencies and Parliament to ensure that Bermuda remains at the peak of its capacity to support the world economy. Therefore, before delving into the specifics of the Bermuda economic relationship with the world economy, a brief overview of how Bermuda's legislation, regulatory and financial infrastructure has been adapted to provide service and support to its partners is important.

First, Bermuda's proximity to the United States, Canada and Europe, particularly the United Kingdom is a key factor of support to the world economy. Much Bermuda business is tied to the long economic relationship with the major Atlantic economies, its regulators and its private business community. For example, Bermuda is a territory of Great Britain and as such its company law, access to UK judicial review and direct ties to UK regulators in banking, aircraft and shipping safety, and tax system ensure a level of protection to investors and business partners unavailable elsewhere. Based on this relationship with a leading member of the European Union, Bermuda's business community and government regulators have developed extensive ties with the European Commission and EU regulatory community. Bermuda is closely in tune with

developments in Washington, London and Brussels to meet and anticipate the needs of its major trading partners. Similarly, Bermuda is less than 1000 miles from New York City, Washington, Toronto and Miami and has a long experience of economic and financial cooperation and collaboration with North American business and government. The result is that more than 15,000 residents of Bermuda are financial, business, legal and regulatory experts in transatlantic capital markets, banking, finance and insurance at predominantly the wholesale level.

This capability has developed since the 1950s when the first cross-border financial industries from the United States and the United Kingdom established in Bermuda and now provides more than 60 years of world class experience and service to the world economy. Key among these assets is the Bermuda Monetary Authority that enjoys reciprocal relations with major economy regulatory bodies, the Bermuda Stock Exchange (officially recognized by major national governments including the U.S., Canada, and the UK) and capitalized at more than \$450 billion, Bermuda Maritime Agency (officially recognized by the U.S. Coast Guard – Homeland Security), and the Bermuda Department of Civil Aviation (officially recognized by the U.S. FAA and UK Civilian Air Authority), among others.

Second, Bermuda's government and the Bermuda Monetary Authority have adopted key regulatory and legislative innovations to make Bermuda a responsive, efficient and reliable investment environment to the needs of the changing world economy and financial markets within its historical and cultural identity. After all, Bermuda has always been a political territory of the UK with all the responsibilities and privileges; it has always been income tax neutral; the U.S. dollar is legal tender throughout Bermuda which implies it has always been a Eurodollar market (the importance of which is discussed in Appendix A).

Further, as the United States, the United Kingdom, and the world economy evolved over the decades, Bermuda adapted to support them and is deeply engaged with global financial governance. To give key examples of bilateral or plurilateral agreements where Bermuda, Europe, the United States and Canada as well as the OECD Task Force on Transparency have come together:

- Bermuda has exchange of tax information relationships with 83 jurisdictions through 4 Double Taxation Conventions, 40 TIEAs and membership in the Convention on Mutual Administrative Assistance in

- Tax Matters. Bermuda is white-listed by the OECD Global Forum on Transparency and Exchange of Information for Tax Purposes recognized by the G20.
- Bermuda has a Tax Information and Exchange Agreement with the UK and is recognized by the UK HMRC and Treasury for taxation credits for specific investment purposes. Bermuda also has double taxation treaties with Middle East Countries.
 - Bermuda financial regulators and stock exchanges are deeply familiar with Islamic lending practices and the precepts of the sharia related to finance and banking.
 - The Bermuda Stock Exchange (BSX) has recognition agreements with the Bermuda Monetary Authority, U.S. SEC, London Stock Exchange, UK FCA, UK HM Revenue and Customs, Canada, and Australia.
 - Bermuda's Monetary Authority is a member of International Organization of Security Commissions (IOSCO). Bermuda is a final candidate for regulatory equivalency under EU's Solvency II regime. Bermuda is "white listed" on OECD Global Forum on Tax Transparency and hosted the OECD Global Forum in Hamilton.
 - The Bermuda Monetary Authority is recognized by the U.S. National Association of Insurance Commissioners as one of seven "qualified jurisdictions" providing insurance regulatory solvency regulation and consumer protections equivalent to those in place under state law.

Third, Bermuda's government over the decades have developed a corpus of legislation that supports doing business and in many cases is unique among competing jurisdictions. The Investment Law of 2013 was updated to make regulatory requirements more accessible and effective in private sector registrations. The Bermuda purpose trust is a very flexible and a pragmatic means to structure special purpose vehicles (SPVs) for asset-based securitization of aircraft, locomotives, ships and shipping containers. It allows assignment of trust shares to investors so as to fortify bankruptcy protections of trust assets. In 2008, Bermuda amended the Insurance Act to provide for Special Purpose Insurers (SPIs) – that are an efficient basis for insurance-linked securities. These same SPVs have special advantages for establishing sharia-compliant investor structures.

Finally, the Bermuda economy includes financial sectors that support each other after decades of collaboration and support. Bermuda has one of the largest reinsurance industries in the world and competes from Bermuda for business in the United States, Europe, Latin America, Africa, and Asia. 15 of the top reinsurers in the world are headquartered in Bermuda. Add to that, the largest number of captive insurance companies in the world supporting primarily Fortune 500 companies in the United States. Altogether, Bermuda's insurance industry covers more than \$500 billion in net assets according to the Bermuda Monetary Authority Quarterly Report in 2014.

Investment funds are significant with more than \$190 billion in net assets according to the same source. The effectiveness of this experience and cooperation of finance sector innovativeness and regulatory expertise can be seen in the strong innovations in Bermuda capital markets in 2014. New asset-based aircraft securitization Special Purpose Vehicles and special purpose insurers raised more than \$25 billion from 2009 to 2014 often with the strong participation of local fund managers and the Bermuda Stock Exchange (BSX).

III. Bermuda and the World in Summary

Overall, the study finds that Bermuda has substantial economic relations with their 8 chief economic partners in North America, Europe and Asia in 2013. Bermuda's economy supports almost 500,000 jobs (486,000 jobs supported) in these economies through trade, the foreign direct investment of its multinationals, and its portfolio investment capacity – mostly in the United States and the United Kingdom.

The year 2013 is an interesting year to assess Bermuda's role in the world economy. The devastating 2008/2009 financial crisis and deep 5 year global recession can now be looked at from some distance. Bermuda's economic role decreased somewhat because its services industries in shipping, insurance, securitization and funds management declined as investors in the United States and Europe pulled back from their international expansion.

Table 1, below, summarizes the economic situation for 2012/2013 described by three major job creating economic activities – trade in goods, trade in services and portfolio investment position – either with subsidiaries in host countries of its large and active multinationals or the portfolio investment generated by its financial and capital markets. This table shows the economic significance of Bermuda from the viewpoint of the 8 trading partners covered here in the study. Bermuda's portfolio investment fell off by more than \$100 billion between 2007 and 2012. It is just beginning to recover peak levels in 2014. Levels of trade were lower in 2013 compared to pre- recession levels – U.S. demand for energy shipping services are just recovering. Insurance and reinsurance were also affected by the fact that a Category 3 or 4 hurricane has not hit a major U.S. city in 9 years. (A substantial amount of trade with the United States corresponds to insured loss payments made for major wind and flood disasters.)

The study identifies the effects of structural shifts in the world economy and how Bermuda industry has evolved to support these 8 nations. U.S. and European interest rates have been at record lows for 5 years. U.S. pension funds, in particular, have been forced to abandon somewhat their propensity to rely solely on bonds and treasury bills and have grown to invest in Bermuda financial instruments as well as insurance companies to seek higher yields. U.S. states have been forced to follow the same policy. Since federal and state taxation is insignificant on these entities, there is no tax policy concern. Global equity markets proved volatile and insecure during the financial crisis. Therefore,

investors have gradually reduced their commitment to equity-based mutual funds and instead have embraced alternative investment funds with expertise in insurance and reinsurance covering catastrophic risks and therefore uncorrelated with equity markets. Most importantly, banking suffered substantially in the United States and Europe. Bank lending and bank debt are diminished even for the best risk. Corporations, governments, and non-profits now must seek new sources of lending to recover their own economic viability. As will be noted, capital markets and asset-based securitization have reasserted their credibility in the world economy in 2013 and Bermuda is proving to be a center of excellence.

Finally, Asia and particularly China were less affected by this “North Atlantic” economic crisis. The role of the Middle East and China as lender and investor in the world economy grew between 2008 and now. Of course, these economic zones are not known as particularly able at financial intermediation. To access the United States and major economies like Canada and the United Kingdom, China and Qatar chose to invest through experienced intermediary centers like London and the newer capital markets of Bermuda. Bermuda was uniquely placed to benefit of these structural changes and has changed its source of funds, means of intermediation, and investment clients. Moreover, Bermuda is now proving to be highly innovative in the financial structures provided to lenders and investors so as to be one of the top financial economies in the world.

Table 1 provides a good overview of Bermuda and the world economy. Bermuda’s economy is service-based rather than a maker of goods or merchandise. Bermuda does import a substantial amount of transportation merchandise – ships. Its two- way trade in services in 2012 (2013 for the United States) was between \$45 and \$50 billion. This is a decrease from the early 2000s, but not by much as the global demand for financial services is increasing and Bermuda is competitive. Portfolio investment positions are at about \$350 billion. (Bermuda is a financial conduit and its skills are two-fold. First, it is highly expert in assessing the risks to property from major risks, terror, wind, fire, flood. Second, it is endowed with a highly experienced, innovative, secure and flexible capital-raising capacity attracting investors from the United States, Europe, South America, and Asia.) This portfolio investment level is somewhat lower than levels in the early 2000s. This reflects the general “pullback” in cross-border activity of international banking and investment funds rocked by the financial crisis. That said the UK and Asia stand apart as levels of financial investment through and into Bermuda remained strong.

Table 1:
Overview of Bermuda's Economic Relations with Major Trading Partners.
2013*
(Billions of U.S. Dollars)

(FDI and Subsidiaries of Bermuda MNCs supported 243,000 additional jobs in
 These 8 national economies. See national chapters for details)

Country	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda	Portfolio Invest into Bermuda	Portfolio from Bermuda
U.S.	0.60	0.02	10.7	24.7	213.8	274.2
Canada	0.03	NS	2.1	1.1	14.2	10.9
UK	0.07	0.02	1.3	1.2	12.1	26.3
Germany	1.7	0.1	0.7	0.3	3.2	9.3
Singapore	0.1	0.3	0.15	0.4	8.2	3.0
China (Mainland)	0.3	0.0	NS	NS	IMF Not Reported	IMF Not Reported
France	0.6	NS	-1.0	0.5	2.7	11.0
Hong Kong	NS	0	1.0	0.2	109.0	NS
Table Total	3.4	0.44	14.95	28.4	363.2	334.7
Total Employees Abroad Created by Trade and Investment with Bermuda (000s)	24.6	--	118.8	--	100.0	

Source: U.S. Department of Commerce, Bureau of Economic Analysis, [Survey of Current Business](#), October 2014.; PRC Ministry of Commerce, [2013 Statistical Bulletin](#); Hong Kong Census and Statistics Department, [Selected Reports](#); Department of Statistics Singapore, [2013 Selected Reports](#); IMF [Coordinated Portfolio Investment Surveys accessed online January 2015](#); OECD, [Stat Extracts, EBOPS 2002/2010 database on Trade in Services accessed on line](#).

Note: Generally, services data is only available to 2012, the U.S. reports 2013 services trade. Portfolio investment reflects 2013 positions reported to IMF. NS- not significant*

IV. Bermuda and North America: United States and Canada**UNITED STATES**

Bermuda is a substantial contributor to jobs and growth in the United States. Bermuda's economic impact is primarily in the export of services (current account in the balance of payments) as well as more invisible impact in portfolio investment flows. For the first time, this study series estimates the impact on the United States of Bermuda's capital market activities in securitization and debt issuance through ILS market and the Bermuda Stock Exchange. (See Chapter VI for specifics.) Therefore, accounting for all current account and financial account activity, in 2013, Bermuda supported about 304,000 jobs in the United States covering the captive insurance, reinsurance, aircraft, access to capital markets, investment funds, and business services sectors. United States job creation originating from Bermuda increased since 2009 because of the strength of new portfolio investment flows that expanded into 2014. Two-way trade in goods and services as well as sales of subsidiaries between Bermuda and the United States was \$70 billion in 2013. This is a decrease in the current account from the peak of \$80 billion in 2009. (As explained later, this is largely due to the relatively peaceful hurricane seasons in the United States for the last 9 years, not because of any decline in overall business activity.)

The bulk of the U.S./Bermuda economic relationship is in the export and import of financial and non-financial services – including equally both cross-border trade and that delivered through U.S. subsidiaries of companies headquartered in Bermuda. In 2013, U.S. cross-border service exports to Bermuda amounted to \$11 billion, and U.S. imports from Bermuda were \$24 billion. The steep decline in U.S. imports from Bermuda reflects the quiet hurricane seasons in 2009-2012. Trade in insurance reflects not only premiums paid but also payments for losses.

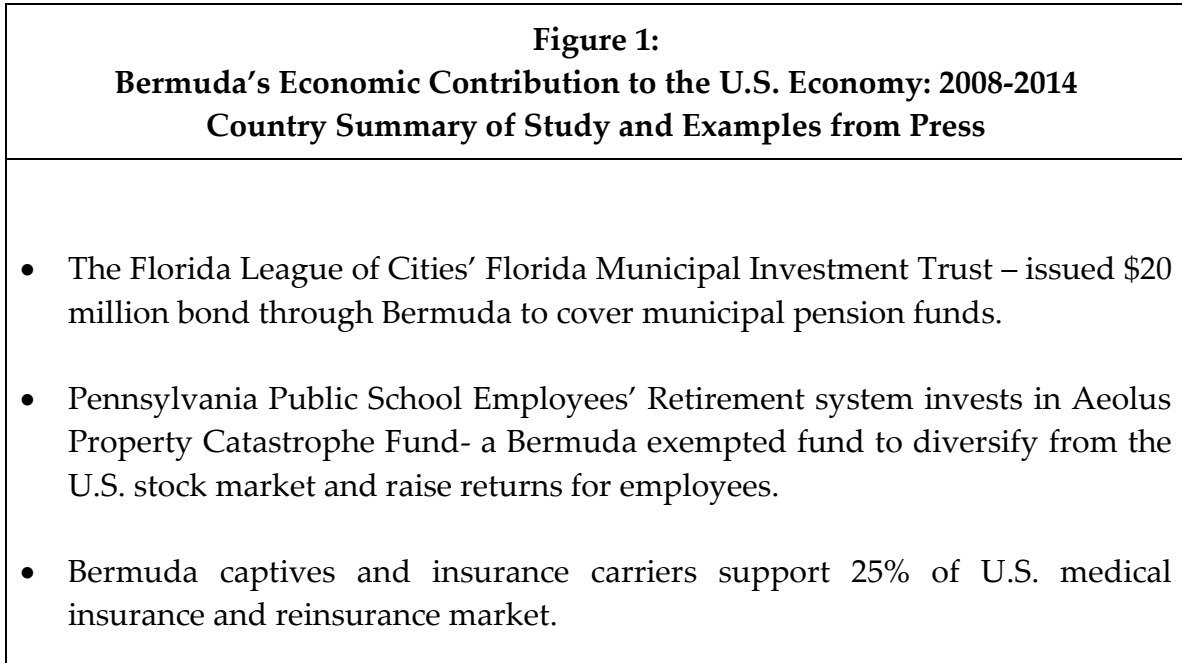
What is noteworthy is that Bermuda in many ways is a more significant economic partner for the United States than Canada, UK, Japan and China. For example, Bermuda is the most important foreign supplier of insurance and reinsurance to the United States and the 8th largest export market for the United States' trade in shipping services. To illustrate the outsized role that Bermuda business plays in the United States, Figure 1 lists several recent economic and financial services that have great social value for the Federal government, farmers, homeowners, pension funds, workers, and so on.

Figure 1:
Bermuda's Economic Contribution to the U.S. Economy: 2008-2014
Country Summary of Study and Examples from Press

- Produces more than U.S. 304,000 jobs through U.S. exports to Bermuda and Bermuda multinational investment in USA. 17,000 of these jobs originate from Bermuda reinsurers with subsidiaries in USA.
- Bermuda reinsurance companies paid \$35 billion for U.S. business and homeowner insured catastrophic losses between 2001-2013, including \$2.5 billion or 9% of insured losses of September 11 Terror Attack.
- Bermuda reinsurance provides 11% of U.S. crop insurance capacity covering 600,000 farmers and foresters in 50 states.
- Some \$3 billion Boeing wide body jet sales to Asian airlines are financed through aircraft leases and asset-backed securitization in Bermuda capital markets in 2013 and 2014, supporting some additional 50,000 jobs in the U.S. aerospace sector.
- Bermuda provided \$3 billion of insurance coverage for 2012 Super Storm Sandy in New Jersey and New York.
- California Earthquake Authority reinsures its quake risk with Catastrophe Bonds registered in Bermuda – URSA Re -\$400 million 2014, Embarcadero Re -\$150 million 2011, and Embarcadero Re - 2012 I and 2 - \$450 million.
- New York City Metro Transportation Authority issued \$200 million Bermuda Catastrophe Bonds in 2013.
- Florida State's Citizen's Property Insurance Corp. issues Bermudian SPI and Catastrophe Bond - Everglades Re – for \$1.5 billion - to cover Florida homeowner's liabilities. Bermuda's reinsurers provide 74% of reinsurance purchased by Citizens Property.
- Florida's Heritage P&C was established to take more of Citizen's exposure – \$200 million cat bonds from Bermuda.

Figure 1:
Bermuda's Economic Contribution to the U.S. Economy: 2008-2014
Country Summary of Study and Examples from Press

- Bermuda insurance carriers paid \$22 billion in liability insurance coverage to rebuild the businesses on the U.S. Gulf and Florida Coasts in 2004/2005. Also they paid 30% of the U.S. insured losses from hurricanes Katrina, Rita and Wilma.
- Texas Windstorm Authority (TWIA) issues Cat Bond in Bermuda to raise money to cover Texas homeowner liabilities. Alamo Re - \$400 million.
- Hannover RE issued Bermuda \$400 cat bond to cover more of TWIA exposure for Florida homeowners in 2014.
- Bermuda Catastrophe Bond insures California States' Worker's Compensation Fund originating from potential earthquakes. - Golden State Re 2: 2014 \$250 million.
- U.S. Pension Funds including TIAA CREF allocate several billion dollars in 2012/2013 to invest in Bermuda SPIs and associated ILS investments.
- Bermuda insurers supply 27% of Amtrak Insurance Program.
- North Carolina JUA/IUA (state government tax exempt). Issued \$500 million Cat bond thru Bermuda.
- Oregon Investment Council that invests for Oregon state public employee's retirement invested \$100 million in Bermuda-domiciled Nephila Capital that advises on Bermuda ILSs.



Trade in Merchandise Goods. As a small island economy that is not self-sufficient to meet its manufactured needs, Bermuda depends on exports of merchandise goods from the United States. As summarized in Table 2, in 2014, the United States exported about \$600 million in manufactured goods to Bermuda and enjoyed a bilateral trade surplus of \$580 million. The chief U.S. exports are transport equipment and mainly aircraft made or finished in Little Rock, Arkansas and Wichita, Kansas. Many of these are leased into airline fleets. U.S. aircraft exports to Bermuda have grown steadily since 2004 and amount to more than \$150 million a year. The United States exports close to \$45 million worth of computers, telecommunications equipment and consumer electronics to Bermuda annually. The remaining exports -- ranging from food products to gasoline to apparel -- supply 75% of Bermuda's total import demand.

Table 2:
U.S. and Bermuda Exports, Imports and Balance of Trade in Goods: 2006-2014
(Millions of U.S. Dollars)

Year	U.S. Exports	U.S. Imports	Balance
2006	637.6	16.1	621.5
2007	660.0	23.7	636.3
2008	821.0	140.0	681.0
2009	807.0	13.0	794.0
2010	636.5	22.5	614.1
2011	611.4	59.9	551.5
2012	622.5	83.8	538.7
2013	537.4	60.8	476.5
2014	600.0	20.0	580.0

Source: U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade.

Cross-Border Trade in Services. Bermuda is a major purchaser of U.S. services exports, particularly in financial sectors like investment and insurance, and also in business services like testing, R&D, accountancy and legal advice. In 2013, the United States exported \$10.7 billion in private sector-generated services to Bermuda. According to the U.S. Department of Commerce, Bermuda ranked as a leading destination for U.S. services exports and has grown substantially, albeit

with setbacks from the financial crisis of 2008. Trade in services has not fully recovered. Banking services exports are particularly weak since 2008, restrained by both new U.S. banking regulations as well as an overall timidity in lending stemming from the crisis.

The most important category of U.S. services receipts (or exports) to Bermuda has become professional and business services (including legal, testing, and accounting services) at almost \$3 billion annually followed closely by the trade in insurance services. The third most significant category of services exports to Bermuda remains banking and investment fund services that include \$1-2 billion in receipts for funds management and advisory services, as well as fees and commissions on transactions in securities.

Reinsurance and Insurance. Bermuda is the leading supplier of insurance services to the United States in the world, with substantial U.S. payments (imports) for insurance and reinsurance; including reimbursements for losses. Although Bermuda has developed a capacity to reinsure most lines of insurance, it is dominant in catastrophic-event property and casualty insurance. Catastrophic-event property and casualty insurance premiums surged in the United States because of large losses due to major insured catastrophes, starting with Hurricane Andrew in 1992, then the terrorist attacks on the World Trade Center in New York in 2001 and major U.S. hurricanes in 2005. As Table 3 illustrates, insurance services imports from Bermuda grew 4 fold in the last 8 years in spite of the financial crisis. As Figure 1 illustrates, Bermuda is a major insurer of American farmers and homeowners and a leading provider of corporate self-insurance plans (“captive insurance”) to support workers and corporations. The Bermuda ILS market has also become a destination for U.S. pension funds and state-government agencies to raise capital for their social programs to benefit workers and employees.

Shipping. Another significant contributor to trade in private sector services has been Bermuda’s leading expertise in shipping services. Bermuda is a significant supplier of ocean freight shipping services, mainly related to its large and growing provision of ships to transport crude oil and LNG to ports, terminals and refineries along the U.S. gulf coast. Chevron Tankers, Teekay, Golden Ocean, and Bonny Gas Transport are examples of large Bermuda petroleum product transportation fleets that have expanded in recent years to meet the unique needs of the United States and the Atlantic Basin, providing very competitive services. The United States depends in large part on energy products

-- including crude oil, petroleum products and LNG (liquefied natural gas) -- that are shipped from foreign oil fields to U.S. refineries. In fact, tanker fleets from foreign oil fields transport 55% of America's total crude oil supply.

Two Bermuda companies own the largest number of tankers in the world's independent fleet: Nordic American Tankers and Frontline. (These Bermuda domiciled companies are in turn owned by holding companies in Asia and Norway. To take advantage of Bermuda registry and regulation, the fleet must be Bermuda-domiciled.) U.S. oil company tanker fleets also serve U.S. refineries and some of these ships serving the Gulf Coast are Bermuda-registered. The crude oil tanker fleet is well established in U.S. ports, and the LNG fleet is growing in significance to the United States. Bermuda's tanker fleet is compliant with U.S. environment liability requirements of the Oil Pollution Act of 1990, and is known among operators as having a high reliability of operation, with infrequent oil spills and discharges and few port delays. Other marine transport companies with global services and headquartered in Bermuda with Bermuda ship registrations are Teekay, Orient Overseas, Golden Ocean and Dockwise.

Business Services: Bermuda provides almost \$3 billion of R&D, testing and other business services annually to the United States. This has grown substantially over the last 10 years. Almost 30,000 U.S. jobs are generated by technical service exports booked in Bermuda. (These are not jobs or services associated with royalties or IPR held in Bermuda.) These are exports of testing services to Bermudian semiconductor chip companies. It is no accident of tax arbitrage that has most of the world's semiconductor chip companies domiciled in Bermuda and this outcome developed over a decade or more. Because of competition, globalization, and specialization the U.S. semiconductor industry relocated to China. This is where most of the commodity-grade semiconductor chips are made. (In 2013, China and Taiwan actually made 50% of the world's supply of chips because they make most of the electronic products.) This situation evolved over time and gradually U.S. companies abandoned this business to a more competitive China. To save U.S. jobs and remain competitive, U.S. chip manufacturers sold their U.S. manufacturing and testing operations to U.S. private equity companies who restructured the companies. Chinese chip manufacturers partnered with U.S. private equity to make in China and sell in the United States. Companies like Freescale, Marvell, Contel, AOSL, and Chipmos, to name a few "fabless chip" companies, were formerly U.S. companies and redomiciled to Bermuda after being spun off by Motorola, Qualcomm and others and restructured by U.S. private equity investors.

In order to sell chips in the United States, the partners had to retain R&D and testing services in the United States to guarantee the quality of the Chinese commodity chips. Some American jobs went to China. These jobs in the United States were not competitive globally with the growing Chinese dominance in electronics. But more than 3,000 U.S. jobs were saved by keeping the chip quality testing services in the United States. Because Chinese partners were familiar with the Bermuda investment environment from long experience and because Chinese investors are uncomfortable with direct investment in the United States, Bermuda became the semiconductor chip joint venture headquarters center and the companies started "exporting" all its testing services in this sector to Bermuda. For Chinese investors, Bermuda is a preferred jurisdiction that provides more developed company law and dispute resolution than elsewhere. For U.S. business partners, Bermuda is a known investment jurisdiction with strong institutions. But for this compromise jurisdiction acceptable to both partners, the semiconductor joint ventures would have failed with manufacturing in China and marketing in the United States. There would have been a loss of jobs in both markets. These Bermuda joint venture investment domiciles book fees and payments earned in their multinational operations in the United States.

Table 3:
U.S. Services Exports to and Imports from Bermuda: 2006-2013
(U.S.\$ Million)

Year	Total Private Services	Travel & Fares	Shipping	Royalties & License Fees	Financial Services	Insurance Services	R&D and Other Business Services
Exports to Bermuda							
2006	6,327	56	181	1,469	2,505	887	1,141
2007	8,228	75	162	2,030	2,216	1,066	2,568
2008	9,591	69	172	2,439	2,121	2,019	2,634
2009	10,831	67	181	2,763	1,543	2,520	3,594
2010	11,263	65	162	3,304	1,721	2,735	3,488
2011	11,169	49	273	3,258	1,546	3,115	3,361
2012	9,450	57	284	2,337	1,476	2,491	2,596
2013	10,699	138	291	3,406	1,467	2,691	2,895
Imports from Bermuda							
2006	15,745	321	145	159	136	14,814	100
2007	17,892	360	70	122	229	16,701	312
2008	24,675	296	1,116	88	218	21,002	314
2009	33,769	221	829	143	255	31,950	121
2010	31,975	229	950	15	272	29,940	213
2011	29,070	229	1,009	2	222	30,510	270
2012	26,193	257	1,019	3	176	24,450	166
2013	24,675	293	1,102	3	168	22,801	183
Direct Employment Ascribed to Services Exports							
2013	66,000	1,000	NA	0	8,200	25,100	26,600
Indirect							
2013	14,000	100	NA	0	3,800	5,500	5,450
Total Export Employment due to services exports to Bermuda							
2013	80,000	700	NA	0	12,000	30,600	32,000

Source: Bureau of Economic Analysis – Survey of Current Business (SCB) October 2014, and Trade.gov, Jobs Supported by Exports, 2013. An update by Martin Johnson and Chris Rasmussen. U.S. ITA, Washington, DC.

1/ Cross border service sector trade generally reflects company receipt and payment information gathered by the Bureau in quarterly surveys. For example, trade in insurance services between Bermuda and the United States reflects receipts of insurance and reinsurance companies adjusted for “normal losses” and company investment portfolio changes. This methodology is summarized in U.S. Commerce Department, Bureau of Economic Analysis, SCB “Annual Revisions of International Transactions - July 2003 and July 2004.

Also, as will be seen in Chapter VI, U.S. investment funds and pension funds are raising more capital from Bermuda as the financial crisis and changes in U.S. regulation adversely affects their business models. With U.S. and European bank lending constrained, U.S. equity markets volatile, and macroeconomic policy lowering returns on traditional types of funds in the U.S. and European markets, pension funds, sovereign wealth funds, and investment funds must turn to uncorrelated markets and new capital markets like Bermuda to meet their investment needs.

In summary, Bermuda's contribution to employment in the United States comes from three sources as shown in this study and totals about 300,000 jobs. 4,000 U.S. jobs depend on manufactured exports to Bermuda.

Table 4 shows the Bermudian multinational present in the United States and from this we can estimate the number of jobs that Bermuda's business models develop for the United States. Some 170,000 U.S. jobs are a result of the direct employment generated by Bermuda-owned affiliates in the United States selling products in the United States to U.S. persons.

Table 4:
Sales by United States and Bermudian Affiliates of Majority Owned
Multinationals by Country: 2002-2012
(Affiliated and Non-affiliated)
(All Banking and Non-Banking Services^{1/})
(Millions of U.S. Dollars)

Year	U.S. MOFA Sales in Rest of World ^{2/}	U.S. MOFA Sales in Bermuda ^{2/}	Foreign owned MOUSA sales in U.S. ^{3/}	Bermuda-owned MOUSA sales in U.S. ^{3/}
2002	423,508	7,882	367,614	18,732
2003	452,496	10,253	374,119	18,842
2005	725,036	7,494	571,174	<20000 ^{3/*}
2006	889,820	9,990	648,286	24,313
2007	1,019,225	12,760	683,286	25,603
2008	1,116,932	15,000 ^{3/}	701,589	29,676 ^{3/*}
2009	1,071,642	14,901	669,342	21,594
2011	1,247,000	13,944	781,551	13,551
2012	1,292,992	16,689	801,921	13,559

Source: U.S. Department of Commerce. Bureau of Economic Analysis, Survey of Current Business, August 2014.

1/ MOFA – Majority-owned foreign affiliates supplying services to affiliated and non-affiliated foreign persons in the rest of the world and in Bermuda.

2/ MOUSA – Majority-owned U.S. affiliates supplying services to U.S. affiliated and non-affiliated U.S. persons either from the rest of the world or Bermuda.

3/ Data for 2005 and 2008 for Bermuda services supplied to the United States was suppressed by the statistical reporting agency so as to avoid disclosure of data of individual companies. However, reported information for those years for all of Western Hemisphere increased an average of 15% per year. Bermuda traditionally constitutes more than 55% of the Western Hemisphere and we estimate that Bermuda was likely \$20 billion or more in that year.*

Many of these Bermuda multinational subsidiaries in the United States are ultimately owned in Bermuda but were established in Bermuda by Chinese, Canadian and UK owners primarily for access to the high quality investment environment afforded by Bermuda regulation and judicial review. Prominent multinationals in Bermuda include almost half the leading reinsurers in the world that are entirely present in Bermuda in terms of ownership, decision-making and structure. These multinationals have back offices in New Jersey, and sales subsidiaries in Florida and throughout the United States and own U.S. specialized companies like crop insurance providers throughout the mid-west and west. These companies estimate that they have some 17,000 jobs in

subsidiaries in the United States and we estimate that an additional 9,000 U.S. jobs are supported by their operations in indirect employment supplying Bermuda needs.

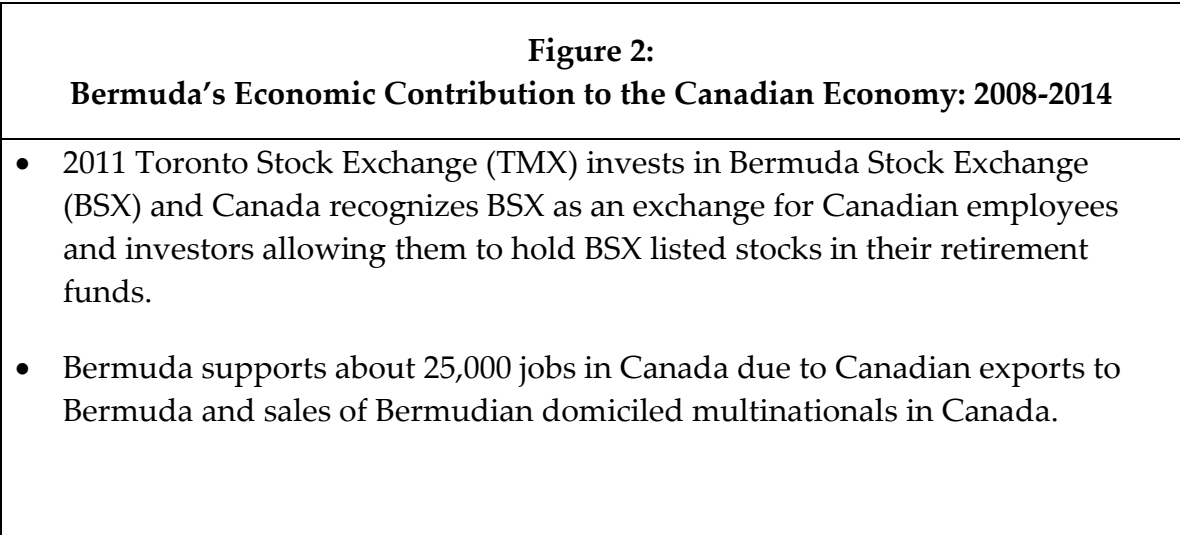
Also a substantial share of the employment in America is of Bermuda multinationals that have strong ties to the United Kingdom but chose their corporate headquarters in Bermuda for the convenience of access to the United States and the UK. As noted elsewhere, these jobs are increasingly Asian investors and joint ventures based in Bermuda but owning assets in China and the United States and unwilling or incapable of choosing an investment model for global governance except through Bermuda which offers the convenience of U.S. dollar denominated financing and accounting. As can be seen from Table 3, some 72,000 U.S. jobs are dedicated to producing in the United States and exporting services to Bermuda.

While that summarizes U.S. jobs generated in 2013 due to trade in goods and services and sales of Bermuda's subsidiaries between the United States and Bermuda, Chapter VI stipulates that in 2013 and 2014, Bermuda expanded its role in financing U.S. and European aircraft particularly with the growing segment of leasing as new less credit worthy airlines dominate the market. Aircraft manufacturers in the United States and Europe have recently identified aircraft financing as a continuing key element in sales of wide-bodied jets. Boeing Capital Corporation's Kostya Zolotusky, managing director for capital markets development and leasing, noted that "as commercial lenders focus on premier credits, a lot of airlines will be losing the capability to buy airplanes." Boeing expects that aircraft and engine purchases in the future will be driven by leasing companies and their access to capital markets. Bermuda's growing capacity to securitize aircraft leases on Boeing and Airbus airplanes have supported sales of 200 wide-bodied jet aircraft and engines exported to Ireland and leased to Asian and African airlines. Those aircraft exports supported an additional 50,000 U.S. jobs (and an equal amount attributed to Airbus and Europe.)

CANADA

Canada has a long-standing economic relationship with Bermuda intensified by the same legal and economic history with the United Kingdom as members of the British Commonwealth. There are some differences in that Canada has relied on direct economic ties with the UK and continental Europe for reinsurance. Only recently have Canada and the Bermuda found increasing economic exchange in reinsurance and this is growing rapidly. Like the United States, some economic nationalism intrudes on the relationship with Bermuda. There has been, in the past, some pressure for redomestication of longstanding Bermuda captive insurance entities onto Canadian territory. But generally, the economic relationship has grown to a substantial level and equal to any country other than the United States. The most recent success story is the joint venture entered into by Canada in support of the Bermuda Stock Exchange. As the capital markets in Canada and Bermuda grow in North America this relationship has become a major factor in developing key capital market alternatives that support North American growth and development.

Canada and Bermuda are finding similar areas of economic and financial cooperation as with the United States in the previous section. As can be seen in the examples in Figure 2, with competitiveness of banks declined and also bond yields decreased, access to new capital markets grew key to Canadian companies, pension funds and even governments. This has created all manner of investments from Canada into Bermuda in recent years.



**Figure 2:
Bermuda's Economic Contribution to the Canadian Economy: 2008-2014**

- Canada export guarantee agency insures sovereign risk with Bermuda's Ace Sovereign Risk Insurance Group.
- Ontario's Teacher's Pension Fund establishes a joint venture with Aircraft Leasing Company to finance aircraft purchases by establishing a Bermuda SPV to borrow from capital markets. Pension Fund increases much needed financial return using Bermuda to access capital markets.
- Canadian Blood Services Insurance established and maintains \$1 billion insurance captive in Bermuda (Est. in 1998) and remains in Bermuda in spite of partial redomiciliation to Vancouver in 2007.
- Canada Pension Plan Investment Board purchases Bermuda reinsurance company – Wilton Re for \$1.8 billion in 2014.
 - In 2014 - Wilton Re Ltd (Bermuda) bought Transamerica Life Canada from the Dutch company Aegon N.V. for \$600 million – Wilton established a Canadian holding company for the assets.
- Fairfax Financial Holdings owns CRC (Bermuda) Reinsurance Holdings and Group Re in Bermuda and Barbados. Fairfax owns Odyssey Re in USA.
- Aurigen Re of Bermuda is private and specializes solely on reinsurance of life insurance policies in Canada.
- Bermuda's Till Capital owns Resource Re acquired Canada's Omega insurance and is backed by Americas Bullion Royalty Corp. Till is listed on TSX.

Two-way trade in services has grown to almost \$3.5 billion between Canada and Bermuda and rivals Germany and the UK in levels. Portfolio investment is significant particularly driven by government, captives and funds. Jobs creation is substantial. Canada has 25,000 Bermuda supported jobs including 15,000 from multinational in Bermuda subsidiaries in Canada.

Table 5:
Canada Economic Relations with Bermuda: 2008-2013
(Millions of U.S. Dollars)

Year	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda	Portfolio Invest into Bermuda	Portfolio from Bermuda
2008	52.5	1.6	954	826	5,635	6,200
2009	48.1	9.0	1,557	877	22,086	7,700
2010	32.0	1.2	1,622	1,029	10,831	10,200
2011	62.7	0.9	1,291	904	13,533	9,400
2012	18.9	1.5	1,279	1,188	11,634	10,800
2013	28.6	1.0	1,348	1,171	10,866	14,200
2014	26.5	1.3	NA	NA	NA	NA
Total jobs created	250	--	9,400	--	--	--

Source: Statistics Canada, International Trade in Service, 2013 and Trade in merchandise goods, accessed on line January 2015. IMF, CPIS data base accessed online January 2015.

Notes: NA – Not Available

V. Bermuda and Big Europe: United Kingdom, Germany and France**UNITED KINGDOM**

Bermuda is a substantial contributor to the economy of the United Kingdom. Bermuda domiciled companies in insurance and reinsurance invested heavily in the United Kingdom, particularly in Lloyd's of London. In addition, Bermuda companies provide important loss cover for UK homeowners against wind, flood and other catastrophic loss. Bermuda's LNG shipping fleet is one of the key suppliers of LNG to London and the South England market. UK multinationals rely on Bermuda's company law and regulation to protect their global investment intended to competitively access the North American markets, like the United States.

The financial crisis and recession had a significant effect on bilateral economic relations. Since the 2008 recession began Bermudian-UK trade and investment has suffered as a result of the financial crisis in the United Kingdom, particularly in services trade. Interestingly, the UK has gone from a trade deficit with Bermuda to a trade surplus in services. The United Kingdom's exports of financial services doubled between 2007 and 2013 while imports declined. The recession in the UK explains part of this trend but also significant is the large change in domiciles of UK insurance companies.

As a result, Bermuda businesses and investors supported 69,000 UK jobs in 2013. In fact, when considering the United Kingdom's economic relations with countries outside its EU membership, Bermuda is among the top three trading partners with the UK in key service industry trading relations like insurance, finance and shipping. Bermuda's economic impact is primarily in the export of services (current account in the balance of payments) followed by the flows of capital between Bermuda capital markets and its insurance industry in the 2000s. Two-way trade in goods and services as well as sales of subsidiaries between Bermuda and the United Kingdom was \$3.3 billion in 2013. This is a decrease in the total two-way current account from the peak of \$ 4.1 billion in 2008. Bermuda has become an important source of portfolio investment in the United Kingdom. Likely, as UK and Bermuda reinsurance companies internationalized and invested heavily in each other, their borrowing increased in both markets and now is at a very substantial level as will be discussed in Chapter VI.

**Figure 3:
Bermuda's Economic Contribution to the UK Economy: 2008-2014**

- Bermuda's companies sustain more than 69,000 UK jobs through its investments into UK. Bermuda's reinsurance companies alone contribute 5,500 direct UK employees.
- The UK's third largest foreign investor among non-European countries and overall the 19th largest foreign investor in the United Kingdom.
- In the top 20 largest non-European market for UK services exports and Bermuda accounts for 20% to 25% of UK reinsurance exports annually.
- Lloyd's of London globalizes its international business through Bermuda
 - Bermuda ILSs provided \$10 billion capital since 2008
- Bermuda reinsurers provide 26% of Lloyd's 2013 capacity and wrote 23% of Lloyd's premium – almost \$10.0 billion additional capacity.
- In 2014, the UK government's proposed Flood Re – a publicly owned reinsurance brokerage for UK homeowners exposed to flooding, published a tender inviting Bermuda reinsurers and ARTs to provide insurance cover.
- Bermuda covered 62% of insured liability claims for 2005 Buncefield Oil Terminal Explosion and Fire – \$0.9 billion.
- EU Windstorm Xynthia (2010) – \$1.4 billion (37% of coverage).
- EU Air France Plane Crash (2009) – \$0.2 billion (22% of coverage).

Trade in Merchandise Goods. As summarized in Table 6, between 2004 and 2014, on average the United Kingdom exported about \$50 million annually in manufactured goods to Bermuda. This average smooths an export history that can range between \$190 million to as little as \$20 million annually. The chief UK exports are transportation equipment – principally yachts, commercial ships and airplanes made or finished in the UK and Europe. Bermuda’s partnership with the UK in trade in ships and jets is longstanding and based on shared commitment to regulation of air and maritime safety and strong environmental standards. As discussed elsewhere in this report, Bermuda provides two strengths. Its standard of regulation is seen by safety inspectors in ports and airports around the world as good as the UK itself. And as important, Bermuda’s flag and registration is seen as politically more international than a UK registration. This excellence in shipping management reflects in Bermuda’s investment in London and Isle of Man shipping offices as well as elsewhere in Northern Europe creating British jobs.

Being essentially international, these shipping companies locate in Bermuda for the strong regulatory reputation more than the tax legislation since the international client base of oil and gas companies, aircraft leasing, and shipping management companies do not do business limited to UK clientele or, in fact, with any national jurisdiction. These company assets and customers are arguably stateless and cleave to no national jurisdiction, as their business is largely international. The United Kingdom and Bermuda share a symbiotic relationship of their two jurisdictions, where the shipping company back-office management is frequently in London for legal and insurance purposes and the registration is in Bermuda. Even UK imports from Bermuda and the occasional trade deficit seen in Table 6 reflect UK aircraft leasing imports by British Airways, UK aircraft charter carriers, and corporate jets based in the UK but incorporated in hundreds of offshore jurisdictions.

Table 6:
UK Exports, Imports and Balance of Trade in Goods with Bermuda: 2004-2014
(Millions of U.S. Dollars)
(2013 export levels supports an estimated 600 direct and indirect UK jobs)

Year	UK Exports	UK Imports	Balance
2004	32.5	55.6	-23.1
2005	20.3	16.0	4.3
2006	19.6	92.5	-72.9
2007	44.6	25.3	19.3
2008	191.1	74.6	116.5
2009	20.9	34.1	13.2
2010	24.1	2.1	22.0
2011	17.5	7.8	9.7
2012	98.0	1.8	96.2
2013	69.1	20.0	49.1
2014	42.1	4.8	37.3

Source: UK Trade Information Database, Accessed online January 2015, HM Customs and Revenue. 2004-2014, London

Cross-Border Trade in Services. Bermuda is a major services trading partner with the United Kingdom. Bermuda is one of the UK's top non-European trading partners, predominantly in wholesale services markets like reinsurance, other financial services, and energy shipping, aircraft leasing and professional business services. In fact, Bermuda is in the top 20 export markets for UK services including the EU and when Europe is excluded Bermuda is the UK's third most important services export market after the United States and Canada. By the end of 2012, two-way trade in services between Bermuda and the United Kingdom grew to more than \$3.2 billion a year. Energy shipping by Bermuda fleets increased in this new business to a substantial level. Moreover, Bermudian reinsurance payments to the UK decreased in the 2000s as insured losses decreased but as Table 7 shows UK exports of services increased significantly by 2012 and for the first time the UK enjoys a substantial trade surplus in current account with Bermuda.

Insurance and Reinsurance. The most important category of service exports is insurance and reinsurance services that averaged \$1.2 billion annually between 2006 and peaking in 2012 (the most recent data available.) UK insurance services exports reflect fees paid by unrelated insurance companies in the UK for

insurance cover provided by Bermuda domiciled companies. Although Bermuda insurance market covers a wide diversity of risks, including shipping property and workers liability, the Bermuda market is most significant in catastrophic-event property and casualty insurance. Catastrophic-event property and casualty insurance premiums surged in the United Kingdom in recent years because of large losses due to major insured events like the 2001 terrorist attacks on the World Trade Center in New York in 2001 and major U.S. hurricanes in 2005, and the Super storm Sandy in 2012.

Table 7:
UK Service Exports to and Imports from Bermuda: 2006-2012
(Billions of U.S. Dollars)

Year	Total Private Service Exports	Ship Service Exports	Ins Service Exports	Other Service	Total Private Service Imports	Ship Service Imports	Ins & Reins	Other Service Imports
2006	1.3	-	1.05	0.169	2.2	NS	1.5	0.150
2007	1.5	-	1.23	0.190	2.4	0.016	1.7	0.180
2008	1.3	-	1.16	0.155	2.5	0.08	2.0	0.210
2009	1.2	-	1.00	0.125	2.3	0.160	1.8	0.180
2010	1.3	-	1.11	0.150	1.7	0.210	1.25	0.150
2011	1.6	-	1.30	0.200	1.4	0.250	1.0	0.130
2012	2.1	-	1.68	0.250	1.1	0.300	0.7	0.130
Total service jobs	15,200	--	--	--	--	--	--	--

Source: Office of National Statistics, International Trade in Services, special data tables. 2010. And TA estimates extrapolated based on official data.

1/ Cross border service sector trade generally reflects company receipt and payment information gathered by ONS in surveys and provided by Bank of England, Ministry of Energy and Climate Change and other agencies. For example, trade in insurance services between Bermuda and the United Kingdom reflects receipts of insurance and reinsurance companies adjusted for "normal losses" and company investment portfolio changes. This methodology is summarized in UK

Bermuda is the United Kingdom's third or fourth most important non-European direct investment partner. UK and Bermuda multinationals form a large part of the relationship. Moreover, the 2000s were a period of intense international cooperation for the UK and Bermudian insurance industry and some substantial

portion of this investment flow to the United Kingdom were purchases of Lloyd's syndicates by Bermudian resident reinsurance companies and UK insurance and leasing companies raising money in the Bermuda market. These foreign direct and portfolio investment positions are important to the competitiveness of UK and Bermuda multinationals because they reflect investments stemming from mergers and acquisitions of UK and Bermuda insurance companies and the capital they have accumulated in these jurisdictions to guarantee the insured risks of UK homeowners and insurance policies.

Table 8 summarizes one side of this Bermuda/UK story. Lloyd's of London like all property and casualty liability insurance entities must seek adequate capital to cover insured risks. As climate change, flooding, wind storms become more prevalent in Northern Europe; more demands are placed on insurance. Lloyd's has met the demands of disasters by opening its membership to foreign investors like Bermuda companies and in 2013, Bermuda reinsurance companies investment in Lloyd's syndicates now represents 26% of Lloyd's overall insurance writing capacity.

**Table 8:
Bermuda Special Purpose Insurers and the UK
(\$ Millions)**

Year	No. of SPIs	Approved Capital Exposure	No. SPIs Covering European Risk	No. SPIs Covering UK Carriers
2013	4	\$700	0	4
2012	27	\$1,438	12	7
2011	23	\$1,495	9	1
2010	8	\$283	1	0
2009	NA	NA	NA	NA

Source: Bermuda Monetary Authority, March 29, 2013, Hamilton. Unpublished table and tables compiled by BMA December 24, 2014.

Note. NA – legislation was not available in 2009.

(Bermuda and other foreign companies were prohibited from investing in Lloyd's previous to the 1990s. But as a result of Lloyd's syndicate bankruptcies

stemming from the U.S. asbestos liability insurance crisis, Lloyd's had to seek new liquidity among large foreign insurance companies to remain viable.) Table 8 shows that now UK reinsurance companies routinely raise billions of dollars on Bermuda's capital markets to cover risk in the UK.

The data in Table 8 show the increase of interest of reinsurers established in Bermuda and elsewhere to raise capital through the low cost and well-regulated investment vehicles called Special Purpose Insurers since 2009. These SPIs can take many forms and certainly can be catastrophe bonds and sidecars but could also take the form of equity placements.

Traditionally capitalized Bermuda companies were attracted into Lloyd's and the UK insurance market, but more recently UK companies like Catlin, Hiscox, and Amlin have either redomiciled to Bermuda while keeping their Lloyd's syndicates and offices in the UK or invested in reinsurance branches in Bermuda. Some of these have even redomiciled to Switzerland to strengthen their continental Europe competitiveness. These insurance companies accessed U.S. markets through their Bermuda business presence but also raised capital in Bermuda and the Cayman Islands to cover risks in Europe and America. Catastrophe bonds and other Special Purpose Insurer categories provided reinsurance companies with new ways to raise capital for growing risks and insurance liabilities without all the formalities and bureaucracy of establishing a corporate entity or holding company.

Bermuda-domiciled multinationals have substantial stakes in UK also. For the most part every multinational in Bermuda is focused on a wholesale level of business and deals with other companies rather than consumers in other markets. Moreover, most of these multinationals have no strong national ties to a market but rather seeks an international or offshore identity that they find in Bermuda rather than in larger national markets. Some multinationals like Signet Jewelers, Bacardi, Invesco, Jardine Matheson, and Lazard are positioned in Bermuda because each has investment interests in the UK and the United States and Bermuda provides a corporate platform convenient to the two markets and attractive to investors. Other multinationals like energy carrier fleets, shipping management companies, and leasing companies are resident because these international companies do not seek a strong national identity as they do business with their international customers. In summary, Bermuda's contribution to employment in the United Kingdom comes from three sources as shown in this study and totals about 69,000 jobs. Some 600 UK jobs depend on

manufactured exports to Bermuda. Some 53,000 UK jobs are a result of the direct employment generated by Bermuda owned affiliates in the United Kingdom selling products (mostly financial services) to UK persons. And finally, some 15,200 UK jobs dedicated to producing and exporting services to Bermuda.

GERMANY

As can be seen from the examples of economic activity between Bermuda and Germany, the Germany economy is linked to Bermuda by shipping and finance. In fact, Germany has come late to the Bermuda market. Traditionally, continental European markets like France and Germany have not been as deeply involved with microstates in the Atlantic. German investors have looked to Ireland and Luxembourg to meet their contingent financial capacity needs. However, it appears that with the 2008 banking crises in Europe and the ongoing financial issues in the primary Euromarket in London or in Luxembourg, German companies are becoming much more international in tapping cross-border capital markets and have begun a substantial and growing relationship with Bermuda.

**Figure 4:
Bermuda's Economic Contribution to the German Economy: 2008-2014**

- In 2013/2014, Germany's Hannover Re raised \$1 billion through its Bermuda SPI and ILS securities and catastrophe bonds to cover its wind insurance liability in Europe and USA.
- Bermuda reinsurance companies employ 600 in Germany and 8800 in all EU and Switzerland. Overall, German exports to Bermuda support 18,000 jobs in Germany.
- Bermuda's insurance capacity in Europe contributes diversification from total reliance on continental insurance companies to meet large outsized catastrophe losses.
- Bermuda reinsurance companies covered 17% for German 2013 hailstorm losses for homeowners and farmers (\$250 million).
- Germany's Allianz insurance company issued \$415 million in ILS securities to finance its capacity relying on Bermuda capital market and SPI instruments. Allianz switched domiciles from Cayman in 2013.

The data in Table 9 show that Germany is a surprisingly large exporter of manufactures to Bermuda. In the last three years, Germany exported \$3 billion of large energy tanker ships to Bermuda generating an average of 12,600 German jobs in the manufacturing sector largely in North Germany. Germany is not the only country supplying ships in these quantities. Korea and Norway are also suppliers of international energy shipping fleets domiciled in Bermuda.

**Table 9:
German Economic Relations with Bermuda: 2006-2013
(Billions of U.S. Dollars)**

Year	Goods Exports to Bermuda	Goods Imports from Bermuda	Services X into Bermuda	Services M from Bermuda	Portfolio Position into Bermuda	Portfolio Position from Bermuda
2006	0.1	0.1	0.2	0.5	3.3	16.8
2007	0.5	0.1	0.3	0.5	3.4	20.7
2008	NS	NS	0.5	0.4	1.7	15.8
2009	NS	0.1	1.0	0.2	2.0	12.3
2010	1.5	0.1	0.5	0.2	2.4	11.7
2011	0.1	0.1	0.7	0.2	2.1	15.6
2012	NS	0.1	0.8	0.2	2.3	14.3
2013	1.7	0.1	0.7	0.3	3.2	9.3
Total jobs created	12,600	--	5,800	--	--	--

Source: Government of Germany Statistisches Bundesamt, Aussenhandel, 2005-2014; IMF, Coordinated Direct Investment Survey; 2015. Deutsche Bundesbank, Dienstleistungsverkehr der Bundesrepublik Deutschland, 2005-2014. IMF CPIS data case for Portfolio Investment Positions accessed online January 2015.

Table 9 (taken with Table 10 on details of services trade) also reveals that Bermuda and Germany have a large economic relationship with insurance. Munich Re and Hannover Re are both significantly represented in Bermuda through structures of subsidiaries linked to New York financial markets and European customers. But it is also apparent that the insurance relationship is evolving. Before the financial crisis German companies did a lot of insurance business in Bermuda accounting for \$500 and \$600 million of exports in 2005 and 2006. That insurance business decreased until, in 2013, Germany exported only

\$200 million of insurance premiums. Interestingly, as insurance premiums declined, the rest of Germany's services exports increased in virtually every category. It is evident that the financial crisis and the European economy put pressures on German business and they found new opportunities in doing business in Bermuda, likely to serve North and South American markets. Only 30% of this business is in insurance, but by 2013 financial services had increased as well as management services and shipping. Germany businesses are internationalizing and using Bermuda as a platform for their efforts.

Table 10:
Germany Services Trade (receipts) by Industry Type with Bermuda: 2005-2013
(Millions of U.S. Dollars)

Year	Total receipts (Exports) with Bermuda	Insurance Services	Finance Services	Sea Trans Shipping from Bermuda	Management Services	Royalties License Fees	R&D
2005	672	576	23	55	18	-	-
2007	340	181	38	104	17	-	-
2009	987	25	101	82	6	-	28
2011	650	332	93	75	6	7	61
2012	762	431	123	68	12	7	68
2013	646	192	124	80	38	108	60

Source: Government of Germany Statistisches Bundesamt, Aussenhandel, 2005-2014; IMF, Coordinated Direct Investment Survey; 2015. Deutsche Bundesbank, Dienstleistungsverkehr der Bundesrepublik Deutschland, 2005-2014.

Table 9 also shows a significant position of Bermuda portfolio investment into Germany. Overall, Germany received as much as \$20 billion from Bermuda in portfolio investment – debt or equities. That position declined to \$9 billion in 2013. Some of this position reflects investment funds although it is likely small. A larger amount of these debt flows can be ascribed to German insurance company's early interest in the Bermuda ILS capital market. Aside from Lloyd's syndicates, Germany is the most significant European user of ILS financing, accounting for a total of \$2.9 billion between 2009 and 2013 of which 7 of these were issued in Bermuda covered potential windstorm losses of as much as \$1 billion in Europe as well as North America.

FRANCE

Overall, French business has developed a \$20 billion financial stake in Bermuda primarily raising debt for the French insurance sector. French aerospace air services industry as well as insurance invested almost \$10 billion in Bermuda and Bermuda invested \$5-6 billion into France. These levels grew a lot during the recession when French banking was crippled by the financial issues and Bermuda proved to be a key resource supporting French industry competitiveness.

**Figure 5:
Bermuda Economic Contribution to the French Economy: 2008-2014**

- Bermuda insurance company, ACE Sovereign Risk Group provides sovereign risk insurance for COFACE – government of France 2005-2014.
- Bermuda’s aircraft securitization SPIs and its BSX capital market provided \$5 billion in financing for sale and lease of Airbus wide body aircraft to several Asian airlines in 2013/2014. As a result these securitizations produced capital financing 50,000 jobs in the French aerospace industry in 2013/2014.
- Bermuda insurance carriers covered \$.6 billion reported losses for French homeowners in 2009 from Windstorm Klaus. 30% of losses paid by Bermuda.
- Bermuda covered 37% of reported losses in Europe from Windstorm Xynthia.
- Bermuda insurers covered 55% of the 2009 Air France Crash liability - \$222 million.
- Bermuda insurers covered 50% of insured losses for Cruise ship Costa Concordia - \$500 million of \$1.0 billion reported losses.

French manufacturers and leading service industry companies show longstanding and growing economic commitment to Bermuda. For its part the Bermuda financial industry, particularly the catastrophic flood and wind liability reinsurance sector has substantially increased its coverage of French residential and commercial risk, bearing up to 40% of insurance claims for the damage of the frequent wind storms buffeting France.

Table 11:
France Economic Relations with Bermuda: 2005-2012
(Billions of U.S. Dollars)

Year	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda	Portfolio Positions into Bermuda	Portfolio Positions from Bermuda
2005	0.3	NS	0.8	0.1	6.4	8.1
2006	0.3	NS	1.1	0.1	9.7	9.5
2007	0.3	NS	-1.6	0.2	13.9	15.3
2008	0.3	NS	-1.2	0.1	9.3	15.0
2009	0.3	NS	0.3	0.3	7.9	13.3
2010	0.3	NS	-0.4	0.2	7.3	13.2
2011	0.5	NS	-0.7	0.4	4.9	13.6
2012	0.6	NS	-1.0	0.5	4.0	15.1
2013	--	--	NA	NA	2.7	11.0
Total Jobs	4,400	--	NS	--	--	---

Source: OECD, CPIS Database IMF, Gov. of France, Commerce Exterieur, Ministry of Economy and Finance. AXA annual reports, SCOR annual reports, Air France annual reports and ILFI and GECAS financials.

Notes: NA – Not available; NS – Not significant.

The negative exports from France to Bermuda are a characteristic of the French statistical accounting for small offshore jurisdictions heavily involved in insurance finance and leasing. The actual fees and payments are consolidated through various levels of international ownership between France and Bermuda and yield statistical negatives. The gross fees collected by French corporations of their services exports to Bermuda through leasing of planes and insurance and SPVs is between \$2.5 and \$3.0.

Relative to the rest of Europe, France has as large an economic relationship with Bermuda as Germany and the United Kingdom. Unlike smaller European economies like Switzerland and Luxembourg that serve as platforms for inward investment from Asia, French business invests in Bermuda to take advantage of its preferred status as a registry for corporate aircraft and its financial skills in attracting investors that cover catastrophic liability from flood and wind damage in France.

French industry also accesses the Bermuda financial markets indirectly through European financial entities based in Switzerland (Swiss Re), Ireland (GECAS),

and the Netherlands that have capital-raising agencies in Bermuda. French goods exports to Bermuda are concentrated in aircraft where Middle East and Russian buyers transfer titles for registry. In the 2000s, French goods exports to Bermuda are increasing toward \$1 billion.

Most important is the significant annual trade flows in services between France and Bermuda. France imports about \$500 million from Bermuda annually and exports about \$2 billion to Bermuda. (Of course, the official accounting for French services exports are difficult to follow, as France reports negative exports, but this position is driven by statistical methodologies for accounting for offshore transformations of services and leasing. The annual reports of Air France and GECAS and AXA, show an export flow of around \$2 billion

Finally, it is well worth highlighting one of the contributions that Bermuda reinsurance industry makes to the French economy by stepping up to cover risk and liability. The damage from windstorms and flooding due to global warming in Europe is growing and becoming a major economic risk. During the recession, French and European insurance companies have expanded their access to insurance capital and insurance expertise and modeling through investments in UK/Lloyd's and accessing alternative capital markets. Figure 5 shows a few examples of Bermuda insurance industry coverage of risks with major liability events in France recently.

VI. Bermuda's International Financial Investment Position – Asia and Beyond

The previous chapters of this study reviewed Bermuda's relationship with the world economy primarily through their current accounts - that is, the levels and trends in international trade in goods and services. Bermuda reinsurance policies are bought and sold, ships are imported and shipping services are exported, fees are collected by law offices and business service companies. But Bermuda has a substantial economic presence in the world economy through its financial accounts with the world. Bermuda's residents buy and sell equity in U.S. and Chinese corporations, Bermuda's capital market attracts foreign investors, Bermuda's captive insurance transfer assets and liabilities, Bermuda trusts and investment funds attract foreign investments and in turn invest in other markets. Most of this is invisible in published economic surveys and reports except in the aggregates of Bermuda's balance of payments. The United States as well as Hong Kong are big participants in these flows with Bermuda.

Therefore to make this aspect of the economic relationship of Bermuda with the 8 economies more "visible," this chapter concentrates particularly on the positions that Bermuda maintains in the world economy through holdings of private debt, government debt and corporate equities.

Also, it should be noted that this study looks solely at "portfolio investment" and does not take up an analysis of trends in "foreign direct investment" (FDI). It is true that FDI flows between the large 8 economies and Bermuda are significant. But, frankly, FDI accounts are confusing with respect to micro-states since reporting definitions generate statistics that are much more indicative in major economies than financial microstates that are merely conduits for financial flows. That is, holding companies are too easily confused with multinationals.

Every multinational corporation has dozens if not hundreds of holding companies around the world that hold assets, raise revenues, and realize profits. Most of these holding companies perform valuable economic services but they are too easily confused with the few whose purpose is more transitory. FDI data, because of its aggregate nature and poor collection definitions, cannot reveal the purpose of these investment positions. As much as can be said here is that recent cross-border FDI positions have been criticized as solely a corporate income tax minimization strategy. Other experts look at the same data and deem the trend as intentional economic stimulus to the job markets in the United States and Europe. This study does not dwell on FDI positions, except as noted earlier

with respect to China. Bermuda is largely not controlling FDI positions as it does with portfolio investment positions.

This chapter does a lot of things that focuses on Bermuda and its role in the world economy as a destination and conduit for portfolio investment. The first goal is to look at the economic impact of Bermuda on three states or territories in Asia - China, Hong Kong and Singapore. While Asia has a limited current account position in the Atlantic, Bermuda has a very important investment function for China – economic development of Mainland China. Secondly, the study looks at the portfolio investment position of Bermuda with all eight countries covered in this study. It finds that while Bermuda has an outsized position in the flow of debt and securities in the world economy, it is not expanding at a cost to Europe or U.S. financial centers. During the recession and crisis, Bermuda's portfolio positions rose and fell with the business cycle and stands now as it did in 2005 -- below the peaks for 2007. Finally, the study goes behind the aggregate numbers for portfolio investment positions and describes key roles that Bermuda plays in raising capital for world enterprises. For example, Bermuda is now the leading capital market in aircraft securitization. Bermuda SPVs cover hundreds of wide body jets that would not be sold or financed except in the special confluence of legal, regulatory, tax and capital markets that uniquely resides in Bermuda. 100,000 U.S. and French/European jobs in aircraft manufacture are supported by these 10 or so SPVs raising \$10 billion of portfolio investment in capital markets in New York and Ireland in 2 or 3 years through Bermuda to buy wide body jet inventories.

1. Trends in Portfolio Investment of the World with Bermuda

Table 12 shows that portfolio investment in the world amounts to about \$46.7 trillion in 2013 and that this form of international investment has recovered only in 2013 since the peak level in 2007 and the decline through the financial crisis and recession. Most of this recovery was in Asia, Luxembourg and Switzerland and large economies like the United States.

For Bermuda, virtually all portfolio investment positions into the rest of the world are explained by the 8 countries listed in Table 12. (“Positions” means that this is the stock of investment in the paired country with Bermuda.) Bermuda’s resident investors report they purchased \$445 billion of stocks and bonds and long-term debt. Of course, Bermuda investment funds and banks are conduits for these investments, while the insurance and reinsurance companies are indeed owners of the investments in Bermuda. Two things are striking in Table 12. First, the United States and Hong Kong are the largest investment destinations for Bermuda. It is generally understood that Hong Kong and Singapore are conduits for investment between the world and China. We will discuss this further in the paragraphs below.

Table 12:
Portfolio Investment Positions In and Out of Bermuda
with Study Countries and the World: 2001, 2007- 2013
(Billions of U.S. Dollars)

Country	2001	2007	2008	2009	2010	2011	2012	2013
From Bermuda to U.S.	119.2	365.8	259.3	300.4	391.8	290.9	202.3	274.2
U.S. into Bermuda	125.8	273.0	163.1	148.0	160.0	178.3	193.6	213.8
From Bermuda to UK	6.5	59.0	25.2	19.8	36.5	30.3	62.8	26.3
UK into Bermuda	2.8	14.3	10.2	11.7	12.2	13.5	10.2	12.1
Bermuda to Germany	2.1	20.7	15.8	12.3	11.7	15.6	14.3	9.3
Germany into Bermuda	1.4	3.4	1.7	2.0	2.4	2.1	2.3	3.2
Bermuda into Canada	1.4	7.4	5.6	22.1	10.8	13.5	11.6	10.9
Canada into Bermuda	1.7	10.1	6.2	7.7	10.2	9.4	10.7	14.2
Bermuda into France	2.3	15.3	15.0	13.3	13.2	13.6	15.1	11.0
France to Bermuda	1.9	6.1	4.6	10.5	12.2	13.1	14.1	9.6
From Bermuda to China	China does not report							
China to Bermuda	China does not report							
From Bermuda into HK*	0	0	0	0	0	0	0	0
HK into Bermuda	22.7	103.3	43.4	88.9	106.5	73.5	90.0	109.0
From Bermuda to Singapore	0.3	1.7	1.2	1.6	1.2	0.7	0.8	3.0
From Singapore into Bermuda	1.9	7.4	4.0	6.6	7.1	5.9	9.0	8.2
From Bermuda to world	162.4	573.7	396.1	471.5	551.0	460.4	439.6	444.9
From World to Bermuda	170.8	515.9	295.6	353.9	402.1	360.4	410.0	465.0
The world out to ROW**	12,700	39,300	31,100	37,600	40,600	39,300	43,600	46,700

Source: IMF CPIS Bilateral Pairs. Accessed online January 2015.

Note:* Not significantly different than zero. **ROW- Rest of world, a total of positions in trillions of dollars.

Second, there is really no trend since 2007, except perhaps weakly downward. This is surprising because there once was a concern that micro- states were somehow growing as capital markets and financial centers independent of developed countries, perhaps that all international financial activities would shift to BVI, Cayman Islands, Bermuda and Hong Kong. This has not been the experience. Bermuda and other small but nimble financial centers have declined like the large financial markets during the financial crisis. Perhaps Bermuda and

the Cayman Islands did grow in the 1960s and 1990s but they now reflect a sensitivity to economic cycles just like the large economies. With respect to specific countries, Hong Kong is outsized at over \$100 billion and therefore stands out as another conduit for investment originating in China and likely destined for the United States. (We just cannot know this based on the way the data is collected.)

Now, we strive to get a little more understanding of what these large positions in portfolio investment are contributing to the world economy and try to ascribe some detail to the aggregate data. For example, the Bermudian reinsurance industry maintains several hundred million dollars of assets and contingency reserves to guarantee its counterparties that losses will be covered. Those assets are invested in large capital markets like the United States. Table 13 shows Bermuda is a major investor in U.S. securities holding portfolio investments of more than \$300 billion at all times. In fact as the table reveals Bermuda originating investments hold \$133 billion in U.S. long term government debt (treasuries and U.S. government agency paper). Likely the majority of this investment originates from Bermuda's large insurance industry.

However, it is also true that neither the U.S. Treasury nor Bermuda nor the IMF look past the "residency" of the investor to identify the origin of the investments. The large stock of Bermuda insurance assets is placed in secure U.S. government assets. But U.S. and Asian investment flows into Bermuda cannot be easily ascribed to their destination. Some amount of Bermuda's investment in the U.S., Canada and the UK could be from Asia, other Europe, or even the United States. Finally what is key to take away from this initial consideration of portfolio investment between Bermuda and the world, is that Bermuda is a large player particularly in the U.S. market, is a major attractor of investment flows from Asia, particularly Hong Kong, likely the large Bermudian reinsurance industry originates the bulk of portfolio flows and Bermuda is a relatively outsized participant in U.S. Treasury debt unlike Cayman Islands, UK, Middle East, or Europe.

Table 13:
Country Ranking of Leading Foreign Holders of U.S. Securities Ranked as
 Holders of U.S. Long-Term Treasuries: 2013
(Millions of U.S. Dollars)

Country	U.S. LT Treasuries	Other U.S.G. Bonds	All LT ST Debt & Equity
China	1,272,081	174,014	1,734,776
Japan	1,023,264	195,639	1,766,006
Brazil	234,378	2,649	260,548
Taiwan	183,159	127,143	371,718
Belgium	163,350	7,596	489,955
Switzerland	157,130	16,942	581,071
Middle East Exports	151,242	12,712	545,261
Russia	137,972	1	139,077
UK	130,645	8,221	1,116,343
Luxembourg	107,346	21,041	990,127
Bermuda	93,964	33,633	324,983
Hong Kong	88,956	23,976	215,368
Cayman Islands	66,088	32,658	1,167,895
Singapore	82,299	4,317	271,813

Source: U.S. Treasury Department, Treasury International Capital System, TICS web site -- www.treas.gov/tic, 2014.

2. Bermuda's Portfolio Investment Partners: Mainland China, Hong Kong, and Singapore

In spite of its place in the Atlantic, Bermuda has a growing economic relationship with Asia, particularly the micro states – Hong Kong and Singapore – near China. Reliable, international economic data sometimes have limited availability, particularly for the mainland Chinese economy. Financial and economic transparency between China and Hong Kong is also limited as flow of funds between the mainland and its territory are not always fully reported particularly for China's private sector. And in spite of a rapidly globalizing world economy and China's huge presence in the Pacific, Asia is still remote from the Atlantic economies. The consequence is that public data about China's financial economy and more particularly economic relations with Bermuda is limited. Cross-border economic information is becoming more available but in a region where formal and informal investment and capital controls are significant, much of the actual flows of trade and investment are just not reported.

That said, Figure 6 indicates examples where Bermuda and Asia have a direct economic relationship that supports and advances workers, businesses and homeowners in key economies in Asia. Trade (goods and services) between Bermuda and three highly international Asian economies has grown, particularly with Singapore. Two-way trade in goods reached \$700 million in 2012 and two-way trade in services reached almost \$2 billion. Most of this trade is attributable to shipping services and manufacture of ships themselves.

**Figure 6:
Bermuda's Economic Contribution to the Asian Economies: 2008-2014**

- Bermuda supported more than 10,000 jobs in the three economies, China, Hong Kong and Singapore.
- Shanghai's Fosun International buys 20% interest in Bermuda's Ironshore insurance company and obtains Lloyd's of London Syndicate (2014) for strategic internationalization of Chinese insurance capacity.
- Bermuda insurance carriers paid 51% of reported liabilities from 2010 New Zealand earthquake.
- Bermuda insurance carriers paid 29% of reported liabilities for the international share of Japan's 2011 earthquake.

MAINLAND CHINA

China-Bermuda economic relationships are substantial but what bears particular emphasis here is cross-border financial flows among all three economies and Bermuda. Since China still has substantial formal capital controls, the main vehicles for these flows are Hong Kong and Singapore, as regional financial centers serving mainland China private businesses. As China internationalized to achieve economic development and world foreign direct investment flows into China became significant, this direct investment remained highly controlled by Chinese state-controlled financial institutions and struggled to channel cross border flows of investment to keep pace with economic development needs. Chinese banks slowed down investment flows and undermined economic development. Capital controls in the form of government approval requirements imposed on Chinese private business and foreign investors restricted Chinese and foreign competitiveness. The answer developed by China was to support investors in China to use banking and financial capacity in Hong Kong, Singapore and by extension Bermuda to make up for the capacity shortages in Mainland China. Relying on Bermuda banking and financial intermediation, China could meet its investment and development needs without waiting for internal financial reforms to take hold.

So as Table 14 shows, Mainland China and Bermuda have limited economic relations as far as current account trade up to now. The substantial economic

activity that does occur is in investment flows from China. The decisions are made in China but the financial action is through the offshore financial centers that provide the mature legal, regulatory and investment capacity to support hundreds of billions of dollars in transactions annually.

The Chinese government and the business community rely on microstates like Hong Kong, Singapore, the British Virgin Islands, Australia, Cayman Islands and Bermuda as the conduits for foreign flows – inbound and outbound – that can provide to China the cost-effective, efficient, and secure capital deployment required by their economy. Essentially, these small banking and investment centers provide the capital markets and financial intermediation that Chinese banking and financial institutions cannot provide, at least at this time, to support their growth and economic development. Therefore, unlike Bermuda’s economic role in the Atlantic summarized in previous chapters to overcome capacity shortages, Bermuda serves as an intermediary for financial transactions that China itself cannot provide.

Table 14:
Mainland China Economic Relations with Bermuda: 2007-2012
(Billions of U.S. Dollars)

Year	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda
2007	0.0	0	NS	NS
2008	0.1	0	NS	NS
2009	0.1	0	NS	NS
2010	0.3	0	NS	NS
2011	0.3	0	NS	NS
2012	0.2	0	NS	NS
2013	0.3	0	NS	NS
Total Jobs Created	2,200		NS	

Source: PR China, Mofcom. 2013, Statistical Bulletin.

Notes: NS - Not Significant.

Increasingly, Singapore and Hong Kong act as trade and investment gateway for China. So in this study, analysis recognizes that while these three are separate economic entities regionally, the three economies interact together to reinforce

their regulatory and financial institutions and partner with financial centers expert in financial intermediation.

BERMUDA AND CHINA'S FDI

The IMF reports that Bermuda residents maintained foreign direct investment positions in 2013 with the three economies at the level of about \$100 billion. This reflects an increase from \$70 billion in 2009. Positions into Bermuda are largely unreported but appear to be less than these levels. Traditionally, Hong Kong residents have domiciled investment and real estate companies in Bermuda as well as other Atlantic jurisdictions to ensure the security of their investments back in China. Investors rely on the regulatory strength of Bermuda as they contract to make investments back in China.

As noted earlier in the chapter on the United States, U.S. investors rely on Bermuda to invest in production facilities in China to supply the U.S. and global markets prefer a secure legal jurisdiction like Bermuda with efficient corporate governance rather than the difficult and bureaucratic regulatory environment in China. The outcome is that manufacturing investors from semiconductor manufacturers to chemical companies obtain the benefits of Bermuda's secure and transparent legal governance laws and regulations, access to Asian manufacturing competitiveness, and a more competitive tax structure by domiciling in Bermuda. Moreover, recent experience shows that Asian companies like Haier are using their Bermuda domicile as the platform for their investment in manufacturing in the United States. So Bermuda holding company governance structures are making Chinese investments into the United States more competitive and thereby creating jobs in the United States.

During the 2000s former U.S. operating companies continued to domicile in Bermuda for the same reasons that Asian companies invest in multinational structures discussed in the paragraphs above. Companies like Freescale, Marvell, Contel, AOSL, and Chipmos, to name a few "fabless chip" companies, were formerly U.S. companies and redomiciled to Bermuda since 2006. Today, these Bermuda companies employ 30,000 U.S. workers in manufacturing and sales. Since 2008, these companies created \$3 billion of service-based export business to Bermuda in testing and R&D services creating more U.S. jobs. So altogether, Bermuda has become an important component of how global "holding company" multinationals that rely on U.S. jobs as well as related Asian operations. Bermuda governance and investment environment contributes to the

competitiveness of U.S. business investment, where a U.S. multinational or an Asian multinational would simply not perform as well.

SINGAPORE

Table 15 shows the strong interaction between Singapore and Bermuda. Singapore has almost \$10 billion in portfolio investment in Bermuda. There is almost \$1 billion in two-way trade. Most of this relationship is in shipping services. Singapore energy tanker fleets have a strong interest in Bermuda regulation and access to international energy markets.

Table 15:
Singapore Economic Relations with Bermuda: 2007-2012
(Billions of U.S. Dollars)

Year	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda	Portfolio Investment to Bermuda	Portfolio Investment from Bermuda
2007	0.0	0.1	0.06	0.07	7.4	1.7
2008	0.0	0.1	0.06	0.1	4.0	1.2
2009	0.1	0.2	0.07	0.1	6.6	1.6
2010	0.1	0.3	0.1	0.2	7.1	1.2
2011	0.1	0.3	0.15	0.4	5.9	0.7
2012	0.1	0.3	0.15	0.4	9.0	0.8
Total Jobs created	100	--	1100	--	--	--

Source: Government of Singapore, Statistics Singapore, Singapore's Investment Abroad; Foreign Equity Investment in Singapore 2013; Singapore's International Trade in Services 2013.

Notes: NS - Not significant.

HONG KONG

Hong Kong's relations with Bermuda are reflected in Table 16. Hong Kong has the largest trade relationship with Bermuda and essentially trade in services. As discussed earlier related to foreign direct investment, Bermuda also gains a substantial position in portfolio investment from Hong Kong. Some of this is originating from China, but a large part of it is from businesses and investors resident in Hong Kong. Increasingly as China and Hong Kong financial markets and their economies integrate there will be little reason to distinguish between the two origins.

Table 16:
Hong Kong Economic Relations with Bermuda: 2006-2012
(Billions of U.S. Dollars)

Year	Exports to Bermuda	Imports from Bermuda	Services X to Bermuda	Services M from Bermuda	Portfolio Positions Into Bermuda	Portfolio Positions from Bermuda
2006	NS	0	1.1	0.2	103.3	NS
2007	NS	0	1.1	0.3	43.4	NS
2008	NS	0	1.1	0.4	88.9	NS
2009	NS	0	1.0	0.3	106.5	NS
2010	NS	0	1.1	0.3	73.5	NS
2011	NS	0	1.1	0.2	90.0	NS
2012	NS	0	1.0	0.2	109.0	NS
Total jobs created	0	--	7,300	--	--	--

Source; Hong Kong SAR government, Census and Statistics Department Report on Hong Kong Trade in Services Statistics for 2014. And Report on merchandise Trade Annual Summary Imports and Exports, 2013. IMF, Coordinated Portfolio Investment Survey. Accessed online January 2015.

3. Bermuda as a Capital Market to Augment Needed Global Capacity

In addition to the Asian economies reviewed above that are primarily investment partners with the world through Bermuda, this chapter is concerned with another category of investment - cross-border portfolio investment. (Portfolio investment is cross-border investment largely in equity securities like stocks and short term debt. But, distinct from direct investment (FDI), portfolio investors do not gain meaningful control and decision-making power over the assets. By definition, portfolio investment involves no more than 10% stake in the invested asset. Any cross border investment over 10% stake falls under the definition of foreign direct investment. (See the methodology appendix B for further discussion of sources and methodology.)

Up to this point the study has considered Bermuda's large position in global portfolio investment in the aggregate and the study has not gone into much detail about what economic or social function portfolio investment plays between Bermuda and the United States or Europe.

As previously noted, given the conservative nature of Bermuda insurance and reinsurance companies and their regulators, they likely allocated some significant part of their assets portfolio into U.S. Treasuries because it is a "riskless" investment and covered the industries long term fiduciary obligations to their clients. But there are at least two more recent innovations in Bermuda financial markets and partner economies that give some additional insight on how Bermuda interacts as a funding financial center with portfolio investments in major economies.

4. Aircraft Finance and Other Asset-Based Securitization

Bermuda is now a global leader in asset-based securitization (ABS). It entails more than \$6 billion of investment primarily from U.S. investment funds, private equity, pension funds and other investors, in aircraft, aircraft engines leased to emerging national airlines. While most of the world knows ABS finance as housing mortgage CDOs, many other assets can be the basis for raising funds in capital markets including, aircraft, ships, shipping containers, helicopters, and locomotives. Bermuda has had a key role in many of these types of securitizations. Cross-border ABS financing gained some traction in 2005-2007 but the financial crisis undermined confidence in this innovation. Beginning in 2012, momentum returned to this market for non-housing mortgage financing and Bermuda became a major player.

For example, there was a need to finance aircraft purchases in this manner because after 6 years of financial crisis and recession, airlines, leasing companies, and airframe manufacturers were running out of the traditional options to finance the purchase of large body jets and their engines. As Boeing Corporation has stated in its 2015 Aircraft Financing Market Outlook, by 2013 a large part of demand for aircraft are emerging airlines from emerging markets, particularly in Asia. These airline companies, strapped for internal funds and bank financing or other innovative financing alternatives to purchase wide body jets from Boeing and Airbus, sought lease agreements from large leasing companies in Netherlands, Ireland, and Bermuda. In turn, the leasing companies sought lenders in world capital markets to raise the billions of dollars to finance purchases of fleets of wide bodied jets from Airbus and Boeing. By 2013, the need of airframe manufacturers, airlines and leasing companies to access capital markets as the chief source of financing, led to Bermuda. The Bermuda regulatory environment competes successfully for asset secured financing for a set of crucial reasons unique to Bermuda:

- Bermuda's legal and tax jurisdiction allows a Bermuda-exempted company that owns the aircraft to provide lender favorable bankruptcy protection and tax neutral benefits that facilitates most innovative and cost-effective methods of asset finance.
- Bermuda's Purpose Trust investment structure can hold the company shares in a way that guarantees the company meets the stated purpose intended by the parties and is not challenged, or interpreted after the fact,

by third parties except where there is fraud. Moreover, the obligations of the purpose trust are entirely enforced by the person designated by the parties of the trust.

- Credit rating agencies take particular notice of the tax, regulatory and capital restriction relief provided by tax neutrality, and governance by Bermuda-exempt companies and purpose trusts conditions in assigning credit ratings to these transactions.

Leasing companies purchase hundreds of jets and jet engines annually, but realized that these valuable assets could be refinanced on large capital markets if the assets could be presented on secure financial terms. Boeing's analysis, borne out by other experts like PWC's air finance team, is that capital markets are rapidly becoming the biggest source of financing aircraft assets. As Table 17 indicates, at least \$6 billion has been raised to finance 201 aircraft in the last 6 years and this trend is accelerating. What is listed in Table 17 is only the financing that was centered on Bermuda Trusts and Special Purpose Vehicles. Similar Bermuda financing exists for ships and shipping containers. European aircraft owners and U.S. investors preferred the Bermuda jurisdiction because of regulatory integrity, bankruptcy security, and other legal and regulatory protections as well as the expertise of Bermuda as a registration center for aircraft recognized by the United States and the United Kingdom.

There are at least three important things to take away from this analysis. First, without Bermuda's capacity to organize the legal and regulatory basis to refinance these aircraft, emerging airlines would soon find they had run out of sources of capital from banks and government export credit agencies. That is, Boeing and Airbus would sell many fewer airplanes, but for the access these leasing companies and airlines obtained through the Bermuda SPV structure. Second, this ABS financing is predominantly structured in Bermuda. Bermuda's advantage over Ireland, Cayman, Delaware, Netherlands, New York, and London is the legal flexibility of the Bermuda Purpose Trust structure, and the regulatory security of the BMA and access to UK courts. Third, this form of portfolio investment can support U.S. and European jobs. This \$6 billion of capital fund raising is a clear example of what is now happening in the United States and Europe as a result of portfolio investment flows by investment funds into Bermuda. But for U.S. capital finding the right investment structure in Bermuda SPVs, Airbus and Boeing could have lost the sale of almost 200 wide body jets and GE on another 90 aircraft engines. According to Washington State

estimates of the annual job equivalent of 100 wide body jets, the state gains 58,000 jobs. So likely these structured finance deals net Europe and the United States 50,000 jobs each region from these financings.

Table 17:
**Bermuda Special Purpose Insurers (SPVs) and Aircraft, Asset-Based
 Securitization
 Illustrative Deals Based in Bermuda
 (\$ Millions)**

Year	Lease Corp.	Name of Bermuda SPVs	Loan Value	# of units Jets/Engines
2008	Aercap	ALS II	\$1,400	30
2007&2013	Aircastle	ACS 1,2,3	\$976	9-15
2008	CIT Aviation	CAF I	\$451	19
2011	GECAS	Rotor Ltd.	\$290	30 Engines
2013	GECAS	AABS Ltd	\$557	26
2014	CIT	CAF III	\$640	28
2014	Castlelake	Castlelake AS	\$516	79
2014	GECAS	Rise Ltd.	\$670	26
2014	Aldus Aviation	ATLAS 2014-1	\$540	30
Total	--	--	\$6,040	201 aircraft

Source: Compiled from Air Finance Listings and Leasing Company Annual Reports.

5. Portfolio Investment in Bermuda Insurance Linked Securities and Reinsurance Financial Instruments.

Bermuda's reinsurance industry is constantly raising new financing to support its expanding lines of business, and in 2013 and 2014 it attracted international investors looking for potentially high returns within a solid regulatory framework. Other Bermuda industries – such as captive insurance, aircraft leasing and ship financing -- also attract investment funds from around the world. But since 2012, Bermuda, in particular, has become a substantial source of capital for insurance-linked securities. These instruments, attracting investors from around the world and purposed to add loss coverage to U.S. and European wind, earthquake, fire and flood damage, could really only develop in jurisdictions like Bermuda. Like aircraft financing, Bermuda is uniquely qualified with experienced regulators, financial experts used to developing new financial products for catastrophic risk, the Bermuda Stock Exchange with the capacity to handle the debt instruments and funds for alternative risk management and a secure legal environment covered by UK judicial appeals system.

One of the primary drivers of new reinsurance capital issuance in Bermuda has been the increasing interest of major economy reinsurance companies, government authorities, risk transfer investment funds, pension funds and other investment funds in raising their returns and diversifying their investment portfolios. Hurricane Katrina in 2005 spurred an influx of Bermuda-based insurance and reinsurance capacity, supported by special purpose investment funds that are easy to establish in Bermuda. Pension funds have poured billions of dollars into reinsurance entities in Bermuda, wagering that the record hurricane losses of 2005 would drive higher insurance and reinsurance policy holder rates with UK state regulators, and thus making investment in property catastrophe insurance and reinsurance a good bet. (Major catastrophe-event states in the United States, like Florida, Texas and California are investing directly in Bermuda to increase their loss cover.)

To at least partially meet the demand for more catastrophe insurance loss coverage European, UK and United States investors are placing substantial investments in Bermuda. Investment funds, in particular, have been attracted to innovative new types of risk capital that the Bermuda market has developed to supplement traditional reinsurance entities in covering catastrophic losses. One example is “collateralized reinsurance”, through which the reinsurer

reserves a certain amount of capital to collateralize the risks that it is underwriting. This is attractive to investment and pension funds because it improves the creditworthiness of the reinsurer. Another example is catastrophe (CAT) bonds, which are issued by insurance and reinsurance companies to help them access additional funds following a disaster. If losses from a catastrophe exceed a certain amount, then the bond defaults. However, if no disaster occurs, then the holder of the bond is paid at a higher than normal interest rate. State government insurance systems are among the biggest buyers of CAT bonds and the major source on investment funds has been U.S. pension funds.

In addition, investment funds have been attracted to another innovative financial vehicle called industry loss warranties, which allow parties to purchase protection based on losses to the entire insurance industry, rather than losses from a particular catastrophe.

Investment funds have been big investors in “sidecars”, special-purpose entities created to provide additional capacity to existing reinsurers, usually for property catastrophes and marine risks. The sidecars receive premiums for the reinsurance underwritten and are liable to pay claims under the terms of the reinsurance contracts. The sidecar enables the reinsurer to expand its capacity to write additional reinsurance. Nearly all sidecars to date have been established in Bermuda, because of Bermuda’s favorable regulatory and tax systems.

Overall, the Bermuda market has become much more efficient and effective in recent years in providing new risk capital for property catastrophe insurance, thanks in part to its favorable regulatory and tax structures. This has been critical, as the American demand for catastrophic risk coverage in Florida and other disaster-prone areas has grown. That need is expected to continue, as the current recession and financial crisis undermine traditional insurance and state hurricane and wind funds.

Table 18 reveals that special purpose insurers have become an important source of capital for reinsurance companies in the United States, Europe and the United Kingdom. As has been reported, the total insurance-linked securities market in early 2015 was \$25 billion. These instruments are not only issued in Bermuda but a few other jurisdictions like Cayman and Germany develops some of this investment. But in 2013 and 2014, Bermuda became dominant. Table 18 shows that, in 2014 alone, close to \$8 billion of catastrophe bonds were issued in Bermuda based on special Bermudian legislated instruments called Special

Purpose Insurers. Even though one cannot simply add the 5 years of fund raising, as bonds have fixed time duration and must be replaced if extended, almost \$19 billion of SPI-sponsored debt has been raised in Bermuda alone since 2010. This capital is raised by Bermuda and European reinsurance companies, U.S. pension funds, Canadian pension funds, and global specialized investment funds with definite investment goals that match the alternative risk marketplace. What is more important to grasp from the Table 18 is that the dominant borrowers in the Bermuda ILS market are U.S. state and municipal governments and their quasi-private insurance companies and authorities backing catastrophic losses from wind, earthquake, fire and flood – almost \$5.4 billion raised in Bermuda in ILS funding alone on top of the reinsurance that Florida, Texas and California purchases annually.

Table 18:
Bermuda Special Purpose Insurers (SPIs) and ILS Funds with the rest of the world
(\$ Millions)

Year	Total	Bermuda Firms	U.S. State Govt	U.S. Non-Govt	Germany	UK	Japan
2014	8,400	1,950	3,400	1,850	400	435	1,070
2013	4,716	1,627	970	964	250	130	300
2012	1,893	23	0	1,200	540	0	130
2011	1,844	200	552	587	205	150	150
2010	1,835	210	350	1,125	150	0	0

Source: Compiled by author from Artemis and BMA, January 2015, London and Hamilton.

Here is a list of the government agencies or state-directed authorities that raise money in Bermuda to cover potential losses to homeowners, workers and businesses.

From the United States:

- California Earthquake Authority.
- New York City Metro Transportation Authority
- Florida State's Citizen's Property Insurance Corp.

- The State of Florida's Heritage P&C Corporation
- Texas Windstorm Authority (TWIA)
- California States' Worker's Compensation Fund
- North Carolina JUA/IUA (state government tax exempt)
- Tigard, Oregon Investment Council, invested in Nephila Capital's Cat Bonds.
- The Florida League of Cities' Florida Municipal Investment Trust
- Pennsylvania Public School Employees' Retirement in Nephila's Cat Bonds.

From the UK:

- Proposed UK govt. owned flood reinsurance company; Flood Re opened a tender for flood insurance brokerage and retrocessional loss cover from Bermuda and Lloyd's.

From Canada:

- Ontario's Teacher's Pension Fund establishes a joint venture with Aircastle Leasing Company to finance aircraft purchases by establishing a Bermuda SPV to borrow from capital markets.
- Canada Pension Plan Investment Board purchases Bermuda reinsurance company – Wilton Re for \$1.8 billion in 2014. Then Wilton Re Ltd (Bermuda) buys Transamerica life Canada from the Dutch company Aegon N.V. For \$600 million – Then Wilton Re establishes a Canadian holding company for all the Bermuda and Dutch assets.

The point of bringing these examples of alternative funding in Bermuda capital markets is to note that recently as much as \$10 to \$15 billion of portfolio investment is made in Bermuda annually and primarily from the United States. These investments have really impeccable investors – largely pension funds looking for a better return than in the artificially depressed returns with U.S. and UK Treasuries and corporate bonds, and are all dedicated to cover U.S. and European homeowners and businesses susceptible to large and unmanageable weather risks.

VII. Conclusions

Foreign Economic Policy Drives Business Activity in Bermuda. This study surveyed the recent trends in the world economy shaped by financial crisis, recession and the macroeconomic response. It analyzed Bermuda's international business sector profile in that economic environment. Shipping, investment fund intermediation, captive insurance and reinsurance, aircraft registration all remain strong players in the region. Recent policy focus of large nations like the United States, France, Germany and the United Kingdom to global transparency, financial center competition, redomiciliation and cross-border taxation have not had major effect. Yet.

The study also found that Bermuda is "competitive" as it responds to the economic policy choices of major economies like the United States. What the United States cannot or will not do, Bermuda rises to support. The recent financial crisis weakened banking and bank lending, equity markets, pension funds, and corporate debt as well as niche financial innovations like asset-based securitization. Conflicts in the Middle East and decline in oil and gas revenues weakened Islamic nation access to world capital. As a result we find that recently, Bermuda has become newly important as an alternative capital market for the Middle East and Asia. This regional and global financial intermediation is centered on Bermuda special purpose vehicles and Purpose Trust structures rather than banking structures. Investment funds, reinsurance companies, U.S. sub-Federal governments, pension funds, leasing companies and aircraft manufacturers (indirectly) from the United States are placing and raising capital through Bermuda. In this post-economic crisis environment, this is where Bermuda is competitive in addition to its impressive position in global reinsurance and captive insurance industries and cross-border activity has increased in 2013/2014.

The Basis for Bermuda's Competitiveness. Business financial interests in China, the Middle East, the United States, Ireland, Canada and the United Kingdom have difficulty raising capital now. Financial markets are still arthritic from the financial crisis and ongoing disruption of the Euromarkets. Business seeks capital market fund raising in Bermuda. Quangos like the Bermuda Monetary Authority and the Bermuda Business Development Authority as well as the Bermuda Stock Exchange and government entities like the Department of Civil Aviation, Shipping Register and the Bermuda Aircraft Registry provide an innovative regulatory environment that is effective, efficient, and lender secure.

This has become very attractive in 2014. Innovative, low-cost access to regulation and capital markets is Bermuda's competitive strongpoint and this stands out much more than tax arbitrage and transparency of financial accounts as a basis for Bermuda business formation and job creation.

Bermuda's cadre of thousands of financial market practitioners with decades of experience and its proximity to Atlantic financial markets in New York, London, and Toronto as well as South America, is an important element of Bermuda's staying power in the world economy. Law firms, investment management companies, accountants, financial consultants, insurance practitioners, trust managers, and bankers in the thousands all provide a resource for financial innovation not found except in major markets. However, this study supports the notion that at this time in the world economy, Bermuda law, regulation and financial institutions are proving highly attractive to new business after a long evolution summarized in Appendix A.

Financial Regulation and Bermuda Jobs. Bermuda's role as an international financial center is that of both "funding" and "collection" centers. As a funding center, Bermuda channels debt and lending from outside New York and London toward regional use of those funds. As a collection center, Bermuda channels lending from U.S. and Canadian lenders – private equity investors, investment funds, pension funds, and pension and worker compensation systems – to financial intermediation outside the region such as China. This financial intermediation requires SPVs and SPIs, trust managers and lawyers in Bermuda. These structures create scores of jobs in Bermuda but not the hundreds and thousands of "primary" financial centers like London and New York. Even the job intensity of the Bermuda Stock Exchange is modest compared to its potential as a primary financial center institution. For example, a secondary financial trading platform in Bermuda linked to the Bermuda Stock Exchange would produce hundreds of jobs. Also, when, for example, Bermuda establishes Islamic-law compatible financial instrument review commissions to handle funding centers and collection centers in Bahrain and the Middle East, more jobs accrue to Bermuda.

Diversification from Volatility of Other Markets. Bermuda's strength is in its contribution to the world economy through innovative regulation of captive insurance, reinsurance, and funding activities through special purpose vehicles. But primary financial markets like London and New York are proving volatile and Bermuda's dependence on that business transfers this volatility into the

Bermuda market. It may be possible and recommended to seek to develop diversification from these traditional markets by developing capabilities for serving Asia or the Middle East as another funding center along with Bahrain and Singapore and Bermuda business seems to be developing in this direction.

Similarly, the West Atlantic and Caribbean is changing significantly presenting Bermuda with great opportunities and challenges for diversification. Energy prices have declined marginalizing Venezuela and Nigerian oil and gas for the near term. Bermuda energy shipping tankers that transport energy into London and Houston now may be required to export from New York, Boston, and Houston to the rest of the world. As one of the few ship register jurisdictions recognized by the U.S. Coast Guard, Bermuda may find the opportunity for more intense activity in ship inspection, registry and corporate activity with the United States. The fact that the United States and Cuba are exploring normalization of economic relations is one of the biggest changes to the Caribbean in decades. Tourism trends may shift in the East Caribbean. U.S. homeland security issues may shift from Mexico to Florida and Bermuda's law and regulation and geographic position in the West Atlantic may provide a security partner for the United States related to shipping and air gateways to their East Coast. Even Panama's Canal expansion has the prospect of bringing Japan and China into the West Atlantic as never before. Bermuda Free Trade Zones with access to Europe and the U.S. East Coast may be an important alternative to the Caribbean given Bermuda's reputation for effective financial and customs regulation and access to the Commonwealth as well as the United States. Ship inspection businesses, free trade zone investment, the provision of security and policing of the West Atlantic could well diversify Bermuda from the dependence on the financial sector.

APPENDIX A: Where Did the Role Bermuda Plays in the World Economy Come From and Why?**“Onshores” Begat “Offshores.”**

Throughout this study, data and analysis indicate that Bermuda grew to be a large financial and economic player in the world economy. The question that begs an answer is how and why Bermuda – a microstate – achieved and sustains its status as an economy with several hundreds of billion dollars in assets flowing through its financial regulatory system. Obviously, the question is “Does Bermuda do economic good for its partners or are they unwilling bystanders?” Underlying this study is the hypothesis that Bermuda’s role grew in the world economy because it offered more efficient, low-cost financial regulation to the global wholesale financial industry than larger economies who have their own unique history, economic values and culture and for these reasons may choose not to adapt efficiently to international business needs.

Set out below is a chronology of the international financial interaction among the major economic nations – the United States and the United Kingdom – with Bermuda during the late 20th century. The chronology ignores political events that may have influenced the success of microstates such as the 1989 U.S. invasion of Panama or the 1997 transfer of sovereignty of the UK’s Hong Kong territory to China. The chronology dwells on Bermuda and the main economic and legal events that contributed to its evolution as a major financial innovator in the world economy.

This chronology follows the legislation and political economic pressures that established microstate economies in the financial sector for holding companies, captive insurance, stock exchanges and international financial centers. It is primarily Bermuda-centric and deals primarily with the transatlantic region, but Asia followed similar pattern of reliance on Hong Kong, Singapore, and the West Atlantic a few decades after the United States and the United Kingdom led the way. The chronology seeks to show how closely the formation of financial sectors in microstates like Bermuda was related to the internationalization of financial markets in the United States and the United Kingdom. Essentially, microstates in the Atlantic and Caribbean adapted to the financial regulation of the United States and the United Kingdom.

The chronology indicates that as much as major economies strove to limit

international financial accounts in foreign banking, multinationals, and investment firms, new international micro-centers for financial innovation nevertheless arose. Efforts to protect domestic financial services consumers and producers actually increased the use of non-primary financial centers because these were more effective in reducing regulatory burdens. The chronology is generally a 60 year experiment of restricting domestic capital markets and liberalizing international capital markets. Bermuda's role as an international financial center developed within this dialectic.

Chronology

From the outset – Bermuda has not imposed taxes on income, interest, or dividends.

1948 – C.V. Starr consolidated Shanghai and New York life insurance businesses in Bermuda holding companies and began expanding lines of business into U.S. fire, property liability and reinsurance.

1950 – The Treasury of the United Kingdom imposes a regulation restricting British banks from lending in the non-Sterling area.

1956 – The British Pound suffered a speculative run and weakened resulting in a major threat to UK balance of payments. UK Treasury raised interest rates to 7% and imposed a temporary moratorium on lending to non-British borrowers. These two policies, aimed to strengthen the pound, also cutoff UK commercial banks from lending to former colonies. This created a shortage in financial capacity for businesses and borrowers in the UK colonies.

1957 – UK Bank of England (BOE), particularly Board Director John Bolton, established an informal agreement with London's merchant banks that treated certain types of financial transactions between non-resident parties denominated in foreign currencies legally deemed not to take place in London and by extension the UK, even though transacted in London's "City". These transactions took place in London in a new unregulated space called "Euromarket" and was an "offshore financial market." (See in particular - Burn 2005 in bibliography).

1958 – Fred Reiss incorporates American Risk Management in Ohio, USA, to support formation of captives and meet an insurance capacity shortage in the

U.S. oil industry caused by U.S. regulatory requirements. Reiss began to use Bermuda for captive formations. Bermuda progressively becomes more supportive of captive formation separate from the growing reinsurance sector.

1960 – U.S. banks discover the UK Euromarket, open branches in London, and start to transact unregulated financial business in London. They willingly paid the high UK corporate tax. Japan and German banks follow suit in London.

1960 – U.S. multinationals discover Euro-Bond Market in London and decide to raise debt directly without recourse to banks in this “offshore financial center”.

1962 – U.S. Tax Reform Act penalized U.S. captive insurance income and defined foreign captive taxation rules.

1963 – U.S. Kennedy Administration imposes an Interest Equalization Tax (IET) to ensure that U.S. citizens did not get preferential interest in UK. The U.S. corporate sector reacted by investing in the UK Eurodollar market in large volumes.

1968 - Small U.S. and Canadian banks abandoned London and its high infrastructure costs and establish in British Commonwealth nationals establishing Eurodollar activities in Bermuda, Cayman Islands and Bahamas that also qualified as Eurodollar markets.

1968 – U.S. begins to terminate capital controls, fully liberalizing in 1974.

1970/71 – Bermuda relaxed its exchange control restrictions, and established the Bermuda Stock Exchange.

1973 – U.S. Fifth Circuit Court of Appeals upholds the Borel court case against asbestos manufacturers. As a result 730,000 U.S. workers and lawyers received \$70 billion in tort liability claims between 1987 and 2003. These settlements bankrupted many Lloyd’s syndicates and caused a much larger role for Bermuda in reinsurance in the U.S. and UK throughout the 1990s. (A U.S. national liability crisis was generally recognized in 1985 as a major policy issue giving rise to broad state legislation for tort reform.)

1974 – German Herstatt Bank, Lloyd’s Lugano, Israel-British Bank, and U.S. Franklin National Bank fail due to trading foreign currency in UK Euromarket.

(By 1971 , exchange rates were freely floating as a result of the Nixon “shock.”) The effect was to push more Eurodollar financial business toward microstates.

1974 – U.S. IET and foreign investment restrictions lifted. (*See 1963.*)

1975 – Basel Committee for Banking Supervision created to address the 1974 banking crisis noted above but without addressing Eurodollar markets and more deeply establishing these markets for multinationals.

1976 – Bermuda Parliamentary established a regulatory route to form rental captives.

1978 – Bermuda establishes legislation for captive insurance companies.

1976-1978 – U.S.-UK Convention on Taxation ratified covering UK, territories and colonies.

1978 – U.S. proposes reregulating Euromarkets and offshore financial centers. When UK and Switzerland refuse, U.S. established a U.S. version of UK Euromarkets – International Banking Facilities.” (1/3 to 1/2 of U.S. financial market operates under this regulation – offshore).

1978 – U.S. Supreme Court decides *Marquette v. First Omaha Service Corporation* that ends state usury laws and legalizes the right of U.S. states to develop financial codes and laws allowing interstate and international banking.

1980 – Credit extension outside the banking system (shadow banking) reaches substantial levels and internationalizes into UK and European OFCs.

1981 (February) – Following *Marquette vs. First Omaha*, Delaware adopts the Delaware Financial Center Development Act (FCDA). (*See 1978.*) Modernized its banking code to allow financial holding companies to use Delaware for international transactions and established tax structures that attracted large finance companies.

1982 – United States terminates its double taxation treaties with microstates, including Bahamas and BVI as well as several other Caribbean microstates.

1984 – British Virgin Islands adopts the International Business Company Act

modeled after the Delaware FCDA of 1981 and holding companies grew from 1000 to 70000. At the same time, BVI terminated its income tax. (*See 1981.*)

1986 – Japan establishes its own Euromarket regulation allowing Japanese wholesale banking to be transacted in Tokyo as if offshore.

1986 – United States and Bermuda establish a tax convention covering reinsurance taxation and tourism.

1988 – UK adopts the Income and Corporation Taxes Act and establishes “recognized stock exchanges” including LSE Professional Securities Market trading Eurobonds and allowing interest to be paid w/o UK income taxes imposed.

1992 – Hurricane Andrew caused \$1 billion in U.S. losses. U.S. catastrophe primary insurance and reinsurance crisis results in rate increases of several hundred percent and severe reduction of U.S. loss coverage capacity to homeowners. Substantial addition capacity is expanded through offshore investment funds established in Bermuda building on AIG based and captive insurance legislation. In subsequent years, recurring insurance shortages in the United States due to terrorist attacks and major windstorms brought more requirements for expanding Bermuda reinsurance capacity to cover increased catastrophe loss risk.

1998 – OECD Harmful Tax Competition Project legitimizes “white-listed” tax neutral OFCs and therefore disadvantages non-complying offshore.

2007 – UK designates Bermuda’s BSX as “recognized stock exchange.”

2003-2014 – ILS and ABS financing capital market instruments developed in 2000s, recede from use in all capital markets in 2008, and return to Bermuda capital markets in 2012.

2012 – US-UK Inter-governmental Agreement extends to Bermuda for FATCA reporting and taxes on UK recognized exchanges.

2015 – Government of China begins to enforce worldwide income taxation and reporting on offshore income with some of its investors in foreign markets.

A Little More Comment on the Chronology

Although the economic literature is woefully inadequate, experts have sought to explain the success of economic and financial activity in Bermuda and other economies like it, in terms of proximity to big nations; more effective and flexible regulation; tax arbitrage; and insurance capacity shortages. In fact, none of these explanations have been proven. Therefore, this chronology is offered to show the difficulty large economies experienced while they internationalized capital markets to support their multinationals and banks and terminated or modified their capital controls. The chronology shows a correlation between these large economy actions and the growth of Bermuda as a financial center. The bibliography of this study includes several of the best expert articles on this topic.

Bermuda's growth in financial services in the world economy is noteworthy for developed economy regulators and politicians because Bermuda delivers a socially valuable set of services to the citizens of developed economies. But in addition, it has been argued that Bermuda is part of larger structural trend in the global financial system that allows offshores to exist at all. That is, "the main structural development in finance since the late 1940s has been the emergence and persistent growth of new legal and quasi legal spaces and financial innovations which were aimed at and/or resulted in the avoidance or minimization of state regulations." (Ronen Palan and Anastasia Nesvetilova, City University, London. *Politik (Journal)* 2014.) It is also very instructive to look into the history of captive insurance and the recent history prepared by a Bermudian – Catherine Duffy – should be looked at closely.

APPENDIX B: Methodologies and Notes**Economic Data**

This study relies to a substantial extent on official government data to describe and assess the impact of Bermuda's economic relationship with the eight leading partner countries in this study. Each country has several official statistical agencies that surveys and estimates its economic performance in trade and investment. For the most part, this study sought to use one integrated set of data with common definitions and estimating techniques and then supplement that as necessary with other data that amplifies a Bermuda economic relationship. This goal was helped significantly by the fact that all eight countries are striving to estimate their own national economic performance according to a common set of definitions and methodologies published by the International Monetary Fund.

For most of this study we relied on published or unpublished public government data that describes the national international transactions with the rest of the world. Since Bermuda is a large partner of the United States only published data was used compiled by the U.S. Bureau of Economic Analysis (BEA) within the U.S. Department of Commerce from their annual surveys of the business community. International services trade data are a major characteristic of the Bermuda-United States economic relationship. The essential methodologies for compiling this data and reporting it annually was summarized in "Selected Issues in the Measurement of U.S. International Services," Survey of Current Business, by Obie Whichard and Maria Borga, U.S. Bureau of Economic Analysis, June 2002. Additional revisions to methodology for international insurance services measurement were summarized in "Annual Revision of the U.S. International Accounts, 1989-2003." Survey of Current Business, by Christopher L. Bach, U.S. Bureau of Economic Analysis, July 2004.

These data on trade and balance of payments are slightly updated or changed from year to year by the publishing agency as they receive improved information from their surveys and as they improve their own procedures and methodologies to harmonize with international data methodologies developed in concert with the IMF. The time series data for all countries is taken from the most recently published information by governments in 2013 and 2014. Generally, the time lag between collection and publication of trade in services

data is two years – data for 2012 is published in 2014. (The United States makes 2013 data available in 2014.) Investment data has a one year lag between collection and publication. Trade in merchandise goods has a two month lag.

Similar balance of payments information is compiled regularly by the Government of Bermuda but these published Bermudian accounts present little bilateral detail. So this study relies on the balance of payment information compiled by the 8 countries with respect to their economic role with Bermuda. For investment data, this study relied heavily on the IMF data bases – Coordinated Portfolio Investment Survey and Coordinated Direct Investment Survey.

The amount of detail of balance of payments accounts varies significantly according to country. Bermuda looms large with the United States so there is virtually complete reporting in published journals. Germany and the United Kingdom collect detailed information on Bermuda but it is unpublished and the author made special arrangements to obtain detailed information from statistical agencies. Asian statistical agencies collect much less data on Bermuda and publish even less.

In many cases, however, government data just was not detailed enough. In this study, the investment sector required obtaining additional data bases from the Bermuda Monetary Authority, Standard and Poor's, Moody's, Artemis and Bloomberg. Most countries do not compile employment data for multinationals cross border investment. This study used annual reports and private sources to estimate the employment profile of Bermuda domiciled multinationals for their subsidiaries in Canada, the United Kingdom, France and Germany. Bermuda's multinational presence in Asia appears to be so small at this time that no estimate was undertaken for employment for multinationals in the three Asian countries.

Tracking Investment with Bermuda

Because Bermuda is a major international financial center and home to large financial entities like the Bermudian reinsurance companies that do the bulk of their business outside Bermuda, interpreting investment flows to and from major partner countries is central to assessing Bermuda's economic impact with the world economy. The trouble is that the collection of cross-border investment data has methodological limits that make economic interpretation difficult. The

Bank for International Settlements, the United Nations, national statistical agencies, the OECD, and the IMF all survey investment flows and all have the same problems. Countries that have capital controls like China have very poor data on financial flows – both legal and illegal. Territories like Hong Kong that collect data but are not sovereign have real problems defining where investment originates and where it flows. Countries that are microstates and also significant financial centers like Bermuda and Singapore collect their data according to “residency” as the IMF standards for data collection requires. But since a large amount of investment transactions are simply flowing through the international financial jurisdiction which may simply be performing “booking” or “funding” functions, it is difficult to interpret the impact of these large but undefined flows and positions. Since Bermuda is not a large cross-border banking jurisdiction, BIS reporting is not sufficient to capture the full \$500 billion investment position that Bermuda holds in the world economy.

The Coordinated Direct Investment Survey (CDIS) and the Coordinated Portfolio Investment Survey (CPIS) are worldwide statistical data bases led by the IMF designed to improve the availability and quality of data on investment by immediate counterpart economy. The concepts, coverage, valuation, and classification of data collected in the surveys are consistent with the sixth edition of the *Balance of Payments and International Investment Position Manual (BPM6)* and the fourth edition of the *OECD Benchmark Definition of Foreign Direct Investment*.

The data quality has been improving over time as a result of countries’ enhancements in the coverage (e.g., including data on special purpose enterprises (SPEs)), accuracy (e.g., correcting misclassifications in counterpart country allocation), and level of detail of the compiled direct investment data (e.g., identifying data corresponding to fellows enterprises). To further understand, what this investment between Bermuda and partner countries was doing, the author looked into several specific sectors in portfolio investment involving investment funds. Bermuda Monetary Authority data on insurance linked securities published quarterly gave insight to the direction and purpose of annual investment flows. Industry reports on asset securitizations like aircraft, their engines, helicopters, and shipping containers over time between Bermuda and partner countries were also relied upon. Further, specific insights and data were developed on microchip manufacturing investments between the United States Bermuda and China.

Employment

This study describes the employment associated with U.S. exports of merchandise goods exports to Bermuda. In the same chapter, employment estimates are made related to cross-border services exports from the partner country to Bermuda. The methodology for relating total industry employment of exports to Bermuda is based on information developed by the U.S., UK, and Canada. For example, every year, the U.S. agencies estimate and publish total jobs for U.S. manufactured exports associated with the NAICS Industry Codes. The most recent data available on this subject is 2012. For other countries, the author undertook to compile employment data from public company sources for all affiliated companies in Bermuda for 2012.

The study also sought to estimate the U.S. jobs associated with international goods services transactions carried out by U.S. subsidiaries of Bermuda domiciled companies. This data is estimated by annual surveys carried out by the U.S. government of foreign direct investment in the United States. The most recent estimate was for 2009 with some more recent data for 2010. The methodology for these estimates is published in "U.S. Affiliates of Foreign Companies: Operations in 2009," Survey of Current Business, by Thomas Anderson, U.S. Bureau of Economic Analysis, August 2011.

APPENDIX C: References and Sources

This report was prepared by Transnational Analytics, Dr. Charles M. Ludolph

1. Aon Benfield, Insurance Linked Securities: Capita Revolution, September 2014, Hamilton.
2. Aon Benfield, Reinsurance Market Outlook: September 2014, Hamilton and London.
3. Artemis Newsletter, multiple issues and newsletters. 2010-2015.
4. Association of Bermuda Insurers and Reinsurers (ABIR), UK Parliament Treasury Committee Inquiry into Offshore Financial Centers, April 30 Questions with Answers, 2012. London.
5. Association of Bermuda Insurers and Reinsurers (ABIR), "Bermuda Provides Essential Insurance that Supports the UK Economy," unpublished fact sheet. 2012, Hamilton, Bermuda.
6. Association of Bermuda Insurers and Reinsurers (ABIR), "Overview of Bermuda Insurers Economic Commitment to Europe: 2012." Power Point, Bermuda.
7. Bank of International Settlements, Locational Banking Statistics, with Guidelines, Available Online, Accessed December 2014. Basel, Switzerland.
8. Bermuda Monetary Authority, Regulatory Update, October 2014. Hamilton, Bermuda.
9. Bermuda Monetary Authority, Annual Report, 2013, April 2014. Hamilton.
10. Bermuda Registry of Shipping. St Georges, Bermuda 2009.
11. Bloomberg websites, "LNG Tankers Scheduled to Dock in British, Belgian Ports: Monthly 2000-2012." See also Reuters websites for 2013. And Maritime Connector website for 2014. Accessed January 2015
12. Bodulus, Carl T. "The Internationalization of the Securities Markets," The

Business Lawyer, Vol 29, March 1974, Washington, D.C.

13. Being Capital Corporation, Current Aircraft Finance Market Outlook: 2014-2018. USA, 2014.
14. Burn, Gary, Re-emergence of Global Finance, Palgrave, London, 2005.
15. Connery, Jason, Seth green, and Kimberly Tan Majure. "Current Status of U.S. Tax Treaties and International Tax Agreements," International Journal, Tax Management, 2014.
16. Conyers Dill and Pearman, Bermuda as a Centre for the Financing and Registration of Aircraft, 2013, Hamilton, Bermuda.
17. Dewitte, Dirk, Deloitte Tax Notes International, The Use of Various Jurisdictions for Investment in China, August 2010.
18. Dixon, Liz, "Financial Flows via Offshore Financial Centres as Part of the International Financial System," Financial Stability Review, pp105-116, Bank of England, London.
19. Dorfmueller, Pia, Tax Planning for U.S. MNCs with EU Holding Companies. Kluwer Law International. The Hague. 2003.
20. Duffy, Catherine R., Held Captive, A History of International Insurance in Bermuda. Toronto: Oakwell Boulton; (2004)
21. Elliott, William P. A Guide to Captive Insurance Companies (Part I), Journal of International Taxation, April 2005
22. Ernst&Young, London and Bermuda Journal. Edition 11, London, 2012.
23. Foad, Hisham, The Determinants of Offshore Financial Center Investment. San Diego University, June 2012, San Diego, California.
24. Gonzalez, M. and A. Schipke, "Bankers on the Beach" Finance and Development, 48(2), pp 42-45. Washington DC

25. Government of Bermuda, Department of Maritime Administration, History of the Bermuda Registry of Shipping. St Georges, Bermuda 2009.
26. Government of Bermuda, Department of Maritime Administration, Data Base Stats Ships. St Georges, Bermuda 2009.
27. Government of Bermuda, Ministry of Finance, National Economic Report of Bermuda, 2013 February 2014, Hamilton.
28. Government of Bermuda, Cabinet Office, Department of Statistics. "Q2 2014 Highlights." Quarterly Bulletin of Statistics, Hamilton, Bermuda
29. Government of Bermuda, The Cabinet Office, Department of Statistics, Gross Domestic Product, 2013 Highlights, , September 2014, Hamilton, Bermuda.
30. Government of Bermuda, Department of Maritime Administration, History of the
31. Government of Bermuda, Department of Maritime Administration, Data Base Stats Ships. St Georges, Bermuda 2009.
32. Government of Germany, Statistisches Bundesamt, Deutsche Bundesbank, Balance of Payments Statistics, December 2014, Frankfurt am Main, Germany, December 2014.
33. Government of People's Republic of China, Hong Kong SAD, Census and Statistics Department, Report on Hong Kong Trade in Services Statistics for 20120. Hong Kong China February 2014.
34. Government of Singapore, Department of Statistics, Singapore's International Trade in Services, 2012, undated in 2014, Singapore.
35. Government of the United Kingdom, Office of National Statistics, Rachel Birt & Helen Dinsdale, International Trade in Services 2010. London, England. March 2012.
36. Government of the United Kingdom, The Pink Book, Balance of Payments. July 31, 2013, London.
37. Government of United Kingdom, HM Revenue & Customs, Non-EU

Overseas Trade Statistics – December 2014 and UKTradeinfo internet database., London.

38. Government of United Kingdom, Office of National Statistics, website, Foreign Direct Investment 2013, and other tables. 2008, 2010, and 2011 and UKTradeinfo internet database. International Services Trade data special requested data for 2000-2006.
39. Government of United Kingdom, Office of National Statistics, Business Monitor MA4: Foreign Direct Investment 2012, ed. Keith Wilkie. Copyright 2014, London.
40. Government of United Kingdom, Natural Gas Imports. Tables ET 4.3 and ET 4.4 Gas Imports by LNG Terminals. DECC.GSI.GOV.UK website, London.
41. Gron, Anne, and Andrew Winton, "Risk Overhang and Market Behavior," September 1999.
42. Haberly, Daniel and Wojcik, Dariusz, "Tax Havens and the Production of Offshore FDI: An Empirical Analysis" (April 17, 2013). University of Oxford, School of Geography and the Environment. Working Papers in Employment, Work and Finance, No. 13-02.
43. Hartwig, Robert P., Insurance Information Institute, Financial and Market Impacts of Hurricanes on Property and Casualty Insurers, April 2005
44. Hines, J.R., International Finance Centers and the World Economy. Society of Trust and Estate Practitioners, London Great Britain, 2009.
45. Holland, David M. "A Brief History of Reinsurance", Reinsurance News. Society of Actuaries Issue 65, February 2009, London.
46. Hollingshead, Ann, Privately Held, Non-Resident Deposits in Secrecy Jurisdictions. Ford Foundation, March 2010. Washington, D.C.
47. Hooley, John, "Bringing Down the Great Wall? Global Implications of Capital Account Liberalization in China," Quarterly Bulletin, BIS, 2013 Q4, Basel.
48. Insurance Insider, The Insurance Newsletter, January 2013 , London.

49. Insurance Information Institute, A Firm Foundation: How Insurance Supports the U.S. Economy. New York, New York, 2009.
50. Insurance Information Institute, Catastrophes: U.S., New York, New York, undated.
51. International Association of Insurance Supervisors, Issues Paper on the Regulation and Supervision of Captive Insurance Companies, www.iaisweb.org, October 2006.
52. International Monetary Fund, Coordinated Direct Investment Survey, Accessed Online December 2014, Canada, China, Mainland; China, Hong Kong; France; Germany; Ireland; Singapore; United Kingdom; United States. Washington DC.
53. International Monetary Fund, Coordinated Portfolio Investment Survey, Accessed Online, December 2014, Canada, China, Mainland; China, Hong Kong; France; Germany; Ireland; Singapore; United Kingdom; United States. Washington DC.
54. International Monetary Fund, Offshore Financial Centers: IMF Background Paper, June 23, 2000, Washington DC.
55. Johnson, Martin and Chris Rasmussen, "Jobs Supported BY Exports 2013: an Update " Background paper on Trade.gov, U.S. International Trade Administration, February 24, 2014.
56. Langer, Marshall J. "The Outrageous History of Caribbean Tax Treaties with OECD Member States," Tax Notes International, June 2002, Washington.
57. Marsh & McLennan and Guy Carpenter & Company. Lloyd's of London: A Vision for Targeted Growth, London, August 2012.
58. Marsh Risk Management Research, 2014 Captive Benchmark Report. London, Chicago.
59. Marsh & McLennan and Guy Carpenter & Company. Bermuda Reinsurance Market: 2008, Hamilton, 2009.

60. McCauley, Robert N. Christopher Upper and Agustin Villar, “Emerging Market Debt Securities Issuance in Offshore Centres, Bank of International Settlements Quarterly Review, September 2013, Basel Switzerland.
61. Milligan-Whyte, John. Creating Global Joint Ventures with China's Emerging Mega Multinational Corporations. Bermuda Chamber of Commerce, 2007.
62. Mizen, Paul, Frank Packer, Eli Remolena, and Serafeim Tsoukas, “Why do Firms Issue Abroad? Lessons from Onshore and Offshore Corporate Bond Finance in Asian Emerging Markets. BIS Working Papers. No 40, December 2012, Basel.1
63. Organization of Economic Cooperation and Development (OECD), EBOPS 2010, Trade In Services By Partner Country. Paris, France. 2014.
64. Ouddeken, Frank E.M., IMF Committee on Balance of Payments Statistics, Direct Investment Technical Expert Group, Special Purpose Entities and the measurement of FDI, March 2005. De Nederlandsche Bank,
65. Owens, Jeffrey, Written Testimony Before the Senate Finance Committee on Offshore Taxation, May 3 2007, Washington, D.C.
66. Pascale, James, Joseph Esposito, and Isiah Toback, Current Trends in Aircraft ABS, 2014. ABA Aircraft Financing Subcommittee, April 2014.
67. Palan, Ronen, Richard Murphy, Christian Chavagneux, Tax Havens, How Globalization Really Works. Cornell University Press, 2010.
68. Palan, Ronen & Nesvetailova, A. (2014) “Elsewhere, Ideally Nowhere: Shadow Banking and Offshore Finance”, Politik, 16(4), pp26-34.
69. PWC, Aviation Finance, 2013.
70. Rasmussen, Chris and Elizabeth Schaefer, “Jobs Supported by Export Destination 2013” Background Paper on Trade.gov. U.S. International Trade Administration. July 7 2014.
71. Reinsurance Association of America, Reinsurance Underwriting Report, Statutory Results, RAA website, www.reinsurance.org, December 31, 2014.

72. Reinsurance Association of America, Offshore Reinsurance in the U.S. Market 2013 Data, September 2014. Washington, D.C.
73. Rose, Andrew K, and Mark Spiegel. "Offshore Financial Centers, Parasites or Symbiants", *Economic Journal*, Vol 117 No 523, pp 1310-35. 2007.
74. Santomenno, Sandra, Lin, Steven, and O'Reilly, Kate. Proactive Management of Asbestos Liabilities, Towers Perrin (Towers Watson) Emphasis Journal, 2008.
75. Schenk, Catherine R., "Summer in the City: Banking Failures of 1974 and the Development of International Banking Supervision." The English Historical Review. Oxford Online, 2014.
76. Shipbuilding History.com website, LNG Carriers in Service or Under Construction, March 1, 2013.
77. Sun, Sean. What You Need to Know about Chinese Stocks. Rising Star Portfolio Series, www.fool.com. November 2010.
78. UK Insurance Industry Working Group. Vision of the Insurance Industry in 2020, July 2009, London.
79. U.S. Congressional Research Service, Deepwater Horizon Oil Spill Disaster: Risk, Recovery, and Insurance Implications. Rawle O. King. July 12, 2010. Washington DC.
80. U.S. Department of Commerce, U.S. Bureau of Census and International Trade Administration, Total Jobs Supported by Manufactured Exports, 2007. Washington, DC 2010.
81. U.S. Bureau of Census, U.S. Exports to and Imports from Bermuda, 2007 to 2014. Washington DC.
82. U.S. Bureau of Economic Analysis, Raymond Mataloni Jr. "Activities of U.S. Multinational Enterprises in 2014" Survey of Current Business, August 2014, Volume 94/8, pages 1-22. Washington DC

83. U.S. Bureau of Economic Analysis, Jennifer Koncz-Bruner and Anne Flatness. "U.S. International Services: Cross Border Trade in 2009 and Services Supplied Through Affiliates in 2008" Survey of Current Business, October, 2010, pages 18-60. Washington DC.
84. U.S. Bureau of Economic Analysis, Jennifer Koncz-Bruner and Anne Flatness. "U.S. International Services: Cross Border Trade in 2010 and Services Supplied Through Affiliates in 2009" Survey of Current Business, October, 2011, pages 13-56. Washington DC.
85. U.S. Bureau of Economic Analysis, Alexis N. Grimm and Charu S. Krishnan, "U.S. International Services: Trade in Services in 2013 and Services Supplied Through Affiliates in 2012" Survey of Current Business, October, 2014, pages 1-25. Washington DC.
86. U.S. Joint Committee on Taxation, Staff Report. Present Law and Analysis Relating to the Tax Treatment of Reinsurance Transactions between Affiliated Entities. July 12, 2010, U.S. Congress. Washington DC.
87. U.S. Treasury Department, Treasury International Capital System Statistical Report, July 2014. Accessed Online, Office of International Affairs, Washington, D.C.
88. U.S. Treasury, Federal Insurance Office, The Breadth and Scope of the Global Reinsurance Market and the Critical Role Such Market Plays in Supporting Insurance in the United States, December 2014, Washington, D.C.
89. Vlcek, William, (2014) "From Road Town to Shanghai: Situating the Caribbean in Global Capital Flows to China." The British Journal of Politics and International Relations, 16:534-553.
90. Wainwright, Thomas, "Emerging onshore-offshore industries: The Case of Asset-Backed Securities Markets in Europe." Unpublished article, 2013.
91. Zucman, Gabriel, "The Missing Wealth of Nations: Are Europe and the U.S. Net Debtors or Net Creditors?" The Quarterly Journal of Economics (2013), 1321-1364. And unpublished data appendix, Paris School of Economics, February 25, 2013.