



LUND UNIVERSITY
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Master programme in Economic History

The Prime Mover of Taiwan's Trade With Russia and its Development

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Abstract: After a fifty yearlong period of political hostility, Taiwan perceived the fall of Soviet Union as an opportunity to establish Russia as a prime trade partner. Given Russia's relationship with China and its importance in promoting Taiwan's international status, the road was paved with many obstacles. Scholars argue that Taiwan deploys its trade diplomacy in order to promote its national awareness as a sovereign entity. Therefore, the economic rapprochement with Russia was regarded as being politically motivated. This project aims to empirically test this hypothesis by the use of the gravity model of trade, in order to simulate the trade potential between Russia and Taiwan; and thus determine the rational behind Taiwan's trade strategy in relation to Russia.

Key words: Cross Strait, Taiwan, Russia, Trade, Gravity Model

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1. Introduction

1.1. Research Problem

A conventional Taiwanese claim argues that, Republic of China (ROC) has survived as a sovereign and independent state for over fifty years. The sole controversy considering Taiwan's independent existence should be its labeling, whether to call it "The Republic of China" "the Republic of Taiwan" or simply "Taiwan". In a work published by Yang (1997), regarding Taiwan's expanding role in the international arena in Democratic Progressive Party's perspective, a party that highly favor's Taiwan's sovereignty, a clear statement has been made declaring that the island is a sovereign nation, independent of the mainland, and " Taiwan's present and future destiny is not an internal affair of China" (Yang, 1997, p.3). When it comes to classifying Taiwan as a state, the world is still holding to the cold war accord of having the pending reunification with the People's Republic of China (PRC), and disregarding the claim of 23 million Taiwanese citizens. (Fan, 2007).

Starting from the 1970's, Taiwan's main objective was to expel the China enforced international isolation; thus, Taiwanese economic strategies were serving its foreign policies by approaching partners that can potentially convert economic compliances into diplomatic relations. From a Taiwanese perspective, large polls of economic allies are able to support the country's long lost sovereignty. Thus, regardless of the economic outcomes, Taiwan designs its trade policies relying on the by-product that comes along with the economic engagements. This includes institutionalizing economic alliances and establishing diplomatic pacts with countries that support PRC on the international political scene. Many scholars pointed out to the success of this particular trade strategy, as it enabled them to reduce the international isolation and peacefully compete with Mainland China. (Tubilewicz, 2007, p. 14).

By 1980's, the government had the possibility of directing its economic orders free from private interest groups. Although, the situation had slightly altered in the early 1990's, the authorities possessed the ability to direct the production and the distribution channels for key commodities. Through this, the policy makers independently implemented their strategies in the best way that would serve the country's national interest. By then, in a more politically open countries, such as the United States, the lobbying influence of the private interest groups was much higher,

since privately owned firms handled a larger proportion of the economy. Taiwanese economy lacked this aspect, as state owned enterprises (SEO), were the main influence in directing trade channels and resources. (Baldwin, Chen, & Nelson, 1995).

By the end of 1980's, Taiwan's trade was hardly considered as multilateral, since it was extensively dependent on the United States and Japan. With the strengthening of Taiwanese currency, their products were no longer within the competitive price range. This urged the authorities to seek out for a broader markets; hence, in 1987 SEO's with other business entities conveyed a trade mission to Western Europe mainly in Germany, France, Spain and the United Kingdom. (Underwood, 1992). Later, the fall of communism was perceived as an opportunity to establish economic ties with the former Eastern Bloc; moreover, it was the fall of Soviet-Union in 1991 that induced the best opportunity for Taiwan to launch its political assault in the region by building economic diplomacy with the Russian Federation. (Tubilewicz, 2007, p. 95).

Ever since, Taiwan consistently attempted to improve its bilateral trade relations with the Ex-Soviet country. The first trade mission was sent in May 28 1991, (Bazhanov, 1996); the same year in September, Taiwan signed its largest trade deal with the Soviet Union that portrayed the trade of Taiwanese consumers' good in exchange of Russian raw material. (Hu, 2007). Later in 1991, Taipei World Trade Centre Co., Ltd, (CETRA) established its first branch in Moscow. Two years later, in 1993, in an attempt to further impose Taiwanese presence in Russia, Representative Office in Moscow for the Taipei-Moscow Economic cultural Coordination Commission was founded. The staff of the association included some diplomats that had the right to issue visas through the offices in Riga. In 1996, Representative Office in Taipei for the Taipei-Moscow Economic cultural Coordination Commission was founded, and it had the right to issue Russian visas for Taiwanese citizens. The main aim of these offices was to facilitate and advocate trade between the two countries, by assisting Taiwanese and Russian business executives with market information. (Tubilewicz, 2007, p. 96). The series of attempts made by Taiwan in order to gain a bigger share in Russian market has somewhat succeeded, according to IMF Direction of Trade Statistics; over the years, from 1990 until the present day, two-way trade between Russia and Taiwan witnessed an increasing trend.

1.2. Research Question

The current research links the discussion of the Cross Strait crisis and Taiwanese eagerness of having Russia as a cooperative state, through trade promoting strategies. Numerous Taiwanese attempts to inaugurate the Russian market was perceived as to be politically motivated; to test this hypothesis, a quantitative study of world trade patterns will be conducted that will allow us to pinpoint trade dynamics between the two countries, and thus identify the breakeven point between their trade potential and actual trade values; hence, diagnose Taiwanese motives following their quest for establishing Russia as an imminent trade partner. Therefore, the outcome of the analysis will determine whether Taiwan's trade with Russia is a pretext to rip its political benefits, or it is economically motivated to reach out to a greater segment of the Russian economy for a profitable trade partnership.

What is the main drive of Taiwanese trade policy in relation to Russia?

The current research will aim to measure trade potentials between Russia and Taiwan, by applying the gravity model of trade on a cross section analysis for four separate years; 1990, 1995, 2000 and 2005.

The first section of this paper provides an overview regarding political and economic circumstances of the trade partnership between Russia and Taiwan with a focus on Taiwan's sovereignty, Russia's stance in regard to the Cross Strait crisis, China's role as regional ally to Russia, and the key complementarity of Russian and Taiwanese economies. In the second section, the gravity model of trade will be introduced with an outline of its theoretical foundation, an overview of previous research conducted with the model in our field of interest; furthermore, an explanation will be given regarding the data and the version of gravity model that will be used throughout the analysis. In the third section, results of each separate year will be analyzed and discussed. In the fourth section, an explanation will be given regarding Taiwanese trade policies based on the findings. Finally, the last section will provide a conclusion for the topic.

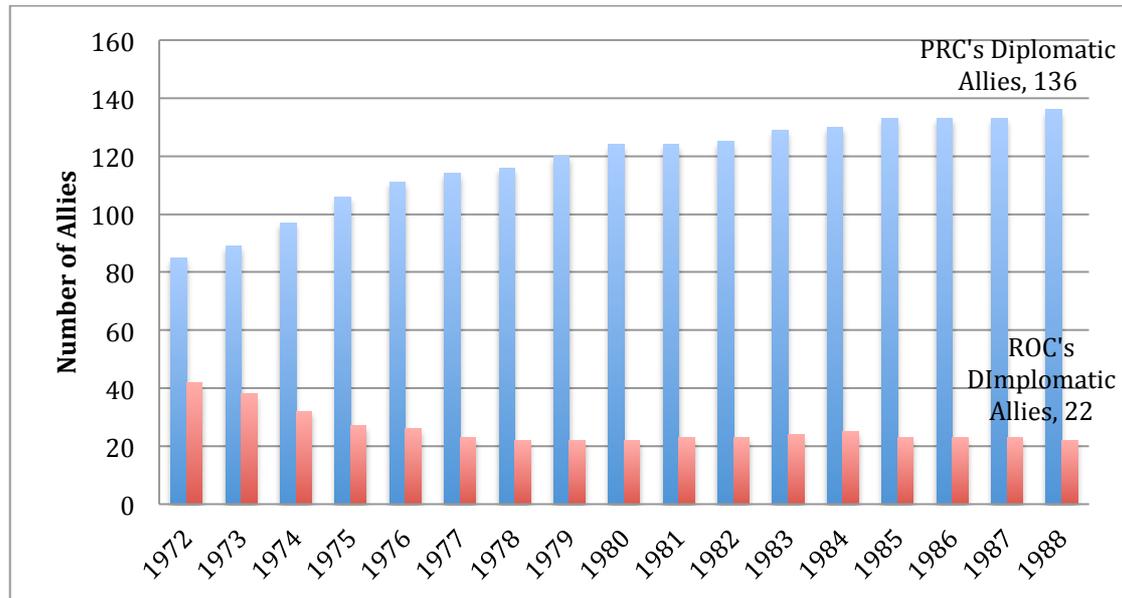
2. Background information

2.1. Russia's Role in the Cross Strait Crisis

2.1.1. UN, Taiwan and its Domestic Sovereignty

In mid 1940's, when the allied forces defeated Japan, Taiwan was under the rule of ROC with the governance of Kuomintang (KMT) party. While having control over the Mainland China, in 1945, with the support of the United States, Taiwan had its seat in United Nations' council. However, in the late 1940's, the confrontations with mainland China intensified, and the KMT party was crushed by the Communist Party of China (CPC); thus, KMT was forced to move its power to Taiwan by 1949. Accordingly, the never-ending conflict of Cross Strait was established, and things remained unresolved for Taiwan. (Huang, 2008).

In 1951, to end the hostility with Japan, the allied powers opted to sign the peace treaty of San Francisco in September 1951, where Taiwan's status as colony to Japan officially ended. However, no indications were made regarding the authority that has the right to govern Taiwan. Consequently, in April 1952, with the pressure of the United States, Japan was forced to sign another treaty with the KMT. Nonetheless, Taiwan's status left unsettled, and to be determined in accordance to the principle of the United Nations Charter. Given the circumstances, especially with the outbreak of the Korean War, in 1953, Taiwan's strategic location became ever more appealing to the United States; thus, ROC ruled by KMT was considered as Anti-Communist ally in the East Asia. (Yang, 1997, p. 5). By the beginning of 1950 until mid 1960, United States consistently provided economic and military aid to Taiwan. Dialogues and negotiations were underway for long-term settlements regarding economic affairs; however, in late 1960's, with the eruption of the Sino-Soviet War, the United States shifted its policies in Asia within its strategy to overcome the Soviet-Union; and thus PRC was perceived as an Anti-Soviet accomplice. By 1971, with the support of the United States, the settlement of the UN was not in favor of ROC, as the Resolution 2758 passed and imposed PCR as the sole legitimate representative of China. Consequently, the situation flipped, Taiwan's seat was dismissed and replaced by China. (Huang, 2008).

Figure 1: Diplomatic Allies of PRC and ROC

Source: Tubilewicz (2007) Page: 7-9

Since then Taiwan's sovereignty has become a complex issue, especially when it comes to dealing with other entities on the international arena. Although Taiwan is not regarded as a sovereign unit, but it is inevitable to disprove its independent existence. Usually, international legal sovereignty is regarded as a stationary concept, a country either has it or not. However, the case of Taiwan proved that sovereignty could exist in different levels; the fact that Taiwan enjoys a domestic and functional sovereignty, it is capable of operating on the international level in terms of bilateral trade negotiations, applications to World Organizations (WTO, WHO) and engagements in other types of political and diplomatic talks with various international entities. This sovereignty is mainly present for the fact that a single authority, in this case the Taiwanese government, has full control over the country. UN membership, however, requires an international legal sovereignty, that is the recognition of Taiwan's domestic sovereignty by external entities. (Sigrid, 2008). However, as Krasner (2001) defined, domestic sovereignty is found in the "authority structures within states and the ability of these structures to effectively regulate behavior". By that, Taiwan, regardless of its international sovereign status, can be considered as domestically sovereign state, imposing a full pledge authority on its economic and political activities.

2.1.2. The Dynamics of Russia-Taiwan relations

Pleasant policies of Russia in regard to Taiwan are highly desired by Taipei, given the significant role of Russia in the cross strait conflict. Politically, with the regional circumstances, achieving Russia's friendliness had proved to be challenging, especially with the external pressure imposed from the United States and China. Among all the Eastern European countries; Russia, owns massive amounts of natural resources, it is a military powerhouse and permanent a member of the United Nations; thus it earns a high influence in the international political scene. The establishment of official relations between the countries would have been a turning point in the cross strait relations, as it would help Taiwan to escape PRC-imposed international isolation. Consequently, Taipei targeted to establish a of sort relation that it enjoys with the United States; a pseudo-diplomatic links with high levels of economic cooperation. (Tubilewicz, 2007, p. 95). Comprehensibly, China would be eager to obstruct any development of relations between its "arm supplying neighbor" and Taiwan.

Following the defeat of Taiwan in the Chinese Civil war, ROC was reallocated in Taiwan, where KMT leader Chiang Kai-shek established the aircraft carrier of the anti-Soviet bloc in East Asia. By that time, Russia offered its economic, diplomatic and military support to China, and withdrew any type of contact with Taiwan. The tensions between the Soviet-Union and Taiwan reached its peak in 1954 when the navy forces of ROC seized a Russian Tanker and captured its entire crew. Surprisingly, Sino-Soviet clashes of late 1960 did not influence Moscow-Taipei relations; in contrast, still Chiang regarded the Soviets as hostile and traitorous entity. However, it was United States shift to China-friendly policy, and the 1971 UN resolution that enabled Taiwan to use its "Soviet-card" by signaling consistent threats of potential economic and secret military ties with Russia. Nevertheless, despite all the symbolic acts of approachability, no significant contact was made between Taiwan and Russia in the cold war era; rather it was until the late 1980's when the hostility finally came to an end. (Tubilewicz, 2007, pp. 26-27). To sum up, from 1950 till 1985, covering almost the whole period of cold war, Moscow and Taipei were in deep enmity. It first started with the Beijing-Moscow alliance, and aggravated with the outburst of the Korean war from 1950 till 1953; thus communist soviets and KMT

were repeatedly clashing in the diplomatic scene, while Moscow consistently asking for the restoration of PCR's right to be the representative of China on the international level. (Bazhanov, 1996).

In the late 1980's, Gorbachev's visit to Beijing ended the tension between the two Communist giants; however, a contact with Taiwan was yet to be made. In 1988, the ease of global economic tension along with the Russian rational of "Prestroika" and "New Thinking" resulted into the first economic and cultural interactions with Taiwan. (Hu, 2007). By 1991, with the military coup, it was the right time for the Taiwanese authority to approach the Russian Federation. First, expectation were high, that a quasi-diplomatic ties, the sort of relations Taiwan has with the United States, could be established. In January 1992, the Taiwanese Vice Foreign Minister paid a visit to Russia, where he announced the donation of \$20 millions worth of rice to the Russian Federation. (Tubilewicz, 2007, p. 96). This is when the fist Chinese objection appeared, as they expressed their tendency for the international entities to reduce their interaction with KMT authorities. By this time, offices in Moscow and Taipei have already started operating, and Chinese authorities perceived it as a significant upgrade and institutionalization of relations between Russia and Taiwan. Hence, this created a strong objection from Beijing, and the Chinese government asked for justifications regarding the issue. In late 1992, Yeltsin published a decree, where he reassured to China the Russian stand:

"In relations with Taiwan the Russian Federation proceeds from the fact that there is only one China. The government of the People's Republic of China is the sole legal government, representing the whole of China. Taiwan is an inalienable part of China.

The Russian Federation does not maintain official inter- state relations with Taiwan. Economic, scientific, cultural and other unofficial ties between Russia and Taiwan are executed by individual citizens and non-governmental organizations, empowered with functions necessary for legal, technical and other provision of these ties, and the protection of Russian citizens' rights in Taiwan. These ties are regulated by appropriate legal acts of the Russian Federation." (Bazhanov, 1996)

Later in mid 1990's, Russian internal situation changed, and eventually it affected its foreign policy, as a greater attention was devoted to the Asia Pacific region. Thus, PRC became the core of Kremlin's policy towards the region. As Sino-Russian ties improved, China, became the most crucial partner for Russia in the region. Consequently, pro-Taiwanese influence in Russia decreased substantially, as Russian authorities once more declared their support for "One China" hypothesis. (Bazhanov, 1996).

During the cross-strait crisis in March 1996, Russia encouraged a peaceful resolution to the crisis; however, president Yeltsin did not condemn China for its actions. (Hu, 2007). By that time, Taiwan tried to adopt a new strategy to integrate into Russia's diplomacy; therefore, politicians in Taipei tried to create a Taiwanese lobby in Moscow by influencing certain group of people in Russia. As a result, major political parties became their target groups, but the duty of instituting friendliness proved to be difficult, as the majority of the parties in Russia enjoyed a stable relationship with CPC. Liberal-Democratic Party of Russia (LDPR) headed by Vladimir Zhirinovskiy, who was a failed candidate in Russian elections of 1996, was the sole party publically supporting Taiwan. (Tubilewicz, 2002). Generally, in late 1990's, relations remained stagnant, due to the unwillingness of the Russian government to engage in official talks with the Taiwanese authorities. In 2000, when Vladimir Putin, inaugurated his presidency, Russia adopted a less lenient policy towards Taiwan. Putin was in full support of "one China" policy, even he pledged a military support to China in case of an American interventions to in any Sino-Taiwanese conflict. In addition, under Putin, Moscow increased its arms supplies to China, and equipped it with right weaponry for a naval invasion to Taiwan. However, Putin didn't felt the urge in obstructing any sort of scientific or technological development; in fact, in July 2002, Taipei established "Taiwan-Russia Association", that aimed to boost economic, cultural, scientific and academic exchange between the two countries. (Tubilewicz, 2007, pp. 115-119).

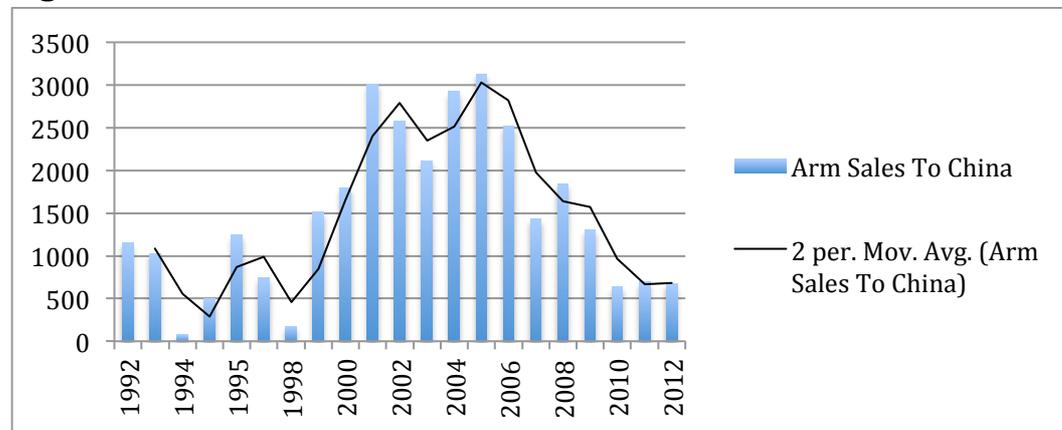
As of now, Taiwan already had its accession to WTO as an autonomous member, independent from China. It was believed that Taiwan's accession to WTO would provide a legal framework to promote its economic relations. Nevertheless, it didn't affect much Taiwan's sovereignty, nor upgraded its ties with international key players. (Sigrid, 2008). As far as Russian relations are concerned, negotiations took

place between Russia and Taiwan over Russia's forthcoming accession to the WTO. Thereupon, economic relations were further improved as Taiwan increased its access to the Russian market. (Tubilewicz, 2007, p. 120).

2.1.3. Chinese and Russian Interdependence

While Taiwan was trying to get the sympathy of Russia during the post-Cold War era, Chinese anxiety was evident. Nevertheless, the Russian response to the Chinese complaints has always been comforting to Beijing, as repetitive reinforcements were declared regarding Russian stance vis-à-vis the cross-strait conflict. Hence, both sides do not desire losing post Soviet established relations that is mainly derived from their geopolitical and economic interdependence. It was over forty years ago when the countries clashed for the last time; thus, peacekeeping over the 4000 Kilometer boarder itself, is an utmost mutual accord for both sides. Since the demarcation of the Sino-Soviet boarder in 1991, the core element of their relation has been military cooperation. Accordingly, this collaboration had been translated into strategic partnership. First, series of political-military meetings occurred with high-ranked personals such as military chiefs and defense ministers; second, various types of military trainings took place with joint education programs and exercises for both armies; third, extensive technical cooperation was underway with the transfer of technological know-how for military equipment production. Since the break up of Soviet Union from 1991 till 2010, 90 percent of China's arm supply came from Russia. (Holtom, et Al. 2011).

Figure 2: Russian Arm Sales to China



Trade Indicator Value in millions of Dollars, source: Stockholm International Peace Research Institute

In late 1990's, after the "Strategic Partnership of Coordination", Russian and Chinese policies converged in regards to United States' dominance of the international system. Hence, Moscow relied on Beijing to counterbalance the disequilibrium, as both parties believed that their cooperation would better serve promoting their national interests. However, analyzing the case separately, China is of mere importance to Russia. In the early 1990's, by the time when Taiwan was trying to improve its relations with Russia, the defense ministry in Moscow was on a brink of bankruptcy. Therefore, Russian arm sales to China had enabled the ministry to rebalance its accounts. Moreover, as China became a net importer of oil in 1993, Russia consistently tried to establish China as its main oil export partner; this was mostly to decrease its dependence from European costumers, who on their turn are trying to reach out to a broader market beyond Russia. (Trenin, 2012). Moreover, from 1992 till 2005, Russia had failed to significantly integrate into the Asia Pacific. Pursuing to ascertain its military and political presence in the region, Moscow counts on China as the gateway to Asia Pacific. Therefore, while Russia is trying to diversify its relation beyond China, it is manipulating the Sino-Russian cooperation to achieve this task. (Christoffersen, 2010). Consequently, Moscow was carefully tailoring its relations with Taipei, as the strategy was to maintain decent relations with China and still economically benefit from Taiwan.

On the other hand, from China's perspective, beside all the mutual political interests, Russia has a great deal of importance especially when it comes to the settlement of the cross strait crisis. If it happens that China would opt to a military resolution for the Taiwanese crisis, an international economic sanction will be imposed on China; therefore, sound relation with Russia would help China survive the sanctions. Moreover, after the tragedy of Tiananmen in 1989, all the major powers banned arms sale to China; therefore, in a military conflict with Taiwan, China would crucially need the Russian arm supplies. Lastly, China to secure its large oil demand, it resorts to the troubled Middle East. A crisis along that region, or in Hormuz, would disrupt the flow of energy to China; thus, to compensate the shortage of supply, China would resort to Russian oil. (Hu, 2007). Considering all these factors, neither Russia would like to downgrade its relations with China, nor China would like to lose its "friendship" with Russia. Thus, any move from Taiwan in regard to its relations with

Russia, would be closely monitored by China. However, regardless of its political grandness, Russia had a century long of economic fluctuations; accompanied by fundamental changes in its economic structure that resulted into long lasting economic hardships; whereas Taiwan's experience was mainly highlighted by stability and long-term economic development. Thus, by the time when Taiwan approached Russia to end the Cold War hostility, its economic superiority was luring Russia to get engage in diplomatic talks and risking its relations with China. Separately looking into the economic transitions of both countries will allow us to determine the importance of the "economic-card" played by Taiwan.

2.2. Russian and Taiwanese Economic complementarity.

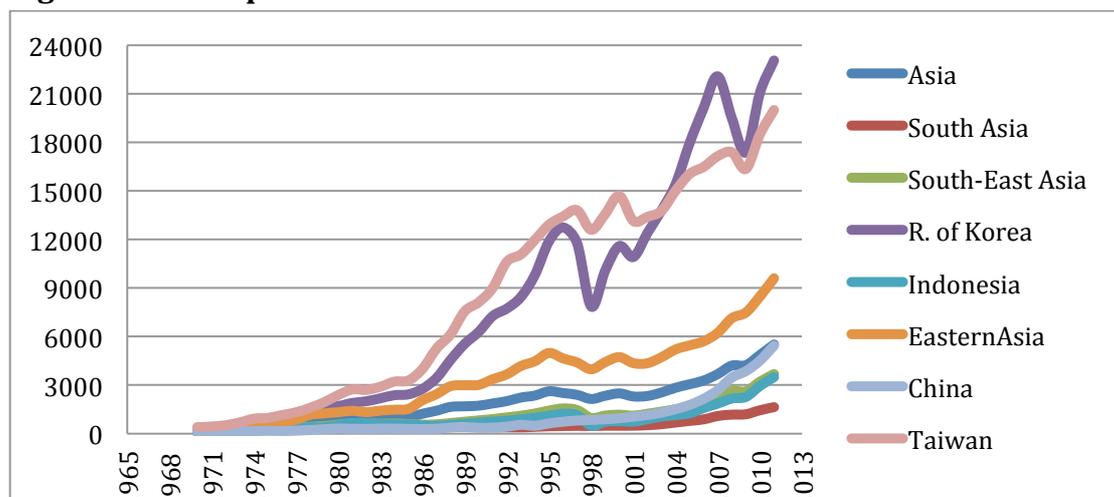
2.2.1. Taiwan The Little "Dragon" of Asia

During 1910's and 1920's, Taiwanese agricultural sector underwent a series of reforms, which can be incorporated as an agricultural revolution. Hence, a widespread development in the production of commodities took place, mainly in harvest of rice and sugar. A capitalist way of production, inspired from the Japanese sugar industry helped increase productivity tremendously. In parallel, during 1920's, an escalation of rice production took place, mainly with the support of new cultivating techniques. However, production declined tremendously by the outburst of the war, until it bounced back in 1952, and it succeeded to fulfill the increasing demand of the growing population, more importantly, it thrived to supply raw materials needed to the industrial sector. (Liu, 1969). By that time, when the treaty was already signed with Japan, Taiwanese authority regarded itself as an entity in exile; therefore policies were implemented in the basis of survival imperative. After a decade long of hyperinflation, the country suffered an economic backlash. Prices witnessed an annual increase of 500 percent between 1946 and 1948. Besides, favoritism was a malignant component of the Taiwanese economy. Accordingly, stability and equitable growth headed KMT's agenda for economic reforms. Hence, throughout the 55 years of KMT rule in Taiwan, a faithful adherence to equality existed, since the implemented economic policies fulfilled the concept of "Seeking growth with stability". Note that the tendency of having an uneven economy in terms of wealth distribution, will eventually distract the political stability, as it will be strategically exploited by the

Chinese government to twist the low income stratum in Taiwan against the nationalist government of KMT. (Ash & Greene, 2007, p. 55).

The conventional belief regarding the Taiwanese growth model claims that; the economic expansion program started with import substitution strategy, followed by export promotion. In the late 1960's, as the United States ceased to provide aid to Taiwan, a broader economic policies were implemented to boost exports. Sound macroeconomic environment, higher interest rates, trade liberalization combined with public investments in infrastructure and human capital generated the appropriate setting that enhanced exports, which became the basis of the Taiwanese growth model. The derived wealth from this model resulted into rising incomes, investments and savings. In addition, beside this mainstream belief, Rodrik (1994), points out to the role of the government that succeeded in implementing the exact interventions to remove coordination failures and promote higher returns on investment. As a result, after the second world war, Taiwan scored 8.8 percent average rate of growth between 1951 and 1987.(Chevalieras, 2010). Currently, Taiwan exports nearly four times the values of goods and services exported by United States measured per capita terms. (Ball, Chen & Well-Strand, 2011). In 2012, Taiwan had GDP per capita of \$20,386. (National Bureau of Statistic Republics of China, 2013) among the highest in the world; with 58.8 percent of its labor force being engaged in the service sector, and a current account surplus of \$40.88 billion. (Central Intelligence Agency, 2013).

Figure 3: Per Capita GDP Trend in East Asia

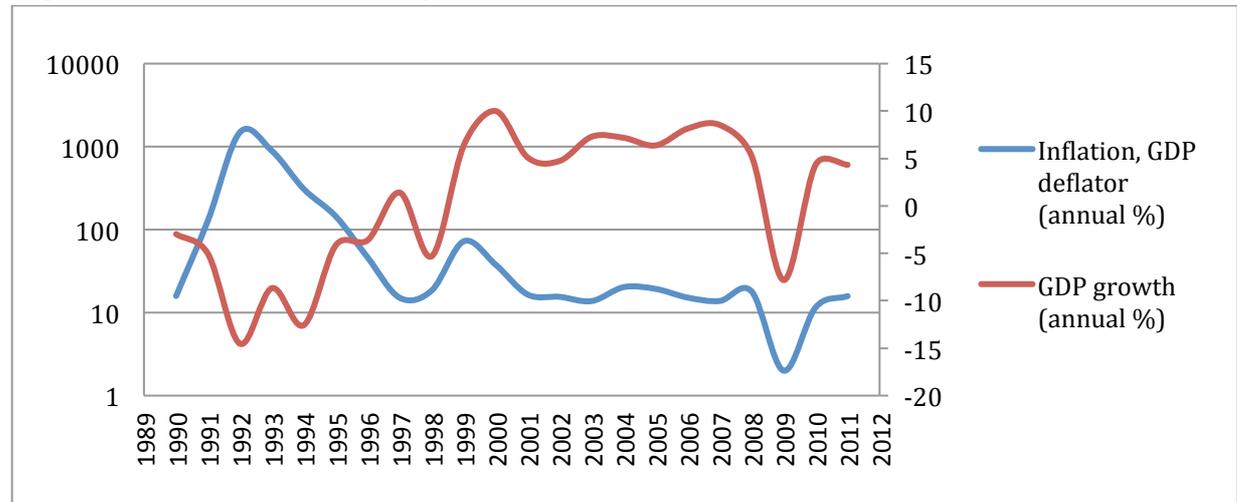


GDP per Capita in US\$ Source: UN National Accounts Main Aggregates Database, except for Taiwan: National Bureau of Statistic Republics of China

2.2.2. Russian Post-Soviet Plunge

On the other hand, Russian economic journey was similar to Taiwan's in one sense that industrialization took place in the 20th century. Otherwise, unlike Taiwan, Russia's road was paved with many bumps, as it was victim to deep economic cycles. In late 1920's, Stalin imposed a forced industrialization, which enabled Russia to make the breakthrough from a poor agricultural economy to an industrial one. This success is mainly explained by Stalin's decision to discriminatorily invest in heavy industry that stimulated full employment in an economy of heavy rural labor surplus. Thus, living standards grew substantially, particularly among the urban workers, in the period of 1928 until 1937. (Gregory, 2004). Labor productivity growth was relatively slow (3 percent annually) in 1930; however, in 1950's it accelerated reaching almost 6 percent. Thus the Soviet Union experienced its "Golden Age" in the decade of 1950's. Consequently, for that decade, the growth accounting of Russia yielded similar numbers as the ones of Taiwan registered in year 1960-80's. However, this growth didn't prove to be long lasting, rather it ended by 1960. By 1970, TPF was almost 2 percent, until it declined to 1 percent in 1980's, and by the time of the transition in 1990, TPF was negative. Conformist argument regarding the Russian economic plunge mainly accuses over-investment. Thus, large inputs of labor and capital at first yielded significant rates of growth; however, by the time when TPF started contracting it imposed a heavy burden on the economy. (Popov, 2010).

Post-soviet Yeltsin period, was also a tough phase for the Russian economy. The transition from Soviet Central Planned Economy (CPE) to a Market Economy made Russia lose almost 30 percent of its economy. By 1992, the inflation escalated until it reached 2000 percent, as a result, in 1998 the government was forced to sharply devalue the currency. This made the depositors lose their savings; hence, the average disposable income of a Russian citizen fell by 25 percent in real terms from 1993 to 1999. Later in the second millennium, Russian exports grew by 525 percent, mainly by the trade of oil and petroleum related products. Until the world financial crisis, Russian economy witnessed a stable and flourishing development. Living standards improved as GDP increased by 6.9 percent on average over the years of 1999 till 2008. (Cooper, 2009).

Figure 4: Inflation and GDP growth rates in Post-Soviet Russia

Left axis represents inflation rate. Right axis represents GDP growth rate. Source: World Bank.

2.2.3. Win-Win Outcome of The Trade Partnership

In early 1990, as Taiwan's GNI per capita exceeded Russia's by three folds, Taiwan's attractiveness to Russia was growing for various reasons. (Tubilewicz, 2007, p. 98). First, Taiwan, by all means was on its way to become among the richest countries in the world. Thus, Russian expectations from the Taiwanese rapprochement was to rip the benefits of "wealthy" Taiwan, by potentially demanding more aid and cheap loans in times of hardships during the economic transition, and establish Taiwan as a major destination for Russia's raw material export. Moreover, Russia potentially was about to copy the Taiwanese model of development, since many scholars in Russia considered it the ideal prototype for post-transition development. (Bazhanov, 1996). By the time when Taiwan launched its onset for an economic partnership with Russia, Taipei had planned for massive infrastructural project; thus, the country demanded enormous amounts of raw materials. Hence, the reciprocal trade would have yielded a "win-win" outcome for both sides, as Russia could possibly supply Taiwan with natural resources, while importing consumer and capital goods along with the technological know-how of the Taiwanese ICT sector. (Underwood, 1992). In particular, Russia's main purpose with Taiwan was to boost its technical cooperation with the technological industry, and to supply them with raw material without stirring the "One China" controversy. (Tubilewicz, 2007, p. 95). In a

nutshell, Russia was ready to embrace economic relations to establish a smoother transition from the Soviet era; therefore, both side were keen on developing economic relations.

Trade, rather than economic aid or FDI mainly highlighted the interaction between both economies. Consequently, having a framework, which will allow us to analyze bilateral trade between them will determine the extent to which both economies got integrated. In the following section, a presentation will be made regarding the analytical platform, which is grounded by the gravity model that will allow us simulate international world trades. And thus, analyze the development of the Russian Taiwanese trade from the post-Soviet era until the current days.

Table 1: Taiwanese Trade with Soviet Union (1989-1991) and Russian Federation (1992-2005) in Millions of Dollars

<i>year</i>	<i>Export</i>	<i>Import</i>	<i>Total Trade (TT)</i>	<i>Trade Balance</i>	<i>Change in TT (%)</i>
1989	20.63975	54.78735	75.4271	-34.1476	-
1990	59.02827	60.58549	119.61376	-1.55722	58.58%
1991	63.27174	164.5067	227.77844	-101.23496	90.43%
1992	23.01373	344.978	367.99173	-321.96427	61.56%
1993	72.88981	641.0924	713.98221	-568.20259	94.02%
1994	163.5621	1096.722	1260.2841	-933.1599	76.51%
1995	174.0303	1627.959	1801.9893	-1453.9287	42.98%
1996	141.2412	1063.843	1205.0842	-922.6018	-33.12%
1997	172.4965	1236.8	1409.2965	-1064.3035	16.95%
1998	137.536	843.9827	981.5187	-706.4467	-30.35%
1999	107.8372	1183.24	1291.0772	-1075.4028	31.54%
2000	186.0743	1379.611	1565.6853	-1193.5367	21.27%
2001	262.3748	603.5263	865.9011	-341.1515	-44.70%
2002	252.716	927.0467	1179.7627	-674.3307	36.25%
2003	301.9935	1299.287	1601.2805	-997.2935	35.73%
2004	436.59	2473.13	2909.72	-2036.54	81.71%
2005	516.46	2196.4	2712.86	-1679.94	-6.77%
2006*	604.067	1902.965	2507.032	-1298.898	-7.59%
2007*	807.313	1904.327	2711.64	-1097.014	8.16%
2008*	929.701	2686.816	3616.517	-1757.115	33.37%
2009*	582.132	2191.953	2774.085	-1609.821	-23.29%
2010*	1081.489	2335.814	3417.303	-1254.325	23.19%
2011*	1519.618	2357.201	3876.819	-837.583	13.45%
2012*	1541.067	3133.892	4674.959	-1592.825	20.59%

Source: International Monetary Fund Direction of Trade Statistics. * Source: Taiwan National Bureau of Statistics

3. The Model and The Methodology

The specific research question addressed necessitates producing an analysis that captures trade pattern for given specifications. As mentioned earlier, our aim is to identify the motive behind Taiwan's attempt to expand its trade market with Russia. The gravity model is chosen since it is one of the most empirically successful models in trade economics (Anderson and Van Wincoop, 2003), and it allows us to define the normal bilateral trade patterns under standard conditions free from trade impediments. (Tinbergen, 1962, p. 262).

3.1. The Gravity Model

3.1.1. The Development of the Model

Inspired by the gravity law of mechanics presented by Newton, Tinbergen (1962) and Pöyhönen (1963), implemented the first empirical studies on the international trade flows, based on purely intuitive justifications. The analogy of the model states that, trade flow from a given country to the other is proportionate to the product of their economic mass, GDP or GNP, divided by the distance separating their economic centers in other words, the centers of gravity.

$$X_{ij} = \alpha \frac{GDP_i * GDP_j}{Distance_{ij}} \quad (1)$$

To generate the linear form of the model, both sides of the model should be logged:

$$\ln X_{ij} = \alpha + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln Distance_{ij} + \varepsilon_{ij} \quad (2)$$

Where X_{ij} denotes the export flow from country i to j ; GDP_i and GDP_j represents the Gross Domestic Product of home and destination countries respectively; $Distance_{ij}$ represents the geographical distance separating both countries, and ε_{ij} is the distributed error term, which regards the remaining countless factors that influence trade. The coefficients β_1 , β_2 and β_3 indicate the indirect proportionality between the dependent and the independent variables. Initially, in Tinbergen (1962) the model was introduced in a static form, as no analysis would be made regarding the dynamics of export over prolonged period of time. Moreover, the model didn't embrace any sort of supply and demand analysis in term of price

movement specificity. It had a simple design to statistically determine the primary factors influencing the volume of trade between two different countries. Later, Linneman (1966 cited in Deardorff, 1998), in a study conducted on trade flows in Netherlands, added more variables to the model, and went beyond its intuitive principles by providing Walsarian general equilibrium system as a theoretical foundation for the model. The equation has been long acknowledged for its consistency to empirically explicate various types of flows such as migration commodity, and shipping. The initial works cited above had consistently produced stable coefficient estimates, and remarkable explanatory power. However, the lack of sound theoretical foundation of the model had restricted its use for predictive purposes. (Bergstrand, 1985).

Nevertheless, with the efforts of many scholars, the model is no longer regarded as being theoretically flimsy (Deardorff, 1998). Anderson (1979 cited in Rahman, 2003), with microeconomic theory derived the gravity model; while using trade share expenditure system. His work hypothesizes “constant elasticity of substitution” (CES) preference function for all the countries, and separable models for traded and non-traded goods. Later, Bergstrand (1985) with imperfect substitute theory calculated the gravity model, and noted that it can be perceived as partial equilibrium model that has its parameter unidentified because of omitting the price factor; since exchange rates and price variations could significantly affect trade flows. Further, (Deardorff, 1995 cited in Batra, 2004), derived the model from Heckscher-Ohlin (H-O) theory, by proving that the gravity model can be possibly calculated with the two extreme cases presented in H-O framework. First, it can be proven by frictionless trade; second, by H-O complete specialization, when two distinct countries produce dissimilar products. Moreover, Anderson and Van Wincoop (2003, cited in Sepherd 2012) had introduced macroeconomic accounting identities to the model, and derived the “gravity with gravitas” equation that includes two additional independent variables. First, the outward multilateral resistance, which encompasses the dependence of a given country’s export to a certain destination on the cost of exports to other possible markets. Second, the inward multilateral resistance variable, which similarly implies that imports are influenced by the trade cost of all the other possible supply markets.

3.1.2. Theory supporting the model

In this section, a theoretical backing will be given regarding the motion of the main variables that are able to capture some stylized facts of international trade, which are economic size and GDP, and thus their consistency in terms of statistical significance. As earlier mentioned, the model represents a high degree of statistical reliability; hence, reviewing the literature of gravity model, coefficients of the economic mass and distance are highly significant with opposite signs. When Tinbergen (1962), first introduced the gravity model, his explanation regarding the signs of the coefficients was not deeply elaborated. His assumption for the positive sign of economic mass was that, a country with a high level of GDP (or GNP), will possess higher production possibilities; therefore, its exports will be positively correlated with its own economic size. Similarly, a country with a high economic mass will have greater demand; thus, its imports would be positively affected by the size of its market, ie. GDP or GNP. Moreover, Krugman (1980) claims that a country's exports are mostly from an industry where its goods enjoy a relatively high domestic demand. Therefore, two countries having identical composition of demand, the country that possesses a larger mass will be an exporter of good whose production patterns includes economies of scale. Frankel & Wei (1993) denoted the effect of per capita GNP, their rationale was that countries with higher levels of GNP per capita tend to be more developed, thus would have the possibilities of broader specialization; hence it will enable them to increase their trade flows.

As for the coefficient of the geographical distance, in Tinbergen (1962), it was assumed that the export of a country to a certain destination will be negatively related to the transport cost; hence, the variable is utilized as a proxy for trade costs. Besides, Batra (2004) claims that the time of shipment is reflected by the distance separating the two countries; hence, the probability of survival for given types of products is inversely related to the shipment time. Furthermore, when trade is occurring between two remote countries synchronization of delivery timing between the business entities is relatively more challenging. When manufacturers demand several inputs to produce their commodities, timing of their supply should be synchronized, otherwise the production will have longer time cycle. Likewise, establishing trustworthy partners in a distant country is more intriguing, as the cost and the outlays for searching a reliable associates is high. Therefore, transaction cost will become higher, and this will lead

into finding partners from nearby countries. Finally, in a far-off country cultural differences are more likely to be exposed; thus, this will have a significant role in trading, as consumers taste will alter substantially and negotiation clashes will increase. According to Chaney (2011), within the empirical work of gravity model, the coefficient of the distance variable is consistently negative throughout different sets of times and across various countries.

3.1.3. Overview of Previous Research

Initially, the gravity model haven't been frequently utilized on applied works regarding trade policies and trade unions, since the earlier mentioned skeptics with respect to its theoretical foundations. Later, with the efforts of many scholars the model was accommodated to the neo-classical framework; hence, its popularity increased by the mid 1990's. (Kolesnikov & Podkorytova 2011). McCallum (1995), used the gravity model to determine the influence of borders on Canada's trade with United States. While controlling for usual determinants of trade, he found out that the scale of trade within the Canadian provinces is larger than the across border trade with United States by twenty-two folds. Frankel et al. (1997) have implemented the gravity model to examine the interaction of multilateral trading systems with regional blocs, by the use of cross section analysis on 63 different countries starting from 1965. The analysis served for concluding policy recommendations that will facilitate and harmonize regional trade. Rose and Reuven (2000) has investigated the effect of currency unions; in his work he implemented a panel data analysis to conclude that trade within a pair of countries is more likely to increase if the transactions are made with a shared currency. Later Rose (2004) estimated the effect of WTO on international trade, with the use of augmented gravity model that embraced numerous extraneous variables. Thus, he compared trade patterns of GATT/WTO members with those outside the organization. His results concluded that WTO has failed to promote trade. Subramanian and Wei (2007), with their doubt of Rose (2004) results reevaluated the effect of WTO membership using the model suggested by Anderson and Van Wincoop (2003). In contrast to Rose (2004) their results revealed that GATT/WTO membership has generated an additional 120 percent of international world trade.

In relevance to our topic, decent amount of works implemented the gravity model on Russia and Taiwan. Given the latter's specialization in ICT, Huang and Yang (2009) applied a gravity model on Taiwan's export of ICT to 51 different countries from 1997 to 2003. He added a dependent variable that mirrors the degree of intellectual property rights in the destination country. Accordingly, he tested for three different models with different dependent variables; first, the value of total exports; second, exports of high tech; third, exports of "non-high-tech". His results revealed the high sensitivity of Taiwan's high-tech export to the destination country's degree of intellectual property rights. From the works conducted on Foreign Direct Investment (FDI), Chow (2011) examined the effect of Taiwanese FDI on its own exports. The author's data dates from 1989 till 2006 across 15 sectors within the manufacturing industry in 11 different countries. The study embodied a modified version of gravity model where he applied the FDI on a given sector as a dependent variable; moreover, he decomposed the values of total trade into groups of similar products in accordance to the FDI targeted to that particular group, and used export of product group as an independent variable. His results revealed that in case of Taiwan, the FDI has a complementary role rather than substituting effect on exports. On the other hand, Ledyeva and Linden (2006) examined the FDI inflow to Russia; the main aim for the research was to determine the flow of foreign investment across different regions in Russia. For that purpose, the authors designed a cross section gravity model for the year 2002. To reflect on the volume of FDI they used number of foreign firms in different regions as an independent variable with Gross Regional Product and GDP of the source country as the main explanatory variables. From the results, the authors concluded that resource abundant regions are less likely to be a magnet for FDI, as they believe the energy sector is highly monopolized.

Moreover, research regarding the analysis of trade agreements, B. Lissovlik and Y. Lissovlik (2006) examined the "outsider position" of Russia in WTO. The model used embodied Russia's pairwise trade; thus, by solely using trades recorded by Russia rather than taking into account all the multilateral trades registered across the world, the authors analyzed a cross-section and panel data regressions longing from 1995 to 2002. Given the results, they deduced that Russia's exports are significantly skewed away from other WTO members; thus, on the long run, Russia's accession to WTO will substantially increase its exports. Chen, Lai and Lui (2012)

investigated the effect of Taiwan's exclusion from Regional Trade agreements. Their data was focused on Taiwan's trade with 21 different countries from 1980 to 2008. The conclusion reached from the analysis was that ANZCER and NAFTA are causing a considerable import diversion; whereas, AFTA and CEPA have a positive effect both on imports and exports of Taiwan. Moreover, Xu and Yu (2011) assessed the cross strait trade patterns to determine whether the trade barrier imposed by Taiwan and China are restraining the bilateral trade between the two countries to reach its full potential. The methodology used was to run two sets of panel data regression dating from 1980 to 2000. The first set included all 177 countries, and second was just focused on 10 East Asian economies. According to the model, Taiwan is importing from China half the amount predicted, and is exporting above its full potential value by two folds.

3.2. Methodology and Data

3.2.1. Our approach

As mentioned earlier, our aim is to identify the motive behind Taiwan's attempt to expand its trade market with Russia. Thus, gravity model will be employed in order to define the normal bilateral trade patterns under standard conditions free from trade obstructions. The following basic gravity model represents the export X_{ij} from a given country to another that is proportional to their GDP_i and GDP_j , and inversely related to the distance that separates them, with every variable having its own parameter:

$$\ln X_{ij} = \alpha + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln Distance_{ij} + \varepsilon_{ij} \quad (2)$$

The following equation represents the baseline model; however, it is a known fact that there are numerous other factors influencing trade. Therefore, our estimated model will be noted as:

$$\begin{aligned} \ln X_{ij} = & \alpha + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln WDistance_{ij} + \beta_4 Contiguity_{ij} \\ & + \beta_5 Language_{ij} + \beta_7 GATT_{i/j} \setminus WTO_{i/j} + \beta_8 GATT_{ij} \setminus WTO_{ij} \\ & + \beta_9 RTA_{ij} + \varepsilon_{ij} \end{aligned} \quad (3)$$

Where i represents the country of origin, in the case the exporter, and j represents the country of destination. Thus, the variables are defined as follows:

X_{ij} : denotes the export of country i to country j , the value presented is at nominal prices.

GDP_i and GDP_j : This variable is the measure of the economic size of a given country. In accordance to the trade flows, GDP is not deflated. Since the model analyzes the data in a fix point of time, nominal GDP will yield equivalent results as real GDP. (Sepherd, 2012). Besides, Batra (2004) claims that trade transactions are conducted with international prices; therefore, including real GDP will have no influence. As mentioned in the theory above, countries with higher GDP are more likely to trade; thus, it is expected that the variable would have a positive coefficient.

$WDistance_{ij}$: This continuous variable denotes the weighted great circle distance between the economic center of countries i and j measured in Kilometers. Since major proportion of trade is done by air nowadays (Batra, 2004), it is justified to use the great circle or linear distance from the destination i to j . As argued earlier, remoteness is viewed as proxy for cost, given all the factors mentioned earlier, it is anticipated for the coefficient to have a negative sign.

$Contiguity_{ij}$: The dummy variable is used to indicate whether countries i and j are contiguous or adjacent. Contiguity can have similar effects as the distance variable, since it takes into account the capital-to-capital trade. The variable bears the value one if countries i and j share a common border, and zero otherwise. The anticipated sign of the coefficient of this variable is positive, as many factors facilitates trade between neighboring countries.

$Language_{ij}$: This dummy variable indicates whether countries i and j share a common official language, if so, the variable takes the value one and zero otherwise. Since common language facilitates trade negotiations, it is expected to reduce transaction cost.(Batra, 2004). Therefore, the expected sign of the coefficient is positive.

To estimate the GATT/WTO effect on trade categorical variables with three different outcomes will be used. The reference category will be when both countries are members of GATT/WTO.

$GATT_{ij} \setminus WTO_{ij}$: Will be the variable for having none of the countries as a member, if *both* countries of the pair are non-members it will bear the value one, and zero otherwise.

$GATT_{i/j} \setminus WTO_{i/j}$: Will be the variable for having a single country of the pair in GATT/WTO, if that is the case it will bear the value one and zero otherwise.

Rose (2004), had pointed out the failure of WTO in promoting international trade; however, Subramanian and Wei (2007) opposed to the view by empirical evidence suggesting that WTO had generated a significant amount of additional world trade. Given the opposing views, the sign of the variable will be revealed by the equation, without any prior expectations.

RTA_{ij} : The dummy variable takes the value 1 if a regional trade agreement is in force between a given pair of countries, otherwise zero. The purpose of the regional trade agreements is to promote bilateral trade between the countries in force. Taking into account the geographical bias of the RTA's, the sign of the coefficient is expected to be positive.

In addition to equation (3), the gravity model can be estimated as proposed by Anderson and Van Wincoop (2003) and Baldwin and Taglioni (2006) by calculating the dependent variable as total amount of trade (import plus export). Therefore, the model would define the overall bilateral trade flows between two countries given the product of their economic size and bilateral distance. By this model, it is possible to capture the standard amount of total trade that can potentially be conducted between Russia and Taiwan. The model is defined as follows :

$$\begin{aligned} \ln T_{ij} = & \alpha + \beta_1 \ln (GDP_i * GDP_j) + \beta_3 \ln WDistance_{ij} + \beta_4 Contiguity_{ij} \\ & + \beta_5 Language_{ij} + \beta_7 GATT_{i/j} \setminus WTO_{i/j} + \beta_8 GATT_{ij} \setminus WTO_{ij} \\ & + \beta_9 RTA_{ij} + \varepsilon_{ij} \end{aligned} \quad (4)$$

The variables are defined and explained as in equation (3); with the exception of the dependent variable T_{ij} that will denote the total amount of trade.

To estimate the equations (3) and (4) OLS technique will be used, which will provide the best fit that describes the connection of trade with the other independent variables. These equations suggest that trade within countries i and j and the independent variables are represented with a constant elasticity; in other words a one percent increase in the distance separating countries i and j will result into β_2 percent decrease in their bilateral trade. The analysis will be made on the years 1990, 1995, 2000 and 2005, The motivation for selecting this particular years is to capture the average five year trade patterns between Russia and Taiwan. Moreover, from 1990 to 1995 it will represent the effect of Russian economic transition on trade with Taiwan. To calculate the trade potentials; actual trade flow values between Russia and Taiwan are to be expressed as a percentage of the values predicted by the models mentioned above.

$$TradePotential = \frac{ActualTrade}{PredictedTrad} * 100 \quad (5)$$

Thus, the outcome will have three possibilities; first, when the percentage is close to 100 percent the trade will be considered to be at its full potential. In this case, it will indicate the normality of trade patterns between Russia and Taiwan. Second, when the percentage is below 100 percent; this will indicate the untapped trade potential between the two countries, and the case of foreseen opportunities for Taiwan to imply policies that would allow expand its trade markets with Russia for a more beneficial trade. Third, the case where actual trade flows outperform predicted trade values; thus, it would be the case of having both countries trading above their estimated potential; hence, the possibility of trade expansions will be low, and the further efforts conducted to expand trade markets will be considered as politically motivated.

3.2.2. The Data

As mentioned earlier, the dependent variables for equation (3) is export from a country to its partner, and for equation (4) it's the bilateral trade between the two countries, which is accounted as imports plus exports. Therefore, the aim of the dataset is to gather the maximum amount of trade recorded within a pair of countries

for a given year. However, each year of the four selected years, does not contain the same amount of observations, as the countries of which trade recorded are different from a given year to another.

The dataset used is the one provided by Head, Mayer and Ries (2010), which is available on the CEPII databases¹. (2013). Originally, the data obtained dated from 1948 to 2006; nevertheless, years concerning the current study were filtered out from it. In the dataset, bilateral trade was obtained from the International Monetary Fund's Direction of Trade Statistics (DOTS). In the yearbook of DOTS, two distinct values are registered for country A's exports to B and country B's import from A. In this case, Head, Mayer and Ries (2010), recorded in the dataset country B's import as export flow from country A to B. The rational behind it is that imports are more carefully registered since they are subject to governmental monitoring for custom duties. For the equation (4), to obtain the total bilateral trade flow; data for trade from equation (3) is summed up and duplicates are deleted.

GDP is obtained from World Bank's World Development Indicator (WDI). However, since Taiwan is not part of WDI's database, the authors obtained its indicators from Taiwanese national data sources. Moreover, data regarding GDP for several countries is lacking in CEPII dataset, since it is not given by WDI; therefore, the gaps were filled from UN's National Accounts Main Aggregate Databases (SNA, 2013). To compile the RTA table, Head, Mayer and Ries (2010), referred to Baier and Bergstrand (2007), and utilized WTO website for additional information regarding the RTAs and constructing the GATT \ WTO dataset. Furthermore, reports regarding bilateral distance along with common official language were obtained from the CEPII geographical databases.

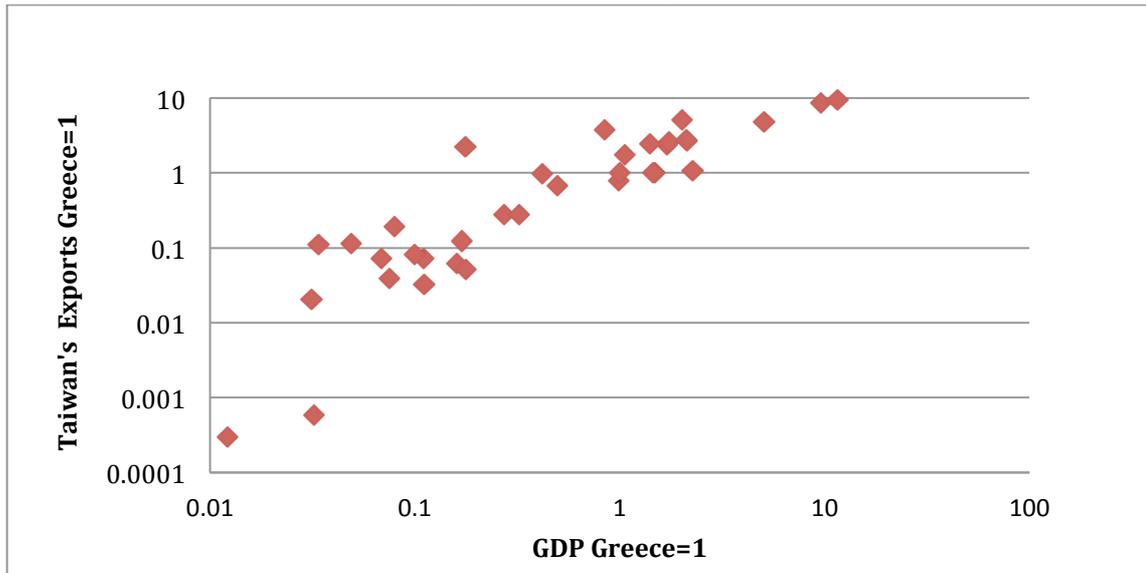
As the theory suggests, GDP should be positively correlated with imports and exports; to check the validity of the following theory, it is useful to plot Taiwan's trade as a function of GDP of its partner's country. To have a pole of homogenous partners and disregard the factor of distance, the scatter plot includes the countries of the European Union (EU)². Distance within the EU countries is sufficiently small compared to the distance separating them from Taiwan. Moreover, EU is a costume

¹ http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8

² Head and Mayer 2013, applied the same analytical methodology with Japan; given the geographical location of Taiwan, Japan's analysis could be applied on Taiwan.

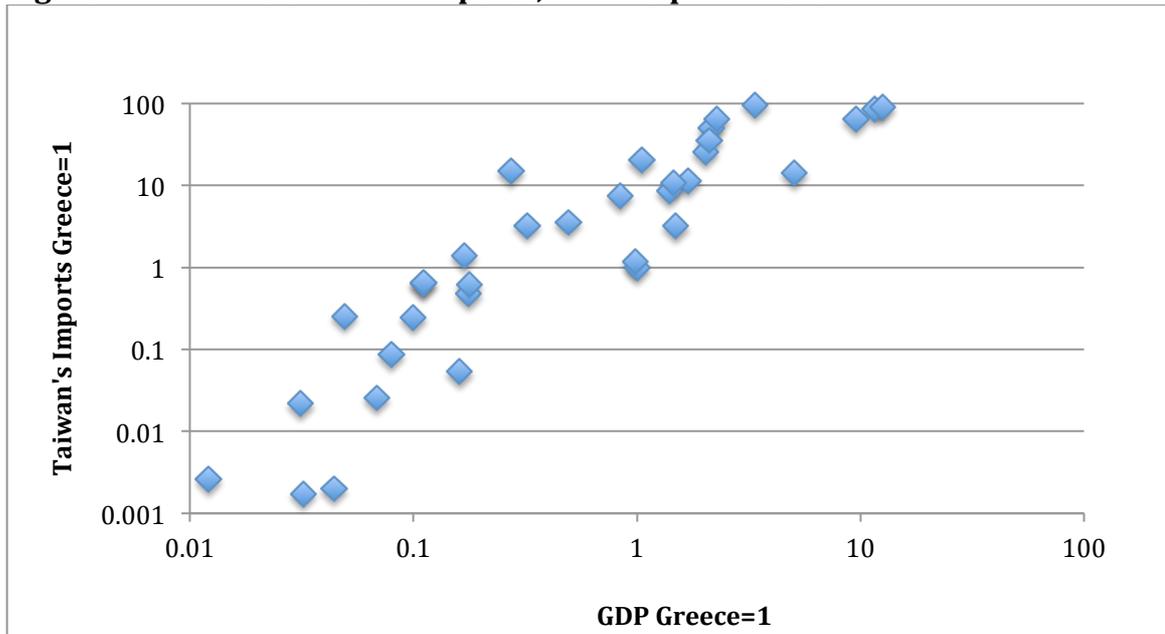
union; therefore, countries in the Union usually apply a similar trade policy against a particular country. (Head & Mayer 2013). In addition, Taiwan does not share colonial history, border, religion or any other cultural aspect with a certain country in Europe. Values are indexed by having them divided with the corresponding values of Greece, given it's a middle-sized economy.

Figure 5 : Taiwan's bilateral exports and the partners GDP



Source: IMF Direction of Trade Statistics

Figure 6: Taiwan's bilateral imports, and the partners GDP



Source: IMF Direction of Trade Statistics.

As Figure (5), and Figure (6) suggests while GDP of the corresponding country is increasing; its trade with Taiwan is also increasing. Therefore, Taiwan's data fits the earlier mentioned theory regarding the gravity model.

3.2.3. Econometric Issues

First while running the models, results came out with high degrees of heteroskedasticity; thus, not having homogeneity of variance. An effective way suggested by Sepherd (2012) to cure the problem of heteroskedasticity is to use robust standard errors. Nevertheless, the coefficients of the variables and the coefficient of determination (R^2) of the model remains the same; hence it should not make any difference while estimating our potential trade values. Besides, the dataset contained some observations that had zero as the value for trade flow. It is not possible to determine whether trade is non-existent or too small to be reported. Batra (2004) claims that these observations usually present a problem for estimating the gravity model in its log form. Therefore, such observations were dismissed from the dataset. Moreover, other registered trade values in the dataset were too small; hence they were considered as outliers. For that reason, the models are flagged, and every observation that is recorded with a trade flow value less than \$100 000 was omitted from the dataset of equation (3), and the values smaller than \$200 000 from equation (4). With the dismissal of the mentioned observations, the models produced a greater fit; thus it was considered to have a better predictive capability.

4. Estimation Results and Analysis

4.1. Regression Outputs

Table 2: Output for the gravity model (3)

	1990	1995	2000	2005
<i>VARIABLES</i>	<i>LnTrade_{ij}</i>	<i>LnTrade_{ij}</i>	<i>LnTrade_{ij}</i>	<i>LnTrade_{ij}</i>
<i>LnGDP_i</i>	0.794***	0.832***	0.841***	0.899***
<i>LnGDP_j</i>	0.718***	0.732***	0.739***	0.749***
<i>LnWDIST_{ij}</i>	-0.883***	-0.859***	-0.846***	-0.883***
<i>Contiguity_{ij}</i>	0.358***	0.895***	0.899***	1.028***
<i>Language_{ij}</i>	0.703***	0.770***	0.630***	0.758***
<i>GATT\WTO_{ij}</i>	0.213***	0.268***	0.180**	0.310**
<i>GATT\WTO_i</i>	0.0175	-0.186***	-0.0386	-0.165***
<i>RTA_{ij}</i>	0.735***	0.805***	0.976***	0.656***
<i>Constant</i>	7.851***	6.897***	6.531***	5.808***
<i>Observations</i>	11622	15001	16445	17044
<i>R-squared</i>	0.613	0.635	0.635	0.64

*** p<0.01, ** p<0.05, * p<0.1

For all different years, the coefficients of GDP, distance, contiguity, language and RTA are significant and they bear the expected signs. For the GATT \ WTO membership, when neither of the countries is a member, the trade between them is significantly higher than trade between two member countries. However, coefficients for the variable that represents just one country as a member are not consistent over the four given years. In 1990, the result indicates that having one country of the pair as a member will yield higher trade than having both countries in GATT \ WTO. Nonetheless, the value of the coefficient is too small and insignificant. In 2000, similarly the coefficient is insignificant, except the sign is negative. In 1995 and 2005

results indicate that if a single country of the pair is a member, trade flows are significantly lower from having both countries as a member. Thus the conflicting findings of Subramanian and Wei (2007) and Rose (2004) are reflecting in the results.

Table 3: Output for the gravity model (4)

	1990	1995	2000	2005
<i>VARIABLES</i>	<i>LnTradeij</i>	<i>LnTradeij</i>	<i>LnTradeij</i>	<i>LnTradeij</i>
<i>Ln(GDPi*GDPj)</i>	0.769***	0.796***	0.805***	0.839***
<i>LnWDISTij</i>	-0.920***	-0.904***	-0.869***	-0.907***
<i>Contiguityij</i>	0.391***	0.873***	0.883***	1.018***
<i>Languageij</i>	0.728***	0.781***	0.706***	0.793***
<i>GATT\WTOij</i>	0.169*	0.222***	0.147	0.352**
<i>GATT\WTO ij</i>	0.0527	-0.149***	-0.0447	-0.142***
<i>RTAij</i>	0.644***	0.732***	0.943***	0.633***
<i>Constant</i>	8.677***	7.797***	7.239***	6.553***
<i>Observations</i>	6,569	8,371	9,211	9,759
<i>R-squared</i>	0.661	0.682	0.691	0.691

*** p<0.01, ** p<0.05, * p<0.1

As earlier mentioned, the current regression is designed to model two way trade between the pair of countries and is flagged for observations with trade flows less than \$200 000. Similar to equation (3), the coefficients of GDP, Distance, contiguity, language and RTA are significant and the signs of coefficients is as anticipated. As for GATT \ WTO membership, results are consistent with equation (3), thus having none of the countries as a member is yielding higher trade levels. A possible explanation that can be incorporated with this phenomenon is the regional bias. For instance, in the region of Central Asia, Afghanistan, Azerbaijan, Iran, Kazakhstan and Uzbekistan are not member countries, with the assumption of adjacency they are expected to have higher bilateral trade flows. On the other hand,

having one country as a member has a negative coefficient over the years 1995, 2000 and 2005. However, the coefficients are statistically significant just for 1995 and 2005. As far as our analysis is concerned, until 2005 neither of Russia or Taiwan was a member of WTO; however, in 2005 Taiwan was considered to be a member. For equation (3) the insignificant coefficients are disregarded in calculation of potential trade values since none of their variables is associated with Russia's and Taiwan's characteristics. In equation (4), it is just the year 2000 where the coefficient is insignificant and will be included in our analysis.

4.2. Trade Potential Analysis

Table 4: Trade potentials calculated from model (3)

<i>Countryi</i>		<i>Countryj</i>	<i>Actual Trade</i>	<i>Predicted Trade</i>	<i>Potential of Expansion</i>
<i>TWN</i>	1990	<i>RUS</i>	59.02827	234.00	25.23%*
<i>RUS</i>		<i>TWN</i>	60.58549	255.00	23.76%*
<i>TWN</i>	1995	<i>RUS</i>	174.0303	279.00	62.38%*
<i>RUS</i>		<i>TWN</i>	1627.959	289.00	563.31%
<i>TWN</i>	2000	<i>RUS</i>	186.0743	203.00	91.66%*
<i>RUS</i>		<i>TWN</i>	1379.611	199.00	693.27%
<i>TWN</i>	2005	<i>RUS</i>	516.46	290.00	178.09%
<i>RUS</i>		<i>TWN</i>	2196.4	326.00	673.74%

Table 5: Trade potential calculated from model (4)

<i>Countryij</i>		<i>Actual Trade</i>	<i>Predicted Trade</i>	<i>Potential of Expansion</i>
<i>RUS TWN</i>	1990	119.61376	531.00	22.53%*
<i>RUS TWN</i>	1995	1801.9893	635.00	283.78%
<i>RUS TWN</i>	2000	1565.6853	476.00	328.93%
<i>RUS TWN</i>	2005	2712.86	779.00	348.25%

* Indicates the untapped potential of trade between Russia and Taiwan.

Year 1990: The massive potential for expansion

It was in early 1988, when a private business group entitled as Taiwan Provincial Union of Export-Import Chambers of Commerce first initiated a move to liberalize trade with the Soviet Union. Members of the group advertised the attractiveness of the Soviet-Union as a potential export market for Taiwan. In May 1988, KMT authorities lifted the trade ban, and allowed business delegations to travel to the Soviet-Union. As academics, business entities and legislators intensified the demand for bilateral interaction; the authorities in Taipei favored the economic interactions on the basis of having it separated from all other official operations, as both countries were still on contradicting premises in terms of politics and ideology. It was until March 1990, when the government officially allowed trade and other mutual investment ties with the USSR.(Bahzanov, 1996). By that time, imports from Russia accounted for 0.11 percent of Taiwan's total imports, and exports to Russia were 0.10 percent of total Taiwan's exports. With no agencies in both countries, business entities lacked information and databases regarding each other's markets. Beside, language barrier was obstructing the commerce, by initiating negotiation and communication problems. (Underwood, 1992).

As predicted by model (3), the actual export of Taiwan to Russia was 25,23 percent of the potential value, and imports was 23,75 percent. As for the two-way trade, the model (4) predicts that actual trade is 22.53 percent of the potential. Assuming all the component of the gravity model, mainly GDP of both countries and their geographic location, there was a vast room of improvement. Thus, their market size is an indicative for a bigger amount of commerce than the actual. The fact that KMT allowed for Taiwanese organizations to officially trade on that year, along with all the lacking facilities for a trade partnership, it is expected for both countries to share an untapped trade potential. Hence, Taiwan's shift for a trade partnership with Russia could have yielded beneficial results, as reciprocal trade can supply both countries' import demands.

1995: Significant rise in Russian imports

With all the attempts to close in on the intact trade potential, Taiwanese efforts produced significant result, as many upgrades were made from 1990 till 1995. In 1991, along with the establishment of CETRA, the largest trade deal was signed

between the two countries. (Hu, 2007). In 1993, CETRA was already promoting Taiwanese trade in Russia by sponsoring trade missions and events; in parallel, conducting market surveys to improve the database for the Taiwanese exporters. During that year, 51 percent of CETRA's total budget was devoted to trade promotional activities. (Underwood, 1992). With all the efforts conducted within diplomatic and economic ties; bilateral trade improved significantly, as from 1989 till 1995 imports from Russia grew tremendously with an average annual growth of 86 percent, and export by 35 percent. Thus, imports from Russia constituted 1.7 percent of Taiwanese total imports, and 0.22 percent of total exports.

However, in that year, the balance of trade between the two countries was \$1453.92 millions deficit to Taiwan. And as it is obvious, imports increased by a greater proportion than export. Explanations regarding this deficit suggest that while Russia established Taiwan as major destination for its raw material, Taiwan relatively failed to export its consumer goods to Russia. First, Taiwanese products were regarded as being expensive, and thus were faced by fierce competition from PRC's cheap products. Second, luxury product consumers in Russia favored branded goods imported from the West. Moreover, Taiwanese business executives had to deal with the escalating inflation in Russia, its lack of foreign currency, obscure legal system and widespread political instability. (Tubilewicz, 2007, p. 103). Therefore, results indicated that Taiwan is exporting 62,38 percent of the expected value to Russia, and importing 6 times higher than the potential. By this time the predicted two-way trade already surpassed its potential, as the actual value is 2,39 times bigger than predicted.

2000: Taiwan struggling to export to its full potential

From 1995 to 2000, major developments regarding the economic upgrade between Russia and Taiwan were mainly highlighted by the agreement on air communication in 1997, and the protocol that was signed in 1998 for sea transport. Moreover, a representative office of Moscow in Taipei was established. (Vradiy). On the other hand, politically, Taiwan attempted to sign an arm deal with Russia in 1998; nevertheless, President Yeltsin totally denied the proposal and reassured China that such deal would never occur. Furthermore, in 2000, the new president of the Russian Federation, Vladimir Putin favored improving its relations with China, and disregarding any improvements for diplomatic relation with Taiwan. (Tubilewicz,

2007, p. 109). Therefore, from 1995 till 2000 the overall trade climate didn't improve as much as it did in the previous lustrum. Consequently, from 1994 till 2000, exports from Taiwan to Russia had an average annual decrease of 2.11 percent and imports remained almost stagnant with a slight average annual decrease of 0.65 percent.

In terms of Taiwanese export to Russia, comparing the year 2000 to 1995; the difference between them indicates that in 2000 exports were higher by just \$12 millions. And yet the untapped trade potential had significantly decreased as Taiwan exported to Russia by 91.66 percent of its potential. With regards to Taiwanese import from Russia, in year 2000 the imports were lower by \$248.348 million compared to 1995. Still, the actual trade surpassed the potential with a bigger proportion than it did in 1995, as Taiwan was importing almost 7 times higher than the potential. Assuming that the ratio of trade to its potential have genuinely increased would be totally fallacious, if we don't take into account the Russian economic crisis of 1998 when its GDP shrank by 5.3 percent. In year 1995, GDP of Russia was \$395528 million and it decreased to \$259708 million in 2000³. Therefore, while simulating the trade potential, plotting a smaller value as Russia's GDP would yield a smaller predicted trade value. Hence, this will result into an improper analysis by creating discrepancies in equation (5), where the denominator would be deflated. Consequently, analyzing the year 2000 would not yield reliable results, since it is considered as a crisis year for Russia.

2005: Trade beyond potential and Taiwan in WTO

From 2000 till 2005 many factors influencing bilateral trade has changed. Russia had entered its stability period with increasing economic growth rates, and Taiwan, although was not a major victim of the Asian Financial crisis had already recovered. Therefore, the discrepancies of the previous lustrum are dropped; accordingly, results will yield a lucid image of trade dynamics between the two countries. In 2002, Taiwan Russia Association (TRA) was established in Taipei, its function was to further promote economic, cultural and scientific cooperation. TRA officials had many business promotion tours across Moscow and St. Petersburg, and signed many deals, including oil purchase agreements. Furthermore, by that time, Taiwan already became a member of WTO, and negotiations between the two

³ The data is taken from the dataset earlier mentioned in paragraph 3.2.2

countries took place for a prospective Russian accession to WTO. Hence, this would increase economic collaboration and more importantly would lower tariffs on Taiwanese exports. (Tubilewicz 2007, p. 120).

Thereupon, the average annual increase gained back its momentum, as Taiwanese imports from Russia increased by 14.49 percent and exports by 26.3 percent. As far as the analysis of trade potentials, Taiwan finally covered its untapped potential and lifted its exports significantly, as they accounted for 178.09 percent of the predicted trade value. On the other hand, Russian imports to Taiwan were still 6 times greater than the potential. As for the prediction made by the equation (4), bilateral trade between the two countries reasonably remained above potential.

4.3. The ongoing trade missions: Taiwanese Trade Motives

As it is argued, Taiwan employs its trade facilities as a platform to interact with various political entities, in order to expel the Beijing imposed international isolation. (Sigrid 2008, Tubilewicz 2002). Therefore, the suggested method was to quantitatively identify Taiwanese trade policies by calculating trade potentials for exhibiting trade patterns in accordance to the political events. Until, the end of the first millennium, trade with Russia could have been for both political and economic purposes since there was a huge margin of trade potential that can be covered. Thus, it could have been a way to get in touch with the Russian authorities, and diminish the high trade dependence with the United States and Japan. It took until 2005 for Taiwan to fully exhaust its export potential. Since then, every attempt for trade promotion would have diminishing returns. Nevertheless, after 2005, Taiwan never ceased to promote its bilateral trade with Russia and kept on establishing economic corporations across the Russian federation. In October 2011, the fourth “Taiwan-Russia Economic Cooperation Meeting” sponsored by TRA and other agencies took place in Moscow with a delegation of 43 members from Taiwan⁴. In December 2011, Taiwanese Minister of Economic affairs expressed Taiwan’s desire to expand its trade markets with Russia, as Russia will have more transparency after joining WTO. (Tapei Times, 2011). Later in the same year, during the 2012 ministerial meeting of

⁴ The information is taken of Taiwanese Bureau of Trade :
<http://www.trade.gov.tw/English/Pages/detail.aspx?nodeID=86&pid=330744>

the Asia-Pacific Economic Cooperation (APEC) in Vladivostok, the Taiwanese Economic Minister expressed his desire to further establish oil and petroleum trade links with Russia. The Minister Shih Yen-shiang also expressed Taiwan's aspiration for engaging in scientific expertise such as aerospace technology and nanotech. (China Times, 2012). During the same month The Taiwan External Trade Development Council (TIETRA) opened a new branch in St. Petersburg, with the aim of promoting Taiwanese export markets in Russia⁵. In May 2013, the yearly trade mission was sent to Russia; the agenda included five different meetings in Kyiv, Bucharest, Vilnius, Moscow and Vladivostok. Similarly other series of trade missions took place in the last five years sponsored by TIETRA and other agencies in Russia. Considering that by 2005, Taiwan had already reached its export potential with Russia, the sequel of trade missions and the establishments of trade agencies are deemed to be symbolic, and indicative for a mean to awaken Taiwanese presence in Russia. Moreover, trade agencies can serve as a gateway for Taiwanese officials to get engaged with Russian authorities; when first TRA was established, in July 2002, Chang Chun-hsiung, Secretary-General of DPP party was the first president. Besides, during the founding ceremony Taiwanese President Chen Shui-bian (also member of DPP) was present along with many other Russian officials. (Tubilewicz, 2007, p. 115). Therefore, while engaging in trade activities Taiwan is betting on its political and the institutional rapprochement, rather than it's economic and market outcomes.

It is also striking the timing by which imports from Russia reached their potential, since they were already surpassing it by 5 folds in 1995. This can reveal some hints regarding Taiwanese trade policy. In 1992, when the trade missions were still in their early stages, Taiwanese business lobby claimed the possibility of importing raw material for infrastructural construction. (Underwood, 1993). Public Construction Commission responsible for the infrastructural construction in Taiwan is publically owned. Therefore, the government owned entity directly boosted the launch of the trade alliance with Russia, by signing a long-term contract for purchasing steel products. (Bazhanov, 1996). Moreover, the trend remained the same as in 2004, according to Tubilewicz (2007 p. 105), the import of metals and other sorts of raw

⁵ The information is taken from TIETRA website:

http://www.taiwantrade.com.tw/MAIN/en_front/searchserv.do?method=listNewsDetail&information_id=46401&tableType=I&locale=2&searchState=newsSearch&fromIndex=y#

materials constituted 80 percent of Taiwan's total imports from Russia. As earlier mentioned in 2012, Taiwan's desire to import oil from Russia can also be considered as politically motivated. The Chinese Petroleum Corporation (CPC), is a state owned firm in Taiwan, that controls every feature of the energy industry, and it functions under the Ministry of Economic Affairs' supervision. (Ball et al. 2006). Therefore, the government can direct its oil import policy and choose the partners in accordance to its political motives.

If Taiwan is opting for a political rapprochement through an economic tie, it requires radical changes in the structure of their economic interaction and diversifying economic ties beyond trade. Reciprocal FDI would be an alternative as it provides a solid liaison between the two countries; besides, it would help increase the influence of Taiwanese lobby in Russia. To do so, Taiwan should opt for agreements that would promote protection of investments, and reduce double taxation. According to Vradiy (2007), This would provide Taiwanese investors the same conditions that are applied to Chinese and other South East Asian investors. Therefore, the increase in FDI would be possible by the efforts of Russian government in facilitating the flows from Taiwan. Thus, the needed investment climate would not be realized without a clear Russian governmental policy regarding Taiwan. Note that in 2004 Taiwanese FDI in Russia was \$3 million, the number is considered to be negligible when compared to \$980 million of Chinese FDI in Russia (Tubilewicz, 2007 p. 103).

4.4. Limitations of the analysis

The analysis conducted has few limitations, and they are stated as follows. First, for each year of analysis, numbers of observations were different, as the year 1990 has the least amount. Therefore, for the robustness of the model, it would have been much more effective to have higher amounts of observations; thus, more trades recorded. Furthermore, for a cross section gravity model, results yield inconsistent coefficients over different years (B. Lissovolik & Y. Lissovolik 2004), and thus it was the case for GATT \ WTO estimates, as the sign of the coefficients swapped from a year to another. More importantly, Russia's import from China is significantly high, and many Chinese products are produced and exported to Russia by Taiwanese owned enterprises. Thus, this trade is officially recorded as part of Sino-Russian trade; hence

they are disregarded from our model. Besides, by using the gravity model we are dismissing intra-industry and intra-firm trade that is mainly consisted of parts and components (Xu & Yu 2009); given that exports from Taiwan were consisted of ICT and other technological products which can be used as intermediate goods for heavy machinery in Russia; there might be an undervaluation of Taiwanese exports. For future research, it would be beneficial to design a compelling model that entails a clearer image of Russian Taiwanese trade, with a panel data regression that takes into account time and price factors. In addition, decomposing exports into product groups to separately analyze raw material and ICT sector trade would make it possible to assess sectoral trade potentials between the two countries

5. Conclusion

By the end of the cold war, Taiwan launched a mission to improve its ties with the former Soviet Union. By the time when Russia was struggling with its transition hardships, Taiwan capitalized on its economic superiority and approached with trade promoting strategies. Over the decade, with the governmental efforts in boosting trade by purchasing raw materials from Russia, along with the great efforts conveyed by various agencies; Taiwan succeeded in increasing bilateral trade with Russia, and even exceeding its potential. In the literature discussing Taiwanese trade policies, many authors pointed out to the complementarity of Taiwanese trade policy and its political interest. Therefore the project's aim was to validate this assumption, through the use of quantitative analysis. To achieve this task, a gravity model was designed, and results were analyzed in their political and economic context. The findings revealed a defectiveness of bilateral trade in 1990; further in 1995, a boom in Taiwanese imports from Russia that outperformed its potential within five years. Furthermore, results proclaimed the Taiwanese struggle in establishing Russia as a steady export destination since it took around 15 years for Taiwan to export above the potential. Thereafter, the growing number of export missions along with the state-owned petroleum corporation's shift to Russian oil supply, were considered as having a slight economic motive, rather they were deemed to be politically motivated and exploited as a tool to promote Taiwanese awareness in Russia.

Suggested economic means that would generate a greater political rapprochement would be achieved by imposing fundamental changes within Russian economic conditions as recipient to Taiwanese FDI. These types of changes can be made through government interactions, and it requires the formulation of ambiguous trade policy from the Russian authorities in regards to Taiwan. Vradiy (2007) claims that with the absence of governmental cooperation economic relations would not further develop. However, in order to get engaged in governmental diplomacy, Taiwan has to gain the consideration of the Russian officials. Hence, this study suggested that Taiwan is formulating its policies oppositely; thus, using economic ties as a portal for diplomatic relations. Given the circumstances, both countries are manipulating their strengths in order to fulfill their defects. In this manner, the major question remains, whether Taiwanese acquisition of Russian raw material, or its other trade unions are attractive enough for Russia to jeopardizes its relations with China. Geostrategic and other international interests are binding China to Russia evermore; therefore, risking this political partnership, requires more than just economic coalition, rather a radical shift in Russia's presidential sequel, foreign policy and international allies.

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