Essays on the Political Economy of Commercial Policy during the Crisis Era

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Summary

This dissertation is a collection of three essays in the area of the political economy of commercial policy in the crisis era.

Chapter 1 examines the commercial policy of Russia during the period 2008 to 2013, a time of global financial crisis that coincided with the announcement of the Russian modernization programme. In 2008 Russia introduced a development strategy to limit its dependency on natural resources. However, the Government relied heavily on this income for the planned modernization programme. The falling price of oil in 2008-9 led to a tightened government budget constraint. This situation induced Russia to make wider use of more traditional instruments of trade policy (such as the tariff policy) as well as an import substitution strategy, the creation of the Customs Union, and a pause in the WTO accession process. Russia has been found by the Global Trade Alert (GTA) to be one of the main users of protectionist policies since November 2008. With the oil price recovery, from September 2010 Russia re-engaged with its accession process and joined the WTO in 2012.

Chapter 2 assesses the Government's trade policy making in times of crisis versus times of economic stability using the Russian import tariff data (2001, 2005, 2009, and 2010) at the industry level in Grossman and Helpman (1994) "protection for sale" analytical framework. Using both tariff and non-tariff measures, I analyse the "Putin-Medvedev tandem" period starting in 2000. The welfare-mindedness of the Government in the crisis (2009 and 2010) appears to be smaller relative to that of the preceding period of economic stability in 2005. In other words, in a crisis the Government places relatively more weight on contributions from lobbyists. This result is driven by industry (or firms) lobbying to obtain state support in times of financial difficulty and by the Government's return to the "interest-driven" industrial policy.

Chapter 3 examines the role of the political regime during the global systemic crisis (2009-13) using the gravity approach. We estimate the effect of being a democratic pair of countries on (goods) export flows during the period 2009 to 2013, controlling

for international institutions as well as for bilateral protectionism for 158 countries. We also offer an export growth model to check whether the democratic dyads had a smaller bilateral trade collapse in 2008-9 and/or a faster trade recovery in 2009-10 due to the institutional quality. We find that democratic dyads tended to trade less (in goods) between 2009 and 2013 than other political regime groups. This finding is new and differs from those of previous studies. We suggest several explanations for this phenomenon. We also find no empirical evidence that the democratic dyads achieved higher export growth in 2008-10.

Zusammenfassung

Die vorliegende Dissertation umfasst eine Sammlung bestehend aus drei Aufsätzen aus dem Forschungsgebiet Politische Ökonomie des Welthandels (Political Economy of Commercial Policy, JEL-Code: F1) in Zeiten der Krise.

In Kapitel 1 wird die Handelspolitik Russlands im Zeitraum von 2008 bis 2013 untersucht. Gleichzeitig ist es auch die Zeit der globalen Finanzkrise und der Ankündigung des russischen Modernisierungsprogrammes. Russland verfolgt eine im Jahr 2008 eingeführte Entwicklungsstrategie mit dem Ziel seine Abhängigkeit von natürlichen Ressourcen zu begrenzen. Allerdings baute die Regierung zur Finanzierung der geplanten Modernisierungsprogramme hierzu in starkem Umfang auf Einnahmen aus genau diesem Bereich. In der Folge führte der fallende Ölpreis in den Jahren 2008 und 2009 zu einer angespannten Lage des russischen Staatshaushaltes. In dieser Situation begann die Regierung verbreitet eher traditionelle Instrumente der Handelspolitik (darunter Zölle) sowie weitere Massnahmen, welche die Strategie der Importsubvention, die Bildung einer Zollunion und ein Aussetzen der laufenden Beitrittsverhandlungen mit der WTO umfassen, einzuführen. Russland wurde von den Analysten von Global Trade Alert (GTA) als eines der Hauptländer identifiziert, welches seit November 2008 von einer stark protektionistischen Politik Gebrauch machte. Im Zuge der seit September 2010 einsetzenden Erholung des Ölpreises wurden auch die ausgesetzten Beitrittsverhandlungen mit der WTO wieder aufgenommen und führten schliesslich im Jahre 2012 zum WTO-Beitritt Russlands.

Kapitel 2 bewertet – unter Verwendung von Daten auf Industriestufe der Jahre 2001, 2005, 2009 und 2010 zu russischen Importzolltarifen – die Handelspolitik der Regierung während der Krise im Vergleich zu wirtschaftlich stabilen Zeiten im analytischen Rahmen der unter "Protection for sale" bekannten Literatur von Grossman and Helpman (1994). Hierbei untersuche ich das sogenannte "Putin-Medvedev Tandem" und dazu verwende ich Daten über tarifäre als auch über nicht-tarifäre Massnahmen und dies beginnend mit dem Jahr 2000. In der (ökonomischen) Krise der Jahre 2009 und

2010 scheint die Wohlfahrtsausrichtung der Regierung relativ zur vorhergehenden und wirtschaftlich stabilen Periode des Jahres 2005 geringer ausgeprägt zu sein. Mit anderen Worten legt die Regierung in solchen Krisenzeiten relativ mehr Wert auf Zuwendungen durch Lobbyisten als auf das Wohlergehen der Bevölkerung. Dieses Ergebnis wird getrieben durch Industrie- oder Firmenlobbyismus, welcher darauf ausgerichtet ist staatliche Unterstützung in Zeiten finanzieller Schwierigkeiten zu erhalten und somit die Regierung zur Rückkehr zu einer (interessengetriebenen) Industriepolitik zu bewegen.

Kapitel 3 untersucht – unter Verwendung des Gravity-Schätzverfahrens – die Rolle von Regierungsformen während der globalen systemischen Krise in den Jahren 2009 bis 2013. Wir schätzen für 158 Länder den Effekt wie sich eine demokratische Länderpaarung auf den (Güter-)Exportstrom zwischen 2009 und 2013 auswirkt und kontrollieren dabei für internationale Institutionen genauso wie für bilateralen Protektionismus. Zusätzlich schätzen wir auch ein weiteres Model für das Exportwachstum um zu überprüfen, ob diese demokratischen Dyaden aufgrund von besserer Qualität der Institutionen einen geringeren bilateralen Handelseinbruch in den Jahren 2008 bis 2009 und/oder eine schnellere Erholung des Handels in den Jahren 2009 bis 2010 aufweisen. Wir haben empirische Evidenz dafür, dass demokratische Dyaden im Zeitraum von 2009 bis 2013 dazu tendieren weniger (mit Gütern) zu handeln als andere Gruppierungen von Regierungsformen. Diese Erkenntnis ist neu und unterscheidet sich von früheren Studien. Wir bieten für dieses Phänomen verschiedene Erklärungen an. In Bezug auf das Exportwachstum im Zeitraum von 2008 bis 2010 haben wir keine empirische Evidenz dafür gefunden, dass demokratische Dyaden ein höheres Exportwachstum aufweisen würden.

Introduction

This dissertation is a collection of three essays in the area of the political economy of commercial policy during the crisis era. I use a mixed-method approach – both qualitative and quantitative methods – to assess how the global systemic crisis affected commercial policy and international trade during the crisis era (2008-14).

The global financial crisis in 2008-10 has caused many changes to the understanding of financial regulation, the concept of development, the role of the state in the socio-economic process, and ethical norms and values, and even more changes are anticipated. It is known that the global crisis has shocked economies around the world, producing a decline in GDP, bankruptcies, high unemployment rates, a decrease and outflow of foreign direct investments (FDIs), and so on. As reported by the WTO (2014), in 2009 the volume of world exports was falling by 12 per cent, while the value of world exports was falling by 23 per cent. In 2010 the volume of exports recovered by 14 per cent (the value of exports increased by 22 per cent). From 2012 onwards the export growth remained lower than the average export growth for 2000-10, only about 2.5 per cent per year. The great trade collapse in 2009 echoed the Great Depression and triggered the fear of the proliferation of protectionism (active use of a discriminatory commercial policy as an anti-crisis measure) in the same way as happened in the 1930s.

During the global crisis (2008-10) governments around the world did indeed resort to protectionist commercial policies. The patterns and the structure of protectionist policies for 2008-10 are analysed by Evenett et al. (2011), Evenett (2011), and Aggarwal and Evenett (2012), and Kee et al. (2013). These studies show that the commercial policy choices in the recent crisis are somewhat different, both in the structure of the measures used and in the volume of trade affected. Aggarwal and Evenett (2012) especially emphasize the selective nature (among industries, firms, etc.) of the government protection and the return to industrial policies during the 2009-11 period. The 16th GTA Report published on 12 December 2014 (Evenett, 2014) demonstrates that the extent of resorting to protectionism has been much greater than previously thought.

Thus, in 2013 it was higher than in 2009 (during the global trade collapse). Evenett (2014) identifies three main phases of protectionism around the world: the first one is a spike of protectionist policies in 2009, the second one is the relative slowdown and the recovery of the world economy, and the new third phase (2012-13) is characterized by an increase in protectionist policies in 2013 above the level of 2009. I had the privilege of being part of the Global Trade Alert (GTA) team from its commencement for a 4-year period (2009-12), during which I was primarily responsible for the collection of commercial policy data and the policy analysis of the post-Soviet region, particularly Russia. This experience and my thoughts are expressed in the next three chapters of this dissertation.

Chapter One presents a case study of the commercial policy making in a time of crisis in Russia (2009-14). The Russian Federation was the only G-20 country that, at the beginning of December 2011, was still not a member of the World Trade Organization (WTO) after 18 years of the accession process. The purpose of this chapter is to describe the key features of the Russian commercial policy during the global recession, which coincided with the announced modernization in 2008-14. An earlier version of this chapter was published as *Gerasimenko, D. (2012): "Russia's Commercial Policy, 2008-11: Modernization, Crisis, and the WTO Accession", Oxford Review of Economic Policy, 28 (2), Summer 2012, 301-323.*

As the World Bank Report on Russia (World Bank, 2011) indicates, in the year 2000 (the beginning of Putin's presidency) oil and natural gas accounted for less than half of Russia's total exports. However, by 2010 this figure had grown to almost 70 per cent, with an additional 15 per cent coming from other extractive commodities. Based on this dangerous dependency, economic modernization and export diversification became the priorities on the Russian economic agenda; however, the global crisis amended the original plans of the Government. Indeed, the commercial policy development in the country that remained outside the WTO system during the recent global recession is especially interesting. It is well known that even countries that were bound by the WTO rules were found to be engaged in escalating protectionism during the crisis.[1]

Rapidly falling oil prices, on which the Government relied heavily for its modernization programme, led to a tightening government budget constraint. This situation moved Russia towards wider use of more traditional instruments of trade policy (such as the tariff policy) as anti-crisis measures. Thus, in the toughest times during the crisis, Prime Minister Putin's announcement on 9 June 2009 concerning the accession

[1]See `www.globaltradealert.org`.

of the Russian Federation to the WTO, in the form of a Customs Union with Belarus and Kazakhstan, after 16 years of the WTO accession process, caused considerable controversy. Russia had suspended its unilateral WTO accession process for about a year, conducting anti-crisis management and at the same time announcing the policy of modernization of the country.

During the world economic crisis (the toughest phase being December 2008 - December 2010) Russia demonstrated a remarkable commercial policy reaction in terms of changing its priorities from a multilateral framework to industrial development and regional integration in 2009. This reaction is reflected in the Global Trade Alert (GTA) database, which, by the end of December 2010, contained 132 measures introduced by Russia since October 2008 (i.e. 10 per cent of all the measures registered in the GTA database up to that point), 91 of which are considered to be "almost certainly discriminatory measures" (coloured "red" in that database).[2] Russia was ranked first in the GTA database as the country that had introduced the largest number of discriminatory measures; it was also positioned among the top countries according to other rankings contained in the database. It moved during the anti-crisis policy into import substitution industrialization (ISI). After the Russian accession to the WTO in August 2012, export promotion and support received special attention from the Russian Government.

However, the new collapse of the oil price (below USD 50 per barrel) in 2014-15 and the new economic crisis in Russia might force the Russian Government to adjust the commercial policy of the Russian modernization accordingly. The new crisis in 2014-15 shows once again that more "soft" industrial policy tools are required to provide the systemic treatment of the economy. Therefore, instead of direct trade policy measures, such as tariffs, export subsidies, and others, the Russian Government should focus on finding solutions to the particular problems impeding business development, private investment, and technology adaptation, which are discussed in this chapter.

Chapter Two continues by assessing government trade policy making in the crisis versus times of economic stability with the Russian import tariff data (2001, 2005, 2009, and 2010) at the industry level in Grossman and Helpman (1994) "protection for sale" analytical framework. Using both tariff and non-tariff measures, I analyse the "Putin-Medvedev tandem" period starting in 2000.

Well known in the political economy literature, Grossman and Helpman (1994) "protection for sale" (PFS) model aims to explain the structure of trade policy. This model emphasizes the influence of special interest groups (SIG) on government policy

[2]See `www.globaltradealert.org`.

by means of "political contributions" in a representative democracy. Organized interest groups represent industries and offer contributions, which politicians value for their potential use in elections. The government chooses a trade policy that maximizes the weighted sum of the aggregate welfare and the total contributions from SIGs. The relative preference of a government for aggregate welfare over contributions from a lobbyist is known in the literature as parameter "a" or "welfare mindedness" of the government. Despite parameter "a" being simplified in the government objective function, it contains interesting information when it is observed in dynamics (for various years) or across different countries.

The paper by McCalman (2004) uses the PFS model to analyse the Australian trade liberalization process. The author concludes that the process of liberalization in the country was driven by an increase in parameter "a" - the Government's valuation of welfare. Mitra et al. (2002) study the case of Turkey in democracy vs. dictatorship periods. They conclude that the weight that the Government places on welfare ("a") is higher during democratic periods than in times of dictatorship. The paper by Gawande et al. (2009) presents the institutional determinants of the differences in government trade policy formation (the value of "a") around the world based on the PFS theoretical framework. The authors compare the values of parameter "a" across 54 countries and find substantial variation in the government behaviour ("a") around the world. Thus, one of the notable findings of this paper suggests that the quality of the system of checks and balances embedded in the decision-making process correlates with higher welfare-mindedness of governments.

During the global crisis (2008-10) governments around the world resorted to protectionist commercial policies, as discussed earlier. Aggarwal and Evenett (2012) especially emphasize the selective nature (among industries, firms, etc.) of the government protection and return to industrial policies during the period 2009-11. Those changes raise the question of whether the government mechanism of trade policy making in a crisis is different from that in times of economic stability and, if so, how. I approach this research question through the analytical potential of the PFS model. The objective of this chapter is to test the predictions of the PFS model as well as to estimate the structural parameter "a", the weight placed by the government on welfare (relative to contributions) in the government objective function over several years. The main question to be answered concerns the extent (quantitatively) to which trade policy making differs in times of crisis vs. times of economic stability. Which other factors might affect trade policy making during a crisis?

This study makes a threefold contribution to the existing literature on trade policy formation. First, it uses the PFS theoretical framework to study trade policy making during the recent global crisis. Second, the model was originally developed to describe trade policy making in Western representative democracies. Therefore, it is interesting to see how general the PFS model is and whether this model has explanatory power for trade policy making in other forms of governance and political regimes, such as the "Putin-Medvedev tandem". Third, by conducting a residual regression analysis, I offer additional insights beyond the PFS variables that further explain the structure of protection during the recent crisis.

The findings show that the weight placed by the Government on welfare in its objective function "a" is estimated to be larger than the weight placed on contributions across all the years of the analysis, which is in line with the previous studies. However, the welfare-mindedness of the Government, "a", during the crisis (2009 and 2010) appears to be smaller relative to that in the preceding economic stability period in 2005. In other words, in a crisis the Government puts relatively more weight on contributions from lobbyists. This result is driven by industry lobbying to obtain state support in times of financial difficulty and by the Government's return to an interest-driven industrial policy.

There could be reasons other than the global economic crisis explaining the shift in parameter "a" during the crisis, such as the worsening domestic economic situation (independently of the global crisis), socio-political changes, and other reasons or all of them simultaneously. However, it is known that the latest global crisis had a negative impact on all economies to different extents. This fact, as I argue, led governments to focus on providing protection in various forms to the industries and firms in need.

In *Chapter Three*, together with my co-author, I continue to study the connection between trade policy making and political regime by taking a broader perspective. This chapter contributes to the literature on the relationship between trade policy and political regime as well as to the literature on modern commercial policy developments during the great trade collapse and the global recession.

Much has been written on democracy and its role in world development. However, little work has been carried out on the relationship between democracy (political regime) and trade policy and, to our knowledge, very few studies examine this relationship during the current global recession. One example of such work is that of Mansfield and Milner (2014), which focuses on political regimes and the probability of PTA formation during tough economic times (using data for 1952-2010).

The political science literature points out that democratic countries are less likely to fight wars with each other. The fundamental factor that contributes to peace between two democracies is the bilateral trade volume (Polachek, 1997). Moreover, Mansfield et al. (2000) find that democratic pairs of countries had more open trade relations than mixed pairs between 1960 and 1990, meaning that democratic dyads traded more than mixed pairs (autocracy-democracy) between 1960 and 1990. We would like to test this argument with respect to the commercial policy during the recent global economic downturn. We analyse the relationship between the political regime type of country pairs and their export performance during the global trade collapse and recovery in 2009-13. We also construct a bilateral protectionism data set using the Global Trade Alert (GTA) database to control for commercial policy during the recent global economic crisis and the post-crisis recovery period (2009-13). Using the standard gravity approach and the theoretical predictions of Mansfield et al. (2000), we estimate the effect of being a democratic pair of countries on export flows during the recent global recession, controlling for international institutions as well as for the flow of bilateral protectionism during the 2009-13 period for 158 countries. We use the Poisson pseudo-maximum likelihood (PPML) method as well as ordinary least squares (OLS). By taking the first difference of logs from the (OLS) gravity model, we construct the export growth model to check whether the democratic dyads had a smaller bilateral trade collapse (due to the institutional quality) in 2008-9 and a faster trade recovery in 2009-10.

Using the Poisson pseudo-maximum likelihood (PPML) method, we find that our results do not support the predictions of the model developed by Mansfield et al. (2000), which emphasizes that democratic dyads trade more than mixed pairs (autocracy and democracy). On the contrary, we find that two democratic countries traded less than all the other combinations of country pairs in 2009-13. We provide several explanations for why this could be the case: the econometric model specification (PPML vs. OLS); the amount of countries in the sample (many of which are democracies, but some of them do not trade); the "China" factor; new trade patterns around the world (trade in services, supply chains, and outsourcing); and the political economy theory adjusted to times of crisis, during which, because of the divided polity and multiple stakeholders, it is more cumbersome for two democracies to react to the rapidly changing economic conditions. With respect to the export growth model, we do not find that the democratic dyads had a smaller bilateral trade collapse in 2008-9 or a faster trade recovery in 2009-10.

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Chapter 1

Russia's Commercial Policy, 2008-14: Modernization, Crisis, and the WTO accession

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1.1 Introduction

Russia has always been a unique country due to many factors - its geographical location and endowments, its ethno-political map, its imperial past, and its political system, as well as its role in world history and science, especially in the twentieth century. This impressive background has turned out to be both lucky for Russia and the source of its problems. Those factors need to be taken into account when discussing the current state of this country: its status in the world and its internal problems. One of the most important determinants of Russia's "special way" is its incredible endowment of natural resources. This has in many ways determined Russia's history, its level of development, and the potential challenges that the country has faced until now. As a result, the Russian Federation is the only G-20 member that, at the beginning of

December 2011, was still not a member of the World Trade Organization (WTO) after 18 years of the accession process. Thus, Russia has only "partly" been integrated into the modern world's economic (political) order and, as a consequence, it has not fulfilled its full potential.

As the World Bank Report on Russia (World Bank, 2011) indicates, in the year 2000 (the beginning of Putin's presidency), oil and natural gas accounted for less than half of Russia's total exports. However, by 2010 this figure had grown to almost 70 per cent, with an additional 15 per cent coming from other extractive commodities. Based on this dangerous dependency, economic modernization and export diversification became the priorities on the Russian economic agenda and a set of measures was undertaken to promote other sectors of economic activity. Indeed, the commercial policy development in the country that remained outside the WTO system during the recent global recession is especially interesting. It is well known that even countries that were bound by the WTO rules were found to be engaged in escalating protectionism during the crisis.[1] The commercial policy of the Russian Federation is especially interesting as it was not only focused on anti-crisis management but tried to introduce a socio-economic development programme (so-called "modernization"). This chapter addresses the key issues of Russia's commercial policy during "modernization", which coincided with the recent global recession.

The rapidly falling oil price, on which the Government relied heavily for its modernization programme, led to a tightening government budget constraint. This situation moved Russia towards wider use of more traditional instruments of trade policy (such as the tariff policy) as anti-crisis measures. Thus, in the toughest times during the crisis, Prime Minister Putin's announcement on 9 June 2009 concerning the accession of the Russian Federation to the WTO in the form of a Customs Union with Belarus and Kazakhstan, after 16 years of the WTO accession process, caused considerable controversy. Russia had suspended its unilateral WTO accession process for about a year, conducting anti-crisis management and at the same time announcing the policy of modernization of the country.

During the world economic crisis (the toughest phase being December 2008 - December 2010) Russia demonstrated a remarkable commercial policy reaction in terms of changing its priorities from a multilateral framework to industrial development and regional integration in 2009. This reaction is reflected in the Global Trade Alert (GTA) database, which, by the end of December 2010, contained 132 measures introduced by

[1] See `www.globaltradealert.org` (Global Trade Alert, 2015).

Russia since October 2008 (i.e. 10 per cent of all the measures registered in the GTA database up to that point), 91 of which are considered to be "almost certainly discriminatory measures" (coloured "red" in that database).[2] Russia was ranked first in the GTA database as the country that had introduced the largest number of discriminatory measures; it was also positioned among the top countries according to other rankings contained in the database. It moved during the anti-crisis policy into import substitution industrialization (ISI), which is discussed in this chapter. The ISI strategy is not new and was used by countries such as Brazil, Mexico, India, and others that were greatly dependent on exports of primary products to diversify their exports and limit their dependency on trade in commodities. This phenomenon and its consequences are thoroughly studied by Little et al. (1970), among others. After the Russian accession to the WTO in August 2012, export promotion and support received special attention from the Russian Government. However, the new collapse of the oil price (below USD 50 per barrel) in 2014-15 and the new economic crisis in Russia will force the Russian Government to adjust the commercial policy of the Russian modernization accordingly.

The rest of this chapter is structured as follows: section 1.2 discusses the Russian modernization concept during the crisis, the role of the oil price in the choice of government policy, and Russia's WTO accession process; section 1.3 provides an overview of the Russian trade policy during the current crisis and its modernization; section 1.4 discusses theoretical and empirical research in development economics in the field of industrial policy and trade as well as the situation in Russia; and the conclusions are presented in section 1.5.

1.2 Background: Russian Modernization, Global Recession, the Oil Price Collapse, and the WTO Accession

The necessity of Russia's economic modernization and the associated diversification of its economy are not new ideas. Such discussions have been circulating since the 1990s. However, immediately after the rapid collapse of the Soviet system, industrial policies, as well as the development of the business environment, were not the main priority for the Russian Government. It took almost 20 years to reach the point at

[2]See `www.globaltradealert.org` (Global Trade Alert, 2015). Refer to Table 1A.2 in the Appendix for the description of the colour coding used in the GTA database.

which these topics, as well as that of modernization in general, would finally become a priority at the President's level. In the years 2005-7 the economic prospects were "more promising": the oil price was increasing; the GDP was growing as well (principally as a result of the oil price); the Stabilization (Welfare) Fund was accumulating extra oil income, providing relative stability in the country; people's incomes were becoming more stable; and citizens were beginning to save and plan their spending.

From 2006 the need for Russian modernization became more pressing. In early 2006 the Government approved the Medium-Term Social Economic Programme for 2006-8, which included four national projects on health, education, housing, and agriculture, but did not solve the problem of economic diversification. The World Bank's report on Russia in June 2008 (World Bank, 2008) emphasized that the share of oil revenue in the total fiscal revenue of the Russian Government had increased from 10 to 30 per cent. Therefore, instead of diversifying, by 2008 Russia had fully specialized in oil, which accounted for about 60 per cent of the total exports in that year. The need for economic diversification became more urgent, and a long-term socio-economic development strategy for the period until 2020 followed.

At the outset of the global financial crisis in November 2008 the Russian Government introduced "The Concept of Long-Term Economic Development of the Russian Federation for the Period until 2020" (hereafter referred to as "the Concept"). The Concept states that for Russia "the transformation of the world economy creates new opportunities for the development of external economic integration, for strengthening and widening the Russian position in world markets, and for the import of technologies and capital".[3]

The Concept consists of two main stages: (i) the consolidation of competitive advantage (2009-12) in Russia's "traditional sectors"; adaptation to the global crisis; and preparation for further innovative development and investments in capital, people, and infrastructure; and (ii) "innovation breakthrough" (2013-20) - the increase in competitiveness based on the technological advance and structural diversification of the Russian economy. The document also lists several "high-tech" industries in which Russia has or seeks to build significant competitive advantage over the medium term - specifically the spacecraft and rocket industry, the aircraft industry and propulsion engineering,

[3] "The Concept of the Long-Term Economic Development of the Russian Federation for Period until 2020." The Decree of the Russian Government from 17 November 2008 #1662-p, p.5 (Russian Government, 2008).

nuclear energy and the industrial complex, and the radio electronics industry, as well as information and communication technologies.[4]

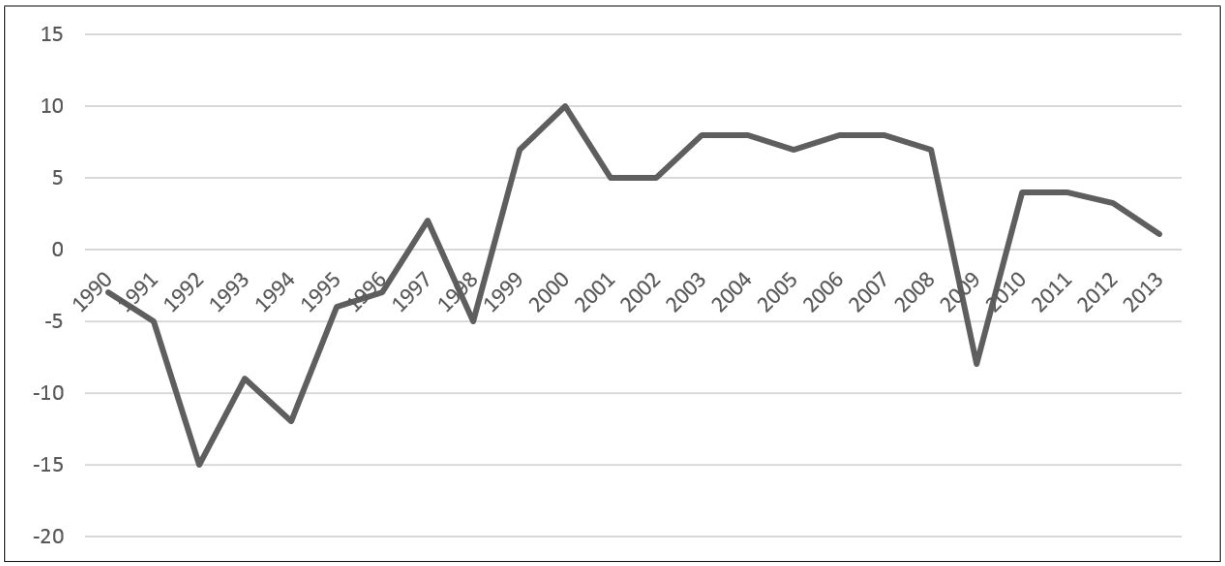
However, it should be added that the implementation of the strategy in November 2008 coincided with the onset of the global systemic crisis, which considerably affected the expectations in the country. The pace of the global recession and its influence on the Russian market and society were considerably underestimated. The World Bank Report on Russia No. 16 from June 2008 (immediately before the crisis) emphasizes again that the strong recovery of oil prices since 2000 increased Russia's dependency on oil and gas revenue, making it more vulnerable to price declines (World Bank, 2008). A sharp oil price decline did indeed happen in 2008-9, which corrected and even changed the plans of the Russian Government. The worst prognoses and warnings of the international community came true - the oil price collapsed in 2008 from USD 129 to less than USD 40, with numerous consequences for the Russian budget, the modernization programme, and the economy overall.

The Annual Report of the Central Bank of the Russian Federation for 2009 states that the Russian economy passed through the critical phase of the crisis in 2009, which was characterized by domestic currency devaluation, capital outflow, a deficit of liquidity, high inflation, and a steep fall in GDP growth (from 7 per cent growth in the GDP in 2008 to an 8 per cent fall in the GDP in 2009) (see Figures 1.1, 1.2, 1.3, and 1.4). The oil price collapse in 2008-9 had a significant impact on the country's budget, as the Government relied heavily on income from natural resources for the planned modernization and development programme. Taking into account the importance of the domestic currency stability for all the sectors of the Russian economy, the Central Bank has, since the beginning of 2009, carried out a managed devaluation of the Russian rouble (Figure 1.3). By March 2009, however, the situation had stabilized somewhat, which allowed the Government to increase the effectiveness of the anti-crisis measures. The economic situation has since improved - the oil price has risen (Figure 1.4) and the level of production has increased as well (Central Bank of the Russian Federation, 2009).

In 2009 the Russian GDP shrank following ten years of growth. In addition, after a number of years of budget surplus, Russia entered a budget deficit of USD 77.5 billion (equivalent to 6 per cent of the GDP). The increased budget spending was also influenced by the governmental support of the domestic demand and the Russian

[4] "The Concept of the Long-Term Economic Development of the Russian Federation for Period until 2020." The Decree of the Russian Government from 17 November 2008 #1662-p (Russian Government, 2008).

Figure 1.1: Russia's GDP Per Capita Growth (Annual Percentage) in 1990-2013



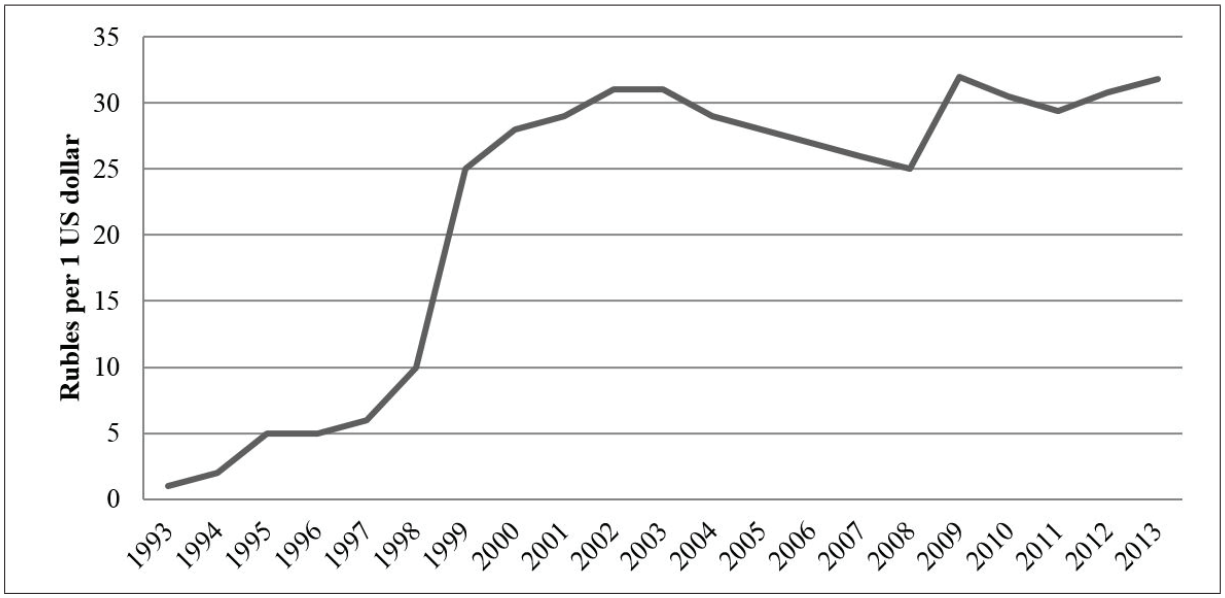
Source: World Development Indicators database (WDI).

financial system through anti-crisis and modernization measures, as mentioned in the Annual Report of the Central Bank of the Russian Federation (2009). The falling price of oil in 2008-9 led to a tightening government budget constraint, which, in turn, induced the wider use of more traditional instruments of trade policy (such as the tariff policy), the adoption of plans to form a Customs Union with the goal of enhancing Russian negotiating leverage, and a pause in the demanding WTO accession process.

By the time of the global financial crisis, the Russian Federation had been undergoing the WTO accession process for about 15 years, repeatedly expecting to accede by the end of each year. However, on 9 June 2009 (with the price of oil at that point at USD 56 per barrel, Figure 1.4), Prime Minister Putin announced that Russia would stop its unilateral WTO accession process at the national level and continue in the form of a Customs Union with Belarus and Kazakhstan. The possible reasons for the creation of the Customs Union in that particular period, as well as for the pause in the WTO accession process, such as the possibility of conducting a less restricted anti-crisis policy, increased bargaining power, and others, are discussed by Gerasimenko (2009).

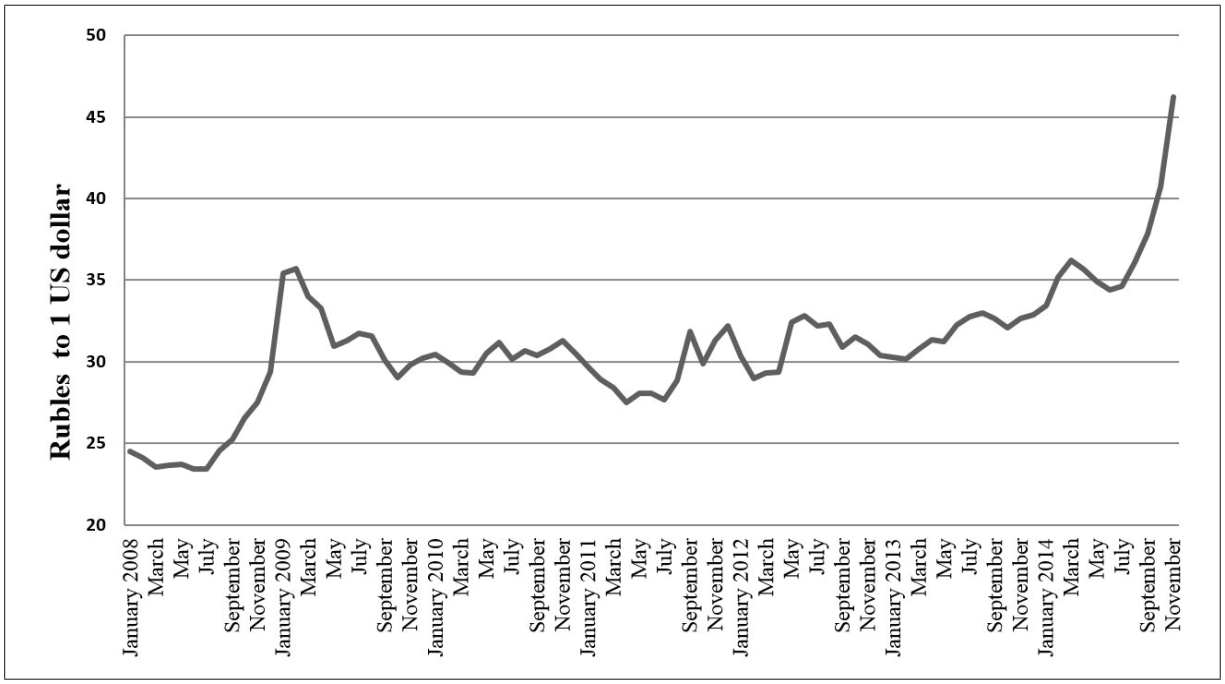
Perhaps independently of the economic conditions in 2009, which were most certainly underestimated when preparing "The Concept of the Long-Term Socio-economic Development of the Russian Federation up to 2020" in 2007-8, on 12 November 2009 President Medvedev, in his speech to the Federal Assembly, confirmed the need for the modernization of the Russian society in all areas. He even identified a list of five sectorial priorities for the economic modernization of Russia, namely: telecommuni-

Figure 1.2: Exchange Rate of the Russian Rouble to the US Dollar in 1993-2013



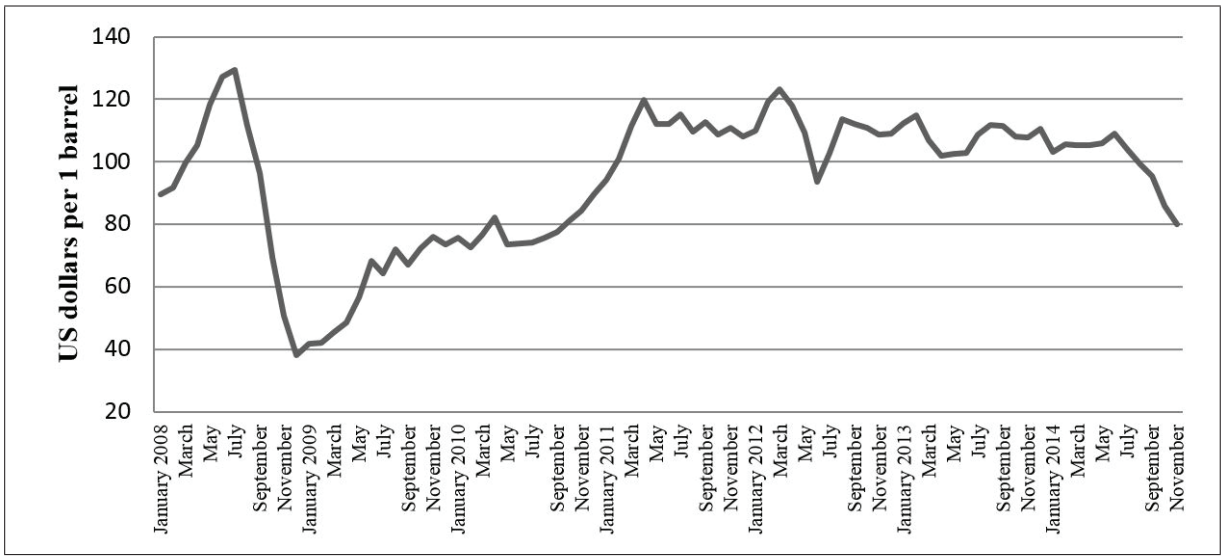
Source: WDI and The Central Bank of the Russian Federation.

Figure 1.3: Exchange Rate of the Russian Rouble to the US Dollar, January 2008 - November 2014 (Monthly)



Source: The Central Bank of the Russian Federation.

Figure 1.4: World Price of Oil in January 2008 - November 2014 (Monthly)



Source: The Central Bank of the Russian Federation.

cations and space industries, medical technologies, increased energy efficiency, nuclear technologies, and information technologies and software.[5]

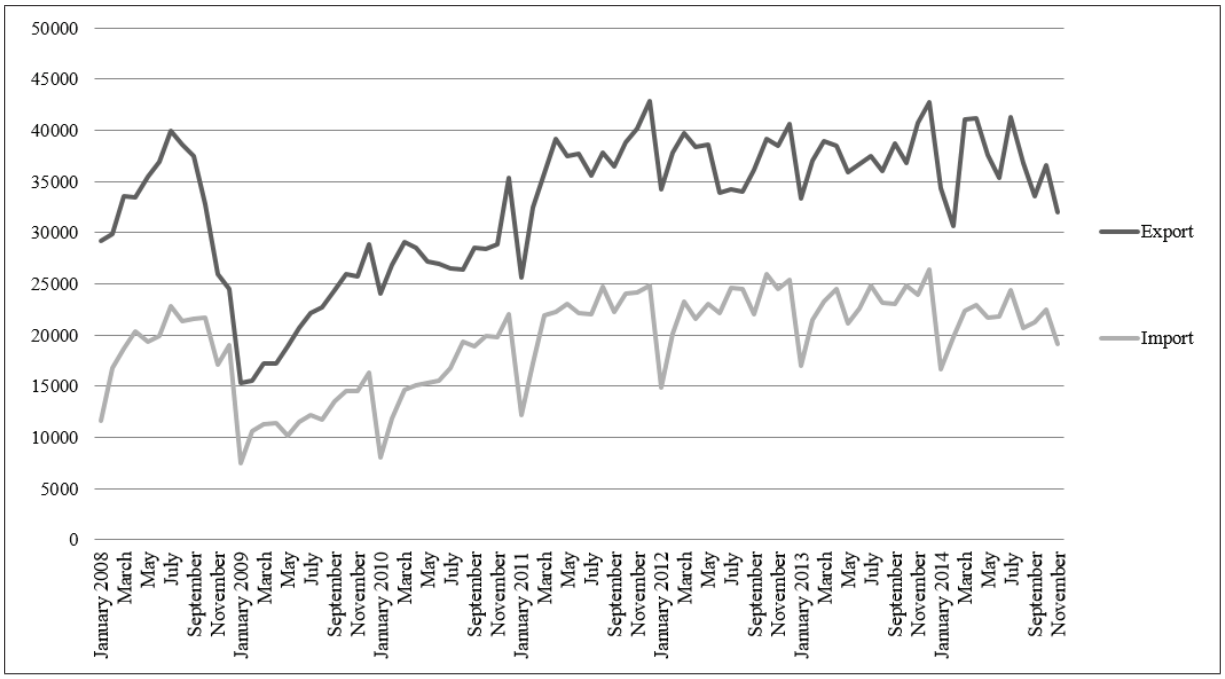
The Anti-crisis Programme of the Russian Government, developed in March 2009 and approved on 19 June 2009 (immediately after Putin's announcement on the Customs Union and the WTO accession process), introduced systemic measures to support particular economic sectors during the crisis, such as agriculture, the defence industry, the transport sector, the car industry, forestry, and the metallurgical sector. Agriculture, construction, the food and textile (light) industries, the pharmaceutical industry, and the car industry were considered by the Government as prospective targets in terms of ISI and domestic demand expansion.[6] Lately, those sectors have been subject to separate official industrial development strategies, which are listed in Table 1A.1 in the Appendix to this chapter. Table 1A.1 also shows the industrial and anti-crisis policies of the Government and the oil price fluctuations during the period 2008-14.

The document entitled "The Main Directions of Anti-crisis Measures of the Government of the Russian Federation for 2010", written in December 2009 as a reaction to the escalating crisis, states that the global economic crisis significantly changed the starting position for Russian modernization, as the socio-economic situation deteriorated in all aspects. The Government undertook a package of anti-crisis measures; the

[5]The Speech of the President of the Russian Federation Dmitry Medvedev to the Federal Assembly in Rossiyskaya Gazeta #5038 (214) from 13 November 2009 (Russian Government, 2009b).

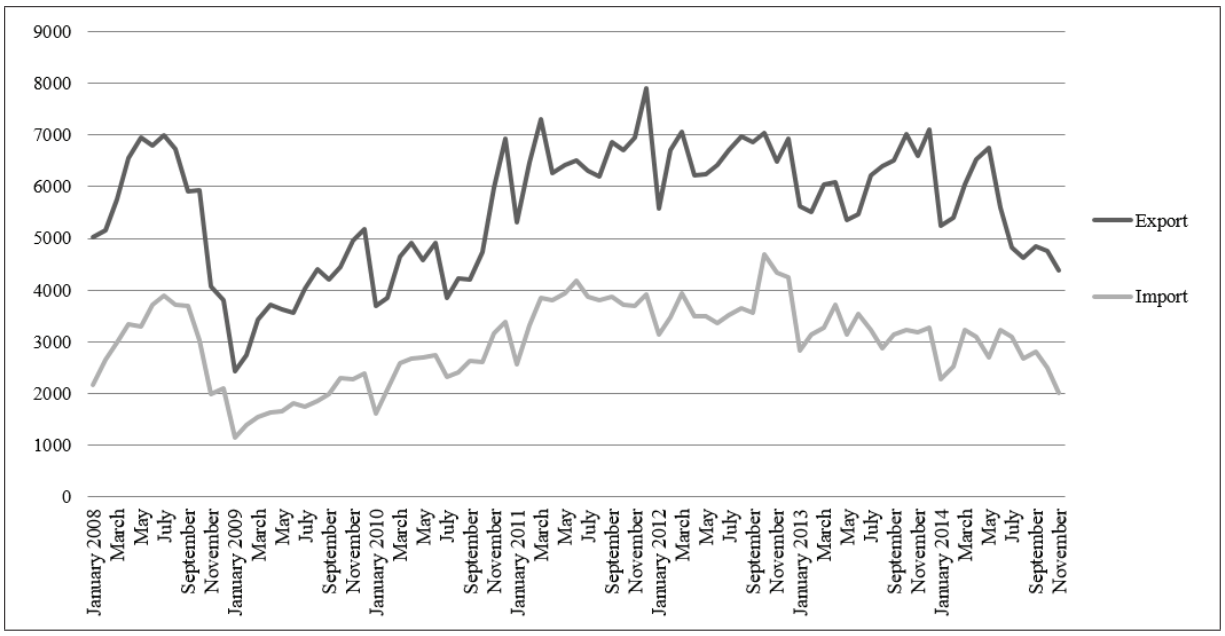
[6]The Programme of the Anti-crisis Measures of the Russian Government for 2009 (Russian Government, 2009a).

Figure 1.5: Russian Trade with the Rest of the World, January 2008 – November 2014, in Million of US dollars



Source: The Russian Federal Customs.

Figure 1.6: Russian Trade with the CIS Countries, January 2008 – November 2014, in Million of US dollars



Source: The Russian Federal Customs.

drop in the GDP by that time in 2009 had reached 8 per cent (the largest among the G-20 nations and among the BRIC countries - Brazil, Russia, India, and China).

The economic situation in Russia improved slightly in 2010. Thus, after an 8 per cent fall in the GDP in 2009, 4 per cent growth in the GDP was registered in 2010. The export and production rates also increased. The oil price, the key Russian budget income, increased (see Table 1A.1 in the Appendix to this chapter). Moreover, the prices of all the natural resources that Russia exports increased, including oil, precious metals, gas, and others. The export share of the natural resources sector, however, also increased, despite the programmes mentioned above for Russian modernization (and diversification of the economy), as stated in the Central Bank of Russia's Annual Report for 2010 (Central Bank of the Russian Federation, 2010). Therefore, instead of diversifying, Russia again fully specialized in oil, which already accounted for about 70 per cent of the total exports in 2010. The oil price stabilized in 2010 and brought the Government budget back into relative balance. From September 2010 onwards, the Russian Federation actively re-engaged with its WTO accession process.

As the Annual Report of the Central Bank of Russia for 2011 states, the Russian economy continued its recovery from the global recession in 2011. The domestic output of goods and services in 2011 finally reached the pre-crisis 2008 level. The GDP growth rate in 2011 remained at the 2010 level (4.3 per cent). Moreover, relative to 2010, the price of crude oil in 2011 increased by 40 per cent, to USD 109.6 per barrel; the natural gas prices in Europe increased by 27 per cent. The prices of other commodities rose as well, improving Russia's terms of trade with its partners. The combination of those factors increased the government revenues in 2011, creating a budget surplus of 0.8 per cent of the GDP against a deficit of 4 per cent of the GDP in 2010 (Central Bank of the Russian Federation, 2011, p. 10-22). It added more "stability" and "predictability" to the Russian economy as well as leading to the finalization of Russia's WTO accession process. In November 2011 the Russian Federation finally concluded the formal negotiations in its accession process and the subsequent WTO ministerial conference on 16 December 2011 in Geneva adopted Russia's terms of entry. Thus, relatively successful government anti-crisis management "blessed" by the increased commodity prices allowed Russia to continue its WTO accession. After the ratification by the Russian Parliament, the Russian Federation became a WTO member on 22 August 2012 after almost 19 years of negotiations.

According to the Annual Report of the Central Bank of the Russian Federation (2012, p. 10-22), the Russian economy remained relatively stable in 2012. The price

of oil stayed at the 2011 level. There was an increase in exports in both commodities and manufactured goods, especially automobiles (because of the special government support of this sector). However, due to the increased government spending, in 2012 Russia entered a budget deficit of 0.1 per cent of the GDP (39.4 billion roubles).

The economic situation deteriorated in 2013, facing a weak foreign demand and a low level of investment activity. The GDP growth dropped from 3.4 per cent in 2012 to 1.3 per cent in 2013. The price situation in the global commodities market was less favourable than in 2012 - the prices fell. As a result, the Russian budget deficit increased to 0.5 per cent of the GDP, which is 323 billion roubles (Central Bank of the Russian Federation, 2013, p. 12-37). The economic situation in the year 2014 continued to decline, especially due to the falling oil prices and increased government spending to subsidize the Sochi Olympic Games, the expensive foreign policy, and so on.

By 2008 the Russian Federation had enough strong and stable ground (or so it thought) to undertake structural reforms at all levels of the country and society. However, the price of oil collapsed in 2008-9, as well as the original plans of the Russian Government. The Russian Government quickly raised import tariffs and paused in the WTO accession process for about a year. The WTO accession process, with its claims, commitments, and promises (as it was - politicized, long, and tough), was postponed by the Russian Government in such a challenging time for the Russian economy, with a polite nod towards the intensification of work on the Customs Union. However, after the first steps of the announced modernization, which coincided with the recession, it became clear that modernization in Russia could only be achieved through innovation, technologies, investment, and private initiatives. It clearly required a set of decisions and solutions, for example "Skolkovo" (the innovation hub of the Russian Federation, which was created in 2010 to build up "new Russian business" - research and technologies - as well as attracting investments and foreign direct investments (FDI)).

A completely new legal base had to follow to support it, including policies on intellectual property rights (IPR) protection, investment protection, government procurement reform, competition policy, strong anti-corruption law, law enforcement, an independent judiciary, and the like. The industrial policy is necessary but will have a weak impact if there are no substantial changes in the socio-political institutions and, most importantly, in the values and attitudes of the people who live in this country. Without those changes Russia will enter crises again and again.

The oil price stabilized in the years 2010-11 and brought the government budget back into relative balance. From September 2010 onwards the Russian Federation actively

re-engaged with its WTO accession process. Russia became a WTO member on 22 August 2012. However, the years 2013-14 brought a further decline of the commodity prices, with a rapidly falling oil price in 2014-15. Moreover, taking into account the enormous spending on the 2014 Russian Olympic Games in Sochi during 2012-13, the expensive Russian foreign policy in Ukraine in 2014, increased government subsidies, as well as some other issues, it is no surprise that the country relapsed into economic crisis in 2014-15. This new trend might have further implications for Russia's commercial policy choice in the near future.

1.3 Overview of Russian Commercial Policy during 2008-14

Russia demonstrated one of the most remarkable trade policy responses of all the G-20 countries during the recent global recession (2009-10), not only in terms of Russia's preference for regional integration over the WTO accession process in 2009, industrial development, and anti-crisis management during the time of crisis, but also with respect to the various forms of commercial policy used. These included import tariffs and subsidies for the priority industries, as well as government procurement preferences, export taxes and restrictions, trade defence measures, sanitary and phytosanitary (SPS) measures, and others (Table 1.1). As an illustration, the GTA database contains 132 measures introduced by Russia from October 2008 to 31 December 2010 (i.e. 10 per cent of the total measures contained in the GTA database at that point in time); 91 of these measures were certainly discriminatory (coloured "red"). Russia was also among the top "offenders" according to other rankings included in the GTA database, especially in 2009-10.

Russia's trade policy reaction to the global crisis began in December 2008 with two documents introduced by the Government: the government procurement price preference for domestic producers and the now (in)famous tariff increase on new cars as well as the blocking import tariffs on used cars for 9 months (which was later developed and became, indeed, one of the most impressive baskets of various support for one industry - for more detail, Gerasimenko (2010)). It is important to emphasize, however, that those measures were introduced immediately following the G-20 meeting in Washington in November 2008, at which the G-20 representatives agreed not to raise barriers to trade. Russia was, therefore, one of the first to violate this commitment straight

Table 1.1: Measures Implemented by the Russian Federation that Harm Foreign Commercial Interests, by Type

Type of measure	Number of measures	As percentage of measure
Bail out / state aid measure	159	48
Tariff measure	57	17.2
Export taxes or restriction	20	6
State-controlled company	17	5.1
Migration measure	10	3
Other service sector measure	10	3
Trade defence measure (AD, CVD, safeguard)	9	2.7
Public procurement	8	2.4
Investment measure	6	1.8
Local content requirement	6	1.8
Export subsidy	5	1.5
Non tariff barrier (not otherwise specified)	5	1.5
State trading enterprise	5	1.5
Trade finance	4	1.2
Consumption subsidy	2	0.6
Import ban	2	0.6
Quota (including tariff rate quotas)	2	0.6
Sanitary and Phytosantiary Measure	2	0.6
Import subsidy	1	0.3
Technical Barrier to Trade	1	0.3
Total	331	100

Source: GTA database (15 November 2014).

after the meeting. It is also important to add that in November-December 2008 the oil price fell to its minimum (USD 38 per barrel, from USD 129 several months before), as did the volume of exports as a result (Figures 1.4, 1.5, and 1.6). These factors most certainly influenced the Russian protectionist tendencies from January 2009 onwards (Figure 1.7).

At the beginning of November 2008, in reaction to the onset of the crisis, the Russian Government suspended its moratorium on signing new agreements with foreign firms, taken during Russia's WTO accession process, to localize the production of foreign cars in Russian territory in return for discounted import tariffs on car parts for foreigners. The decision not to sign those agreements for the creation of new car production facilities was part of Russia's WTO accession commitments. This is an interesting example of how the Russian Government began to recognize that the WTO accession process in times of crisis might limit the Russian "policy space" for industrial development and for anti-crisis management; particularly in such a sensitive area as the Russian car industry (see Gerasimenko, 2010, for details).

The first quarter of 2009 could be characterized by active use of the import tariff policy (Figure 1.7). In the second quarter of 2009 subsidies began to be implemented. By the end of quarter two of 2009, the Russian Government faced a rapidly worsening macroeconomic situation, as discussed in the previous section of this chapter. The Russian Government also recognized the fact that the protracted WTO accession process limited Russia's range of policy options in response to the deepening crisis. Therefore, it introduced a "polite way" of saying that accession on the agreed terms and conditions no longer reflected the interests of the Russian Federation by announcing the joint accession of the Customs Union of Russia, Belarus, and Kazakhstan to the WTO (Gerasimenko, 2009).

Following the decision on a common WTO accession process for the entire Customs Union of Russia, Belarus, and Kazakhstan on 9 June 2009, the Government introduced two key documents: first, the New Trade Policy Strategy for the Russian Federation on 11 June 2009, describing the use of the tariff policy during the crisis; and second, the Programme of the Anti-crisis Measures of the Russian Government for 2009 on 17 June 2009 (mentioned in the previous section), listing the priority industries in which not only import tariffs would be applied but also subsidies and other protectionist measures: the agricultural sector, construction, the food and textile industries, the car industry, the pharmaceutical industry, and others.

Two stages were planned for the Russian customs tariff strategy and they were announced at the Russian Cabinet meeting on 11 June 2009 (two days after the Customs Union announcement by Putin). The first stage (lasting until the end of the year 2010) was characterized as a "softening the crisis" phase. In this stage the customs tariff policy was part of the anti-crisis economic policy and the most important objective was the protection of the internal market and import substitution industrialization (ISI).[7]

The second stage - 2011-12 - was announced as the stabilization of the Russian economy and the move towards sustainable development. The main objectives for that period were to achieve a balance between protectionism and the regulatory functions of the import tariffs and the formation of the potential for sustainable, post-crisis economic development. The main focus was planned to be on export promotion: to increase export potential, export diversification, as well as export support with instruments of customs tariff policies.[8]

"Attachment No. 1" to this document describes various aspects of the customs tariff policy in 2010. This attachment states that all domestically produced goods in Russia will be divided into five groups according to their level of international competitiveness. The "stable competitive products in the internal market" were raw materials, preprocessed metallurgic production, chemical production, and timber. The import tariff treatment of these products was stable and allowed solutions for fiscal purposes. Iron and steel pipes, plastic, paper, cardboard, tracks, railway equipment, and cement, as well as some food items, belonged to the group of the "middle level of competitiveness". For these products, temporary quotas and increased tariffs were planned to be implemented. Further restrictive measures were suggested for the following products: cars, car parts, engines, paints and varnishes, household chemistry, and tyres, as well as some items of food (including meat). All of these goods could be subject to low import tariffs on associated materials, parts, and components used in production, but higher tariffs would prevail on the final goods.[9]

The new wave of protectionist measures was implemented after the above-mentioned decisions in the third quarter of 2009 (Figure 1.7). The amount of subsidies provided

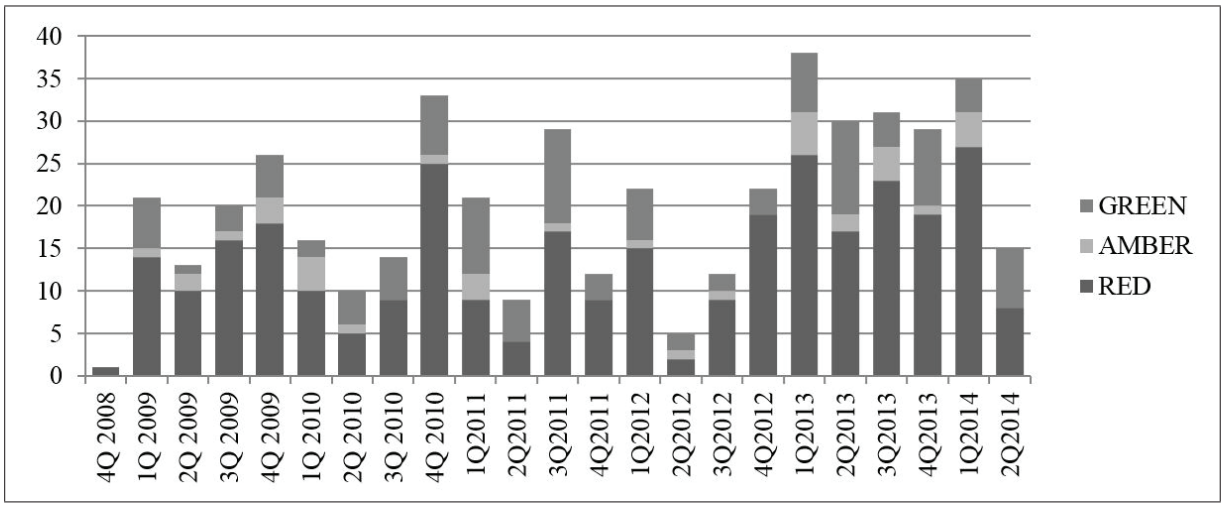
[7]New Trade Policy Strategy for the Russian Federation from 11 June 2009. Global Trade Alert, available at http://www.globaltradealert.org/measure/russia-announcement-new-trade-strategy-2010-2012 (Global Trade Alert, 2009).

[8]New Trade Policy Strategy for the Russian Federation from 11 June 2009. Global Trade Alert, available at http://www.globaltradealert.org/measure/russia-announcement-new-trade-strategy-2010-2012 (Global Trade Alert, 2009).

[9]New Trade Policy Strategy for the Russian Federation from 11 June 2009. Global Trade Alert, available at http://www.globaltradealert.org/measure/russia-announcement-new-trade-strategy-2010-2012 (Global Trade Alert, 2009).

by the Government increased (car industry, aircraft industry, financial services, and machinery). More than eight subsidy programmes were introduced in the fourth quarter of 2009, but this time towards long-term modernization industries: shipbuilding, nanotechnologies, the defence industry, rocket engines, and others.

Figure 1.7: Measures introduced by Russia which influence foreign commercial interests during the crisis (quarterly)



Source: Calculated by the author on the basis of GTA data on 15 November 2014 (for the meaning of the colours see Table 1A.2 in the Appendix).

From 1 January 2010, the Customs Union Code came into force. Russia thus increased the import tariffs on about 14 per cent of tariff lines, including certain meat products, yeast, certain articles of apparel, and clothing accessories. It reduced the import tariffs on approximately 4 per cent of its import tariff lines: exotic fruit concentrates, materials for photography, wool and fabrics, pharmaceutical substances, parts of footwear, and electro-mechanical appliances. The majority of its tariff lines (about 82 per cent) were not affected.[10] With the creation of the Customs Union with Belarus and Kazakhstan, Russia consolidated most of the temporary import tariff increases introduced during the economic crisis. Moreover, the Customs Union not only consolidated these tariff rates but also widened the scope of these trade restrictions to its two partners (Belarus and Kazakhstan). The EU states that "this [the Customs Union] remains by far the most striking example of entrenching the crisis-related measures in

[10]The Custom Union of Russia, Belarus and Kazakhstan. Global Trade Alert, available at http://www.globaltradealert.org/measure/custom-union-russia-belarus-and-kazakhstan (Global Trade Alert, 2010a).

the permanent trade environment, with long-term implications for the resumption of trade flows with Russia".[11]

By April 2010, the severity of the global financial and economic crisis, a significant narrowing of the global and domestic demand, and the implementation of anti-crisis measures, as well as the establishment of the Customs Union of Russia, Belarus, and Kazakhstan, led to the need to adjust the priorities for the customs and tariff policy.

The Modified New Trade Strategy in 2010 (for 2011-13) emphasized that Russia's current economic problems pointed to the need for greater coherence between the import tariff policy and the industrial policy. During the transition to an innovation-based economy, the role of customs tariff measures was planned to be strengthened. It was argued that there was a need for greater tariff protection of specific products. At the same time it was "necessary" to set tariff and non-tariff regulations to encourage the production and exporting of innovative, high-tech products, together with the development of institutions promoting exports and improving the regulatory framework. The special focus was on import substitution in the agricultural sector. In 2012-13 priority was given to imports of high-tech equipment that would increase the competitiveness of the domestic production and increase the exports. The extant export tariffs were planned for oil and oil products, forestry, and scrap metals.[12]

The second quarter of 2010 was characterized by the use of the tariff policy again, but within the framework of the Customs Union. There was also a whole range of car industry subsidies. The third quarter of 2010 brought a range of state guaranties to prioritized modernization sectors, such as aircraft, the defence industry, and nanotechnologies, in combination with the tariff adjustments for the Customs Union. The last quarter of 2010 focused on import tariff adjustments as well as more subsidies for exporters, Russian railways (which provide an intermediate service to many exporters), the defence industry, and nanotechnologies. This quarter was also characterized by the active use of subsidies (16 measures) for various industries, such as radio electronics, lasers, aircraft, shipyards, agriculture, the defence industry, and more than EUR 160 m to Skolkovo,[13] as well as safeguards and export subsidies for firms.

The first half of the year 2011 saw the pendulum swing back to import tariff measures - both discriminatory and liberalizing ones. Export bans on some agricultural

[11] "EU Calls on Trading Partners to Remove Protectionist Barriers", Europa.eu: IP/10/632, 28 May 2010 (European Union, 2010).

[12] The Modified New Trade Strategy in 2010 (for 2011-13). Global Trade Alert, available at http://www.globaltradealert.org/measure/russia-announcement-new-modified-trade-strategy-2011-2013 (Global Trade Alert, 2010b).

[13] See www.sk.ru (Innovation Center Skolkovo, 2015).

products as well as import tariff rate quotas on meat were introduced. Subsidies of more than EUR 1.7 billion were given to RosAtom (in the nuclear industry) as part of the modernization programme. The industrial strategies for the engineering industry as well as the power machine building industry up to 2020 followed (see Table 1A.1 in the Appendix). The second quarter of 2011 witnessed the introduction of export tariffs on some raw materials for fiscal purposes. Skolkovo was supported in the form of subsidies to reimburse import tariffs and VAT for participants in this project.

One should emphasize that the use of the tariff policy in 2011 became more modest. This can be explained by the increase in and stabilization of the oil price, which allowed the return to the support and finance of modernization through subsidies (see Figure 1.4). Thus, the Customs Union Commission Decision No. 712 of 15 July 2011 even introduced a moratorium on any changes in import tariffs from 25 August 2011 until 1 January 2012, which was a result of Russia's intensified WTO accession process from September 2010 onwards. Six anti-dumping investigations were initiated in the second half of 2011. Nine measures of contingent protection (five anti–dumping duties and four safeguards) were introduced by the Customs Union in July 2011 alone. In the last quarter of 2011 followed a set of subsidies for the modernization industries - radio and microelectronics, nanotechnology, and the nuclear industry.

In the first quarter of 2012 the Common Customs Tariff Code for Exports of the Customs Union was introduced. In the first half of 2012, before the ratification of the Protocol of Accession by the Russian Parliament on 10 July 2012, Russia demonstrated a relatively modest commercial policy. The economic situation in the country was stable (see the previous section of this chapter). The Global Trade Alert registered only 5 "red" measures (out of 15) introducing a few import tariff increases within the CU (some machineries and carbon electrodes). The main focus, however, was directed towards agricultural support in the form of subsidies and state guaranties (seven measures). This special focus is in line with the Government's concerns about the domestic agricultural sector, which could be negatively affected by Russia's WTO accession. Moreover, the Government considers the agricultural sector to be Russia's competitive advantage. Those government measures follow the Russian Food Security Doctrine (2010), which focuses on import substitution (ISI). The defence industry (more than 3.5 billion euros) and railways (1 billion euros) were also supported in the first half of 2012. A very important document, the "Roadmap for Russian Exports Promotion for 2012-15", was introduced on 29 June 2012. It opened a new page in Russia's

commercial policy for industrial development by bringing an export promotion aspect to the Russian modernization programme.

Immediately after the WTO accession (the second half of 2012) Russia introduced 28 "red" measures, mainly subsidies and state guaranties. The subsidies were given to the agricultural sector, defence industry, chemical industry, aircraft and transport industry, and health care, as well as to small and medium enterprises. Among the liberalizing measures were visa simplification measures as well as decreased import tariffs on fish and aircraft parts and components.

The slowly worsening economic situation around the world and in Russia in 2013 as well as the execution of earlier-approved industrial programmes moved the Government towards wider use of commercial policy instruments (mainly various forms of subsidies). Thus, in the first half of 2013 alone the Government introduced 43 "red" measures, almost all of them subsidies and state guaranties in agriculture and forestry (24 measures), defence (1 measure), and the domestic movie industry (2 measures). State guaranties for domestic exporters were given in February 2013. Russia introduced 4 measures with import tariff increases and 5 anti-dumping and safeguard measures for carbon electrodes, light vehicles, steel pipes and tubes, and harvesters. In that period 18 trade liberalizing measures were registered: import tariff decreases and VAT exemptions for high-tech equipment, medical goods, agricultural equipment, and others.

The second half of 2013 brought 42 "red" measures in total, 25 measures being subsidies and state guaranties for agriculture and farming (10 measures), the defence industry (8 measures), the car industry (2 measures), the composite industry (1 measure), the aircraft industry (3 measures), and the shipbuilding industry (1 measure). Other measures introduced in this period were import tariffs (8 measures), export taxes and restrictions (3 measures), and anti-dumping (2 measures). Russia also implemented 13 measures that liberalized commerce: 7 import tariff decreases, VAT exemption for imports of machinery that is not produced in Russia, as well as liberalization measures related to foreign employment in Russia.

The first half of 2014 added 35 "red" measures, mainly subsidies and state aid measures, for the agriculture and forestry sector (12 measures), chemical sector (3 measures), car industry (4 measures), and rare earth industry (1 measure). Another 5 import tariff increases were introduced for electric motors, certain types of wagons, and certain lead ores. The third quarter of 2014 was characterized by the falling oil price, difficulties related to the Russian foreign policy, especially with respect to Ukraine, as well as the outflow of capital and the depreciation of the Russian rouble. It produced

12 "red" measures focused mainly on the defence industry. There was also a reduction of export taxes for certain products, such as oil, nickel, and copper. In 2014 the Government continued to introduce simplification of foreign citizens' employment in Russia, especially for investors and entrepreneurs.

Table 1A.1 in the Appendix shows the decisions and documents connected with Russian commercial policies that were taken during the years 2009 to 2014 to support the targeted industries in parallel with the oil price level. For example, the Food Security Doctrine has an import substitution focus and gives clear priority to domestic production. The document sets a benchmark level for the share of domestic production in the internal Russian market. The Russian agricultural subsidies are in line with the objectives of this doctrine. Moreover, the announced development strategies for the automobile industry, for the pharmaceutical industry, and for the medical industry also have an import substitution focus. The year 2011 brought the following two strategies, which are part of the Russian modernization programme: the Heavy Engineering Industry Strategy (planned to 2020) and the Strategy for Power Machine Building (until 2030). Russia's regional development strategies also followed. In 2012, the year of the Russian accession to the WTO, the Roadmap for Russian Exports Promotion for 2012-15 and the Agriculture Development Programme up to 2020 were introduced, as well as the President's Decree on Long-Term Economic Policy and the Programme for the Development of the Pharmaceutical and Medical Industries for 2013-20. In 2013 the Government approved the Programme for the External Economic Activity of the Russian Businesses, the Development Programme for Bio-Technology Industry up to 2020, the Development Programme for Manufactured Goods for Children Industry, and the Roadmap for Development of IT Industry for 2013-18. In 2014 more programmes for food security and agriculture followed: plans for the development of the bakery, oils and fats, and flour milling (sub-)industries for 2014-16.

More than 30 trade defence measures (anti-dumping duties and safeguards) have been introduced or initiated by Russia since October 2008. The Russian use of trade defence mainly focuses on the metallurgical and chemical sectors and targets China, Ukraine, and some other countries. The specifics of Russia's trade defence measures are that they are mainly focus on the same industries as Russia's key non-commodity exports, which have been discriminated abroad (metallurgical and chemical sectors).

With the relatively "successful" anti-crisis management in 2009-10 and the growing price of oil, from September 2010 the Russian Federation rejoined its WTO accession process. The Working Party on the Russian WTO accession (62 members) approved the

documents on the Russian accession on 10 November 2011. The final step was made during a Ministerial Conference on 16 December 2011 and Russia became a WTO member on 22 August 2012.

From the moment of Russia's accession to the WTO (after ratification by parliament) Russia reduced the so-called "anti-crisis import tariffs", which were introduced during the anti-crisis management of the economy in 2009 and which later became part of the Customs Union of Russia, Belarus, and Kazakhstan. Thus, one-third of the import tariffs (bound) were reduced on the day of the official accession and approximately one-quarter of the import tariffs were planned to be reduced within the first 3 years of accession. It will take 5-7 years from the moment of accession to reduce the import tariffs in the chemical industry, cars, meat, and aircraft and helicopters. Russia undertook commitments in 116 service sub-sectors (out of a maximum of 155, a relatively high number among WTO members).

Another important point is the transitional period until 2018 for the car industry for local content requirement, a concession in favour of an applicant nation that is unprecedented in the history of the WTO. In the energy sector Russia keeps its right to supply non-commercial consumers using price regulation on gas to secure the socio-economic goals and objectives of the country. Russia also retains the possibility of a special agricultural subsidy level of USD 9 billion per year until 2018, which is twice as high as the level that would have been allowed for an acceding country (like Russia) under the current rules of the WTO. Indeed, from mid-2012 until mid-2014, the amount of government financial support for the agricultural sector was unprecedented in Russian modern history. After all the transitional periods up to the final import tariff rates, 50 per cent of tariff lines will be not lower than the pre-accession Customs Union common tariff. Around 30 per cent of the tariff lines will be reduced.

The commercial policy of "Crisis and Modernization" in 2009-10 was intended to smooth over the crisis situation in 2009. The start of the crisis was characterized by intensified use of tariff policies; however, after an official decision to suspend the WTO accession process (temporarily), a range of subsidies for priority sectors followed. The Government, having understood the policy limitations that had been created by Russia's protracted accession process, opted for an industrial policy with an ISI focus and regional integration in the form of the Customs Union. As the oil price returned to its high levels in 2010-11, from September 2010 Russia rejoined the WTO accession process and joined the WTO on 22 August 2012. After the WTO accession and increased oil prices the Russian trade strategy gained three new special features. First, Russia

activated an ISI strategy in the agricultural and food industry with an unprecedented amount of government support. Second, the defence industry received a large amount of financial support from the Government from mid-2012 onwards. Third, in 2012 Russia focused on export support and a promotion strategy for domestic production.

1.4 Theoretical and Empirical Studies in Economics on Industrial Policy and Russia's Realities

Having examined the contemporary situation in Russia, I now turn to the theoretical and empirical literature in economics, which establishes certain conditions under which some protectionist policies towards domestic industry could be justified and even beneficial to the society overall.

Government interventions through various tariffs, subsidies, tax breaks, local content requirement, government procurement, and other measures that imply distortions beyond optimal tax and revenue constraints are referred to as "industrial policy" (Harrison and Rodriguez-Clare, 2010). In modern economics the existence of externalities, such as learning and production externalities, is the main theoretical justification for such a policy.

The idea of infant industry protection in an import substitution strategy (ISI) is certainly not new. There is a large amount of literature on this topic, from the eighteenth century onwards, which questions the efficiency of protecting newly established industries (Bhagwati, Baldwin, Stiglitz, Melitz, and others). After the Second World War many developing countries implemented a high level of protection for newly established industries. The book by Little et al. (1970) studies ISI in such developing countries as India, Brazil, Mexico, and others. Those countries adopted ISI policies to limit their dependency on commodity exports (the same problem as Russia faces today). This study shows that the protectionist policies that followed to promote ISI proved to be harmful to those economies. Thus, industrialization through a high level of protectionism, as the study discovers, led to the creation of high-cost enterprises that produced expensive products. The most serious result of these policies was that those industries became dependent on government privileges, putting additional pressure on the government instead of cutting their own costs.

The starting assumptions of infant industry protection are that the new industries are made up of inexperienced (uncompetitive) firms and that government intervention

could improve their performance. The main message from the literature review by Harrison and Rodriguez-Clare (2010) on infant industry protection in terms of its justification sets up the condition whereby a country should have a latent comparative advantage in the protected sector. Government protection can also be beneficial in the presence of Marshallian externalities. This type of externalities arises through industry-level knowledge spillovers, input-output linkages, low transportation costs, and pooling of labour in a localized area (see Krugman, 1991). The Russian example of an attempt to benefit from Marshallian externalities was the creation of the Russian Innovation Center Skolkovo (the Russian Silicon Valley) in 2010-11. Another important condition for infant industry to be welfare-improving is to pass the Mill and Bastable tests (see Harrison and Rodriguez-Clare, 2010, 14). The Mill test implies that the protected sector can survive international competition without protection, whereas the Bastable test requires the discounted future benefits to compensate for the current cost of protection (Corden, 1997). It is important to emphasize that very few studies on industrial policy have actually been able to examine whether the industries have passed those theoretical tests.

There is also a significant debate over whether the use of industrial policies, including infant industry protection, helped or hurt the development of countries around the world. The study by Harrison and Rodriguez-Clare (2010) reviews a large amount of literature on industrial policy but fails to find a clear answer to that question as it depends on the institutional setting in the country as well as on the research design of the paper, data availability, data quality, and other factors. Some of those studies are presented below.

There are very few detailed evaluations of infant industry protection and the majority of them are concentrated on protection in developed countries. Baldwin and Krugman (1989) study the protection of the semiconductor industry in Japan. They show that the Japanese semiconductor industry could not have appeared as a global player without the protection of the domestic market, which was needed to achieve economies of scale. According to them, the industry satisfied the Mill test but not the Bastable test. The paper by Luzio and Greenstein (1995) studies protection in the microcomputer industry in Brazil in the 1980s. It demonstrates that despite rapid productivity growth in this industry, it was never able to catch up with the technological frontier that was also growing.

With regard to cross-industry studies, the empirical test provided by Krueger and Tuncer (1982) on Turkish data tests the following hypothesis: the input per unit of

output must fall more rapidly in more protected industries if there is any rationale for infant industry protection. The data analysis shows that Turkish industries did not experience this situation. However, Harrison (1994) uses the same data and shows that the more protected sectors did achieve higher productivity growth. Other cross-industry studies show that the removal of protectionism generates both intra-firm and intra-industry productivity gains, for example Kim (2000) for South Korea, Pavknic (2002) for Mexico, Muendler (2004) for Brazil, and others.

Cross-country studies also evaluate the success of industrial policy by studying the link between protection and country performance. Some research focuses on the protectionism of the late nineteenth century, finding a positive correlation between import tariffs and economic growth across countries. These empirical findings are rationalized by the fact that the emerging sectors in those economies were characterized by learning effects and Marshallian externalities (O'Rourke, 2000; Clemens and Williamson, 2001). Some studies emphasize that it is the pattern of protection that matters and not the average level of protection. Thus, Nunn and Trefler (2006) find that countries that protect skill-intensive sectors grow more rapidly than countries that protect unskilled-intensive industries.

As the first three sections of this chapter showed, the Russian Federation has focused on import substitution in its trade policy and the programmes for 2008-14 presented in Table 1A.1. It is far from clear that the industries named in 2009-10 for the import substitution strategy can be referred to as "infant industries" (agriculture, the food and textile (light) industries, the pharmaceutical industry, and the car industry). Those industries and their inefficiencies were inherited from the Soviet Union's planned economy. It is also not clear that they are the industries in which Russia has a competitive advantage - with the exception of agriculture (and some food) - at least at this stage.

According to the Concept of Socio-economic Development up to 2020, there are also several high-tech industries in which Russia has a significant competitive advantage (so the government claims) or seeks to build it over the medium term. These are the aircraft industry and propulsion engineering, the spacecraft and rocket industry, radio electronics, nuclear energy-industrial complex, and information communication technologies, which were also inherited from the Soviet times, with the technology gap accelerating in the 1990s after the collapse of the Soviet system. Those industries are not "infant" either - they are not new. There are, however, some new industries that have been protected, such as nanotechnologies. Thus, the general process taking place in Russia seems to be a special type of industrialization, better called "reindustrial-

ization", and it deserves special attention in the theoretical and empirical literature. These industries exist and even function, but they cannot demonstrate adequate export performance (with the exception of the defence industry) at this stage. From mid-2012 export promotion and support became a government priority. Thus, during the President's Speech to the Federal Assembly in December 2014, Putin again emphasized that the stimulation of non-commodity exports is the basis for Russia's long-term foreign economic strategy.[14]

Hodler (2009) studies the effectiveness of an industrial policy in a formal model with market and government failures. His model makes several predictions with respect to when an industrial policy can be effective: a politically motivated government and a competent Industrial Policy Authority (IPA), as well as a restricted (modest) budget for the industrial policy. This model provides ideas of the way in which the institutional setting might matter for a successful industrial policy.

There are, however, some obstacles that complicate the process of reindustrialization in Russia. Here it is important to emphasize that conducting business in contemporary Russia is an extremely challenging task. However, Russians can still engage in business relatively successfully in conditions that have been extremely challenging for business activity, particularly in the production area and especially for medium and small enterprises.

People have to face high levels of corruption (which have become even higher in recent years), legal imperfections, a lack of infrastructure, a lack of transparency, a criminal environment (especially on the side of the government bodies), a weak financial system, a lack of access to credit at a reasonable rate, falling educational standards, especially at the higher education level, a non-stable investment environment, a lack of implementation of investment protection, a controlled judiciary, and an inefficient government procurement system. Those obstacles are directly connected with the government policies. Addressing those problems should be the key to reindustrialization, and the trade policy should be used (and not over-used) as a slight correction tool and not as the development tool itself.

The commercial policy that was described in section 1.3 of this chapter sought to save the economic situation from collapse during the global economic crisis in 2009. In fact, this policy became a pill to reduce the pain, but it did not cure the patient. The recovery of the patient, or the modernization of the Russian Federation, requires

[14]Annual President Speech to the Federal Assembly on 4 December 2014, available at http://kremlin.ru/news/47173 (Russian Government, 2014).

a more sophisticated systemic approach and the use of, as described in the literature, more instruments of "soft" industrial policy. The idea behind a "soft" industrial policy is to shift from interventions that distort prices to interventions that deal directly with the coordination problems that keep productivity low in already-existing or rising sectors (Harrison and Rodriguez-Clare, 2010). Therefore, instead of direct trade policy measures, such as tariffs, export subsidies, and tax breaks for foreigners (which are, indeed, easier to implement), a government might think about the implementation of reforms and special programmes to address the real problems mentioned above.

1.5 Conclusion

By 2008 the Russian Federation was on sufficiently stable ground (or so it thought) to undertake structural reforms at all levels. Promoting economic diversification, as well as the need to reduce Russia's dependency on revenues from natural resources, became apparent, and a set of development programmes was introduced in 2008. Ironically, during 2009 the Government experienced that the natural-resource financing was insufficient to advance the modernization programme. The price of oil collapsed from USD 120 to less than USD 40 per barrel and that put downward pressure on the federal budget and, as a result, changed the pace of the planned modernization as well as the tools used for it. The tightening government budget caused Russia to make more frequent use of more traditional instruments of trade policy in 2009-10, such as import tariffs and export taxes.

Having made the choice to stay outside the WTO system during the global crisis and the announced modernization phase, Russia has demonstrated remarkable commercial policy flexibility in terms of changing its priorities from a multilateral framework to an anti-crisis management regime, promoting regional integration (the Customs Union) and fostering industrial development. The range of Russian protectionist policies during the period 2009-10 was impressive. Russia is ranked first in the GTA database as the country that introduced the largest number of discriminatory measures in 2009-10; it is also positioned among the top countries according to other intermediate indicators of harm caused to trading partners contained in the database for that period.

As section 1.4 of this chapter shows, there is theoretical and empirical literature in development economics that tries to identify certain conditions under which some protectionist policies could be justified. In general, the empirical evidence is, however, very cautious with regard to the welfare-enhancing role of protectionism in industrial

development. Thus, much of the industrial policy success depends on the institutional setting and reforms that address the real domestic problems and not on the level of protection.

This chapter has reported that the Russian Federation currently uses both an import substitution strategy and export promotion (from 2012), but with the weight on import substitution. There is doubt, however, that the sectors that were selected for treatment are infant industries at all. Nor are they necessarily very new industries. In fact, many of the so-called "modernization industries" face inefficiencies and technology gaps inherited from the Soviet Union because of coordination and institutional problems, which have not been fully solved. Indeed, it might be more accurate to call it a "reindustrialization" policy than an industrial policy!

The purpose of this chapter was to describe the key features of the Russian commercial policy during the recent recession, which coincided with the announced modernization in 2008-14. The years 2009-10 demonstrated that dependency on oil money does not move modernization very far forward and other systemic solutions are required. What one can deduce is that the trade policy of the Russian crisis and the modernization policies (2009-12) described above were emergency pills to reduce the pain in the economy, but they did not treat the patient. The new crisis in 2014-15 shows that more "soft industrial policy" tools are required to provide the systemic treatment of the economy.

Therefore, instead of direct trade policy measures, such as tariffs, export subsidies, and others, the Russian Government should focus on the solutions to the particular problems impeding business development, private investment, and technology adaptation. Plausible solutions are likely to require more transparency, government accountability, efficient anti-corruption policies, real separation of powers, and an independent judiciary, as well as the intensification of political participation by citizens (changing values and attitudes). Without those changes the benefits of joining the WTO will not be realized and the effectiveness of the modernization (industrial) policy will be seriously questioned.

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1A Appendix to Chapter 1

Table 1A.1: Main Decisions of the Russian Government on Commercial Policy in 2008-14, and the Oil Price Dynamics Monthly

No.	Programme/Decision/Event	Date	Oil Price in USD
		July 2008	**129.3 (max)**
		September 2008	96.4
1	The Strategy of Economic Development of the Commonwealth of Independent States (CIS) until 2020	14 November 2008	50.7
2	The Concept of the Long-term Economic Development of the Russian Federation for the Period until 2020 (Decree of the Russian Government from 17 November 2008 No. 1662-p)	17 November 2008	50.7
3	The Main Directions of the Activity of the Government of Russia until 2020 (Decree of the Government from 17 November 2008 No. 1663-p)	17 November 2008	50.7
4	The Main Directions of External Economic Policy of the Russian Federation until 2020	December 2008	**38.1 (min)**
5	The Development Strategy for the Metallurgical Sector up to 2020	19 March 2009	45.4
6	The Programme of the Anti-crisis Measures of the Russian Government for 2009	draft on 20 March 2009	45.4
7	The Strategy of the Russian National Security up to the Year 2020. (Decree of the President of the Russian Federation No. 537 from 12 May 2009)	12 May 2009	56.5
8	St Petersburg Economic Forum (meetings of Minister of Economic Development with foreign partners on the WTO accession issues)	4–7 June 2009	68.2

Table 1A.1: Main Decisions of the Russian Government on Commercial Policy in 2008-14, and the Oil Price Dynamics Monthly (continued)

9	The meeting of the Eurasian Economic Community - the decision announced by Prime Minister Putin on the Customs Union accession to the WTO and the suspension of Russia's unilateral accession to the WTO	9 June 2009	68.2
10	The Main Directions of Customs Tariff Policy for the Year 2010 and for the Period 2011-12. Presented by the Minister of Economic Development, Mrs Elvira Nabiullina, at the Russian Cabinet meeting on 11 June 2009	11 June 2009	68.2
11	The Programme of the Anti-crisis measures of the Russian Government for 2009	19 June 2009	68.2
12	Amendment to the Main Directions of the Activity of the Government of Russia up to 2020 (Decree of the Government from 17 November 2008 No. 1663-p)	8 August 2009	72.0
13	Light Industry Development Strategy up to 2020	27 September 2009	67.0
14	Development Strategy for the Pharmaceutical Industry up to 2020	01 November 2009	76.0
15	Energy Strategy up to 2030	13 November 2009	76.0
16	The Programme of the Anti-crisis Measures of the Russian Government for 2010	30 December 2009	73.7
17	The Customs Code of the Customs Union of Russia, Belarus, and Kazakhstan	1 January 2010	75.7
18	Food Security Doctrine	30 January 2010	75.7
19	New Modified Trade Strategy for 2011-13	24 March 2010	76.6
20	The Development Strategy for the Russian Domestic Car Industry up to 2020	23 April 2010	82.1
21	The Development Strategy for the Russian Aviation Industry up to 2025	14 May 2010	73.7
22	Russia returns to the WTO accession process	01 September 2010	77.5
23	The Development Strategy for the Russian Medical Industry up to 2020	17 November 2010	84.4
24	Heavy Engineering Industry Strategy up to 2020	1 January 2011	94.2
25	The Strategy of the Power Machine Building for 2010-20 and up to 2030	4 March 2011	111.6
26	The Strategy for Innovative Development of the Russian Federation up to 2020 ("Innovative Russia")	03 July 2011	111.7

Table 1A.1: Main Decisions of the Russian Government on Commercial Policy in 2008-14, and the Oil Price Dynamics Monthly (continued)

27	Russia finished the WTO accession negotiation in Geneva. The Notes on the Russian WTO Commitments	10 November 2011	110.9
28	WTO Ministerial Conference in Geneva where the final documents on Russia's WTO Accession were signed	16 December 2011	108.0
29	The President's Decree on Long-Term Economic Policy	7 May 2012	109.2
30	Roadmap for the Russian Exports Promotion for 2012-15	29 June 2012	93.5
31	Agriculture Development Programme for 2013–20	14 July 2012	102.7
32	**Russian Accession to the WTO**	**22 August 2012**	**113.5**
33	The Programme for the Development of Pharmaceutical and Medical industries for 2013-20	03 November 2012	108.6
34	The Programme for the External Economic Activity of the Russian Businesses for 2013-18	18 March 2013	106.8
35	The Government Concept of Participation of the Russian Federation in BRICS	21 March 2013	106.8
36	The Development Programme for Bio-Technology Industry up to 2020	24 April 2013	101.9
37	The Development Programme for Manufactured Goods for Children Industry up to 2020	11 June 2013	102.7
38	The Roadmap for Development of IT Industry for 2013-18	20 July 2013	108.6
39	Plan for Development of the Bakery Industry for 2014-16	19 May 2014	106.0
40	Plan for Development of the Oils and Fats Industry for 2014-16	23 May 2014	106.0
41	Plan for Development of the Flour Milling Industry for 2014-16	23 May 2014	106.0
		December 2014	63.3

Table 1A.2: Global Trade Alert GTA Colour Codes

Colour Code		Criteria
Red	(i)	The measure has been implemented and almost certainly discriminates against foreign commercial interests.
Amber	(i)	The measure has been implemented and may involve discrimination against foreign commercial interests; *or*
	(ii)	The measure has been announced or is under consideration and would (if implemented) almost certainly involve discrimination against foreign commercial interests.
Green	(i)	The measure has been announced and involves liberalization on a non-discriminatory (i.e. most-favoured nation) basis; *or*
	(ii)	The measure has been implemented and is found (upon investigation) not to be discriminatory: *or*
	(iii)	The measure has been implemented, involves no further discrimination, and improves the transparency of a jurisdiction's trade-related policies.

Source: Global Trade Alert www.globaltradealert.org.

Chapter 2

Does "Protection for Sale" differ in Crisis vs. Economic Stability Times? (Evidence from Putin's Russia)

Darya Gerasimenko

2.1 Introduction

In the last thirty years economists have paid increasing attention to the determinants of trade policy. Well known in the political economy literature, Grossman and Helpman (1994) "protection for sale" (PFS) model aims to explain the structure of trade policy. This model emphasizes the influence of special interest groups (SIG) on government policy by means of "political contributions" in a representative democracy. Organized interest groups represent industries and offer contributions, which politicians value for their potential use in elections. The government chooses a trade policy that maximizes the weighted sum of the aggregate welfare and the total contributions from SIGs. The relative preference of a government for aggregate welfare over contributions from a lobbyist is known in the literature as parameter "a" or the "welfare mindedness" of the government. Despite parameter "a" being simplified in the government objective function, it contains interesting information when it is observed in dynamics (for various years) or across different countries.

The PFS model is verified empirically in several papers. Goldberg and Maggi (1999) and Gawande and Bandyopadhyaya (2000) present the first two empirical studies using the United States non-tariff industry-level data. Both papers find, as predicted by the PFS model, that the protection of organized sectors is negatively related to import penetration and import demand elasticity. Goldberg and Maggi (1999) state that the weight placed on welfare in the government objective function was many times larger than the weight placed on contributions in the United States in 1983. The paper by McCalman (2004) uses the PFS model to analyse the Australian trade liberalization process. The author concludes that the process of liberalization in the country was driven by an increase in parameter "a" - the government valuation of welfare.

The paper by Gawande et al. (2009) presents the institutional determinants of the differences in government trade policy formation (the value of "a") around the world based on the PFS theoretical framework. The authors compare the values of parameter "a" across 54 countries and find substantial variation in the government behaviour ("a") around the world. Thus, one of the notable findings of this paper suggests that the quality of the system of checks and balances embedded in the decision-making process correlates with higher welfare-mindedness of governments. Mitra et al. (2002) study the case of Turkey in periods of democracy vs. periods of dictatorship. They conclude that the weight that the Government places on welfare ("a") is higher during democratic periods than during times of dictatorship. Evans and Sherlund (2011) use the PFS model to examine the relationship between anti-dumping decisions and the political contributions of political action committees (PACs) in the US. Gawande et al. (2012) analyse the consequences of the lobbying competition between upstream and downstream producers. They find that the inclusion of lobbying competition in the PFS model reduces the value of "a" in the government objective function. One can observe a variety of research questions in the trade policy area that are studied through the theoretical framework of the PFS model.

During the global crisis (2008-10) governments around the world resorted to protectionist commercial policies. The patterns and the structure of protectionist policies for 2008-10 are analysed by Evenett et al. (2011), Evenett (2011), and Aggarwal and Evenett (2012), and Kee et al. (2013). The studies show that the commercial policy choices in the recent crisis are somewhat different, both in the structure of the measures used and in the volume of trade affected. Aggarwal and Evenett (2012) especially emphasize the selective nature (among industries, firms, etc.) of the government protection and return to industrial policies during the period 2009 to 2011. Those changes

raise the question of whether the government mechanism of trade policy making in a crisis is different from that in times of economic stability and, if so, how. I approach this research question through the analytical potential of the PFS model. The objective of this chapter is therefore to test the predictions of the PFS model as well as to estimate the structural parameter "a", the weight placed by the government on welfare (relative to contributions) in the government objective function, over several years. The main question to be answered concerns the extent (quantitatively) to which trade policy making is different in times of crisis vs. times of economic stability. Which other factors might affect trade policy making during a crisis?

This study makes a threefold contribution to the existing literature on trade policy formation. First, this chapter uses the PFS theoretical framework to study trade policy making during the recent global crisis. Second, the model was originally developed to describe trade policy making in Western representative democracies. Therefore, it is interesting to see how general the PFS model is and whether this model has explanatory power for trade policy making in other forms of governance and political regimes, such as the "Putin-Medvedev tandem".[1] Third, by conducting a residual regression analysis I offer additional insights beyond the PFS variables that further explain the structure of protection during the recent crisis in 2008-10.

The Russian Federation was chosen for three main reasons. First, it is important to keep in mind that "protection for sale" presents a country that determines its trade policy endogenously. Membership of the World Trade Organization (WTO) could violate the condition of endogeneity of trade policy making in the model. The WTO member countries are bound by various commitments that substantially limit their policy space and commercial policy responses in a crisis. WTO membership therefore implies an exogenous character of trade policy anti-crisis responses. Russia, however, was the only G-20 country that was not a member of the WTO during the global crisis (2008-10). Russia also suspended its WTO accession process for 2009-10 to implement anti-crisis and industrial policies (see Gerasimenko (2012)). Therefore, one can state that the trade policy making during the crisis in Russia was indeed determined endogenously, as required by the PFS model specification. Second, during the recent crisis many governments used "murky protectionism" measures instead of import tariffs. The model, however, does not necessarily hold if protectionist measures other than tariffs (and subsidies) are imposed. Therefore, Russia is a good empirical test of the PFS model as

[1]Even Western democracies have different mechanisms of trade policy making depending on the government system, in countries other than Western democracies this variety is even wider.

this country indeed made active use of import tariffs as anti-crisis measures in 2009-10 (see the Global Trade Alert analysis for 2009-10). Third, investigating the trade policy in Russia from 2001 onwards is especially interesting as it provides an overview of the welfare-mindedness of the same government ("Putin-Medvedev tandem") over time in various economic situations, namely in both periods of stability and times of crisis. This chapter uses import tariff data for 2001, 2005, 2009, and 2010.

The findings show that the Government's weight on welfare in its objective function "a" is estimated to be larger than its weight on contributions across all the years of analysis, which is in line with the previous studies. However, the welfare-mindedness of the Government, "a", in the crisis (2009 and 2010) appears to be smaller relative to the preceding period of economic stability in 2005. In other words, in a crisis a government puts relatively more weight on contributions from lobbyists. This result is driven by industrial lobbying to obtain state support in times of financial difficulty and by the government's return to an interest-driven industrial policy. Indeed, the residual regression analysis supports this argument.

The structure of this chapter is as follows. Section 2.2 reviews the Grossman-Helpman PFS model. Section 2.3 presents the econometric specification and describes the data. Section 2.4 provides the empirical results and robustness checks. Section 2.5 discusses further findings. Section 2.6 concludes.

2.2 Review of the Grossman-Helpman "Protection for Sale" Model

The Grossman-Helpman "protection for sale" model is adopted in this chapter for several reasons. First, the PFS model provides clear predictions for the cross-sectorial structure of the tariff protection. Second, the model states that the cross-sectorial differences in protection can be explained by three variables: whether the industry is organized or not, the import penetration ratio, and the import demand elasticity. Those variables introduce background intuition for further empirical examination of the determinants of trade protection in various settings.

The model makes the following predictions from Equation (2.3), all other things being equal: (i) protection exists for all organized industries (i.e. if $I = 1$), (ii) if all citizens are members of an organized special interest group ($\alpha_L = 1$), the political equilibrium is free trade, therefore the departure from free trade arises because SIGs can

exploit non-members, (iii) the protection level is high if the inverse import penetration ratio ($\frac{y_i}{m_i}$) of industry i is high and industry is organized (i.e. if $I = 1$), and (iv) the protection level is high if the absolute value of the import demand elasticity $|e_i|$ is small.

First, I check whether the predictions of the PFS model are consistent with the Russian import tariff data for 2001, 2005, 2009, and 2010. Second, the model provides microeconomic foundations for the behaviour of lobbyists and politicians (in the way in which it is designed). Therefore, testing the PFS model using the Russian data can help me to understand whether there are any systemic differences in the behaviour of a government (the welfare-mindedness of the government, "a") in times of crisis and in times of economic stability in the determination of trade policy. The residual regression analysis identifies additional explanatory variables for the cross-sectorial differences in protection outside the PFS model setting.

The "protection for sale" model considers an economy in which prices are given endogenously. Individuals are assumed to have identical preferences. This economy produces a numeraire good with labour as input under constant returns to scale. The other n non-numeraire goods use labour and specific inputs for a particular industrial sector. A quasi-linear utility function is assumed for an individual, as shown in Equation (2.1). The model assumes that the politicians use only tariffs and subsidies as trade policy instruments. In the politically organized sectors, a specific factor owners can lobby the government for the trade protection of their own sectors and even lower protection for other ones. Organized interest groups can offer political contributions that politicians value for their potential use in the coming elections. Therefore, a politician maximizes the weighted sum of the total political contributions and the aggregate social welfare, as she knows that her re-election depends both on money for the re-election campaign and the utility level of an average voter. It is a two-stage non-cooperative game. In the first stage the lobbyists simultaneously choose their political contribution schedules, and in the second the government sets the trade policy vector. The government redistributes the revenue from this policy uniformly to all its citizens.

I borrow here from Goldberg and Maggi (1999) a version of the G-H model that yields the same predictions as the original model. The society consists of a continuum of individuals and those individuals have identical preferences, given by:

$$U = c_0 + \sum_{i=1}^{n} u_i(c_i) \tag{2.1}$$

where c_0 is consumption of the numeraire good, c_i is consumption of good i and u_i is an increasing concave utility function.

The government objective function is a combination of the welfare of the society (W) and the contributions by lobbyists (C_i):

$$U^G = aW + (1-a)\sum_{i \in L}^{n} C_i \tag{2.2}$$

where $a \in [0;1]$ captures the weight of welfare, and $(1-a)$ represents the weight that the government places on contributions from lobby groups.

After calculating the equilibrium trade policy Goldberg and Maggi (1999) present the following equation of the PFS model describing the determinants of trade policy:

$$\frac{t_i}{1+t_i} = \frac{I_i - \alpha_L}{\frac{a}{1-a} + \alpha_L} * \frac{y_i}{m_i}\frac{1}{e_i} \tag{2.3}$$

where t_i is an ad-valorem tariff on good i, e_i is the import demand elasticity of good i, α_L is the fraction of the population represented by a lobby, $a \in [0;1]$ captures the weight of welfare in the government policy, I_i equals 1 if industry is organized (and 0 otherwise), y_i represents the domestic output for good i, and m_i is the imports from the world.

In this chapter I use industrial information on 57 industries with the 3-digit ISIC Revision 3 code from the UNIDO INDSTAT4 database. It is the most detailed aggregation of industry data available. I analysed in total 266 business associations that are registered in the Chamber of Commerce and Industry of Russia (RF CCI) as well as in the Russian Union of Industrialists and Entrepreneurs (RSPP) and conclude that all industries are represented by one or more business associations and therefore all industries in my data set receive the value $I = 1$ at this level of aggregation. Furthermore, the oligarchic nature of the Russian economy allows me to assume that the ownership

of a specific factor is highly concentrated in all sectors, which implies for simplicity that $\alpha_L = 0$. Those assumptions are also used by Gawande et al. (2009) as well as Gawande et al. (2012); the authors assume that all the sectors in the 54 analysed countries were politically organized at this level of disaggregation (2-digit ISIC code) and the proportion of the population of a country that is represented by lobbyists was negligible. Taking into account the assumptions described above, the version of the PFS model for the Russian case yields the following form derived from Equation (2.3):

$$\frac{t_i}{1+t_i} = \frac{(1-a)}{a} * \frac{y_i}{m_i}\frac{1}{e_i} \tag{2.4}$$

I use this version of the PFS model for the estimation with the Russian data for 2001, 2005, 2009, and 2010.

2.3 Empirical Strategy and Data

2.3.1 Empirical Strategy

The paper by Baldwin and Evenett (2012) provides a comparison of the commercial policy reactions of governments around the world in various crises, namely the global depression of the 1930s and the Asian crisis of 1997, as well as the latest world economic downturn in 2008. Although the Asian crisis did not have the volume of the latest downturn and had different origins and roots, it still had an enormous effect on Russia and other economies. The falling oil demand in Asian markets in 1997 led to falling oil prices and as a result to the bankruptcy of the Russian Government in August 1998. President Putin was elected in March 2000 and took office in May 2000 immediately after Russia's economic crisis (17 August 1998). The years 1999-2001 witnessed an economic recovery "blessed" by increasing oil prices as a result of the economic recovery of the Asian economies. After the GDP collapse of 5.3 per cent in 1998, Russia demonstrated economic growth of about 6 per cent on average between 1999 and 2002. It is well known that this growth was driven by rapid devaluation of the Russian domestic currency (rouble) in August 1998, the high price of the energy exports and the low cost of energy within Russia. Since 2000 a set of prudent laws has followed as a result of the learning from the crisis. High import prices due to the domestic currency depreciation in combination with the new legislation have stimulated the development

of the domestic import-substituting industries and particularly the food-processing domestic industry. For the first estimation I use the import tariff schedule for 2001 to test the PFS model, the times of anti-crisis management, and the beginning of economic recovery.

The evidence from the business surveys from 2002 onwards shows significant improvements in the Russian business environment in that time, which led to a period of relative economic stability in 2004-7, when a series of so-called "national projects" was under consideration by the Russian Government. In March 2004 Vladimir Putin was elected as President for his second term. He has served as President of the Russian Federation from May 2000 to 2008 and from May 2012 onwards. In September 2005 Vladimir Putin announced the "Human Capital Development Programme", which includes a set of national priority projects in the following areas: health system, education, housing, and agriculture. Most of those programmes were actively introduced from 2006 onwards, until the global economic crisis in 2008-9. The year 2005 is the second period that I use for the empirical analysis in this chapter. It is a year of relative economic stability, which became possible through the accumulation of the excessive oil income in Russia's Stabilization Fund. In 2008 Putin took the office of Prime Minister, while Dmitry Medvedev became President for 2008-12. This political cooperation between Putin and Medvedev is known as the "Putin-Medvedev tandem" and represents one political line of executive power extending over more than 12 years.

Since the global financial crisis in 2008, governments around the world have implemented various measures to stimulate their economies. The measures that they have taken were not limited to macroeconomic stimulation only. The Global Trade Alert (GTA) initiative collected evidence from November 2008 onwards on government interventions around the world in the area of commercial policy and in particular trade policy. As described by Aggarwal and Evenett (2012), those interventions in the crisis era were industry-specific and often discriminatory in nature. Moreover, using an extensive database of non-macroeconomic interventions (GTA database) during the crisis, the authors provide qualitative evidence on various forms of selectivity, such as the promotion of certain sectors and certain firms within sectors and selectivity against foreign commercial interest among major economic powers. Therefore, the revival of interest in industrial policy in recent years based on this trend of government selectivity is no surprise. Indeed, government selectivity in various forms is the main feature of industrial policy. The Russian Federation also combined its anti-crisis management with the

announced economic modernization programme (industrial policy) from 2008 onwards (see Gerasimenko (2012)).

The evidence presented above leads to two competing hypotheses on the welfare-mindedness of the Russian Government in 2001-10. Thus, the common political trend in the form of the "Putin-Medvedev tandem" from 2000 onwards leads to the hypothesis H_0.

Hypothesis H_0: There is no change in the welfare-mindedness (parameter "a") of the Russian Government in 2001-10 during "Putin-Medvedev tandem" despite the difference in economic performance of the country during this time period.

However, the government selectivity in anti-crisis policies shown in the GTA database might lead to an alternative hypothesis, H_1. I argue that the owners of the production factors, facing financial difficulty in the crisis time of 2009-10 and reduced demand both at home and abroad, would appeal for support in any form at the government's disposal, such as subsidies (bailouts), import tariffs, government procurement, export subsidies, and others. Therefore, one could observe an increase in the weight placed on contributions from lobbyists in a crisis relative to times of economic stability in the government objective function.

Hypothesis H_1: There is a change in "a" in a crisis (including post-crisis recovery) vs. economic stability times: the government's weight on the welfare of the society (parameter "a") during a crisis as well as in the post-crisis recovery is relatively lower than the government's weight on welfare in times of economic stability.

The empirical part is based on Equation (2.4). However, its estimation brings about two technical problems. The first one is the endogeneity of the import demand elasticity variable e_i. Therefore, this variable is moved in the estimation of Equation (2.6) to the left-hand side. The second issue is the potential endogeneity of the inverse import penetration ratio $\frac{y_i}{m_i}$. As Trefler (1993) shows, import tariffs have an effect on the (inverse) import penetration ratio, implying that $\frac{y_i}{m_i}$ has to be treated as an endogenous variable. Therefore, I also estimate a two-stage OLS model using a set of instrumental

variables for the inverse import penetration ratio $\frac{y_i}{m_i}$ to solve the endogeneity problem. The econometric model has the following form:

$$\frac{t_{it}}{1+t_{it}}e_i = \frac{(1-a_t)}{a_t} * \frac{y_{it}}{m_{it}} + \varepsilon_{it} \quad (2.5)$$

$$= \beta_t \frac{y_{it}}{m_{it}} + \varepsilon_{it} \quad (2.6)$$

$$\frac{y_{it}}{m_{it}} = \phi_t Z_{it} + \epsilon_i \quad (2.7)$$

$i = 1, ...n$ and time period $t = 2001, 2005, 2009$, and 2010.

Vector Z_i consists of the variables that I use to instrument the inverse import penetration ratio in Equation (2.7). Those variables are the number of employees, wages, and value added per industry for 2001, 2005, 2009, and 2010. It is important to use an IV test for the cross-check to have at least two econometric settings in which to compare the results. The error terms ε_i and ϵ_i are assumed to be distributed normally.

The "protection for sale" model in this form implies that $\beta_t > 0$. I will then use those parameter estimates β for each year to compute the implied weight of welfare in the government objective function ("a") relative to the government weight on political contributions $(1-a)$ per year, and in the second stage I compare parameter "a" over the years of the "Putin-Medvedev tandem" in times of crisis vs. times of economic stability.

I use separate estimations per year (not pooled OLS) for two reasons. First, I am interested in how parameter "a" change over years and not in one parameter "a" for the entire political regime (2001-10). Second, each year of the analysis uses a different classification of the HS code schedule (HS 1996, HS 2002, and HS 2007). Thus, bringing them into one classification and estimating the model in a pooled way would result in an unnecessary loss of valuable information.

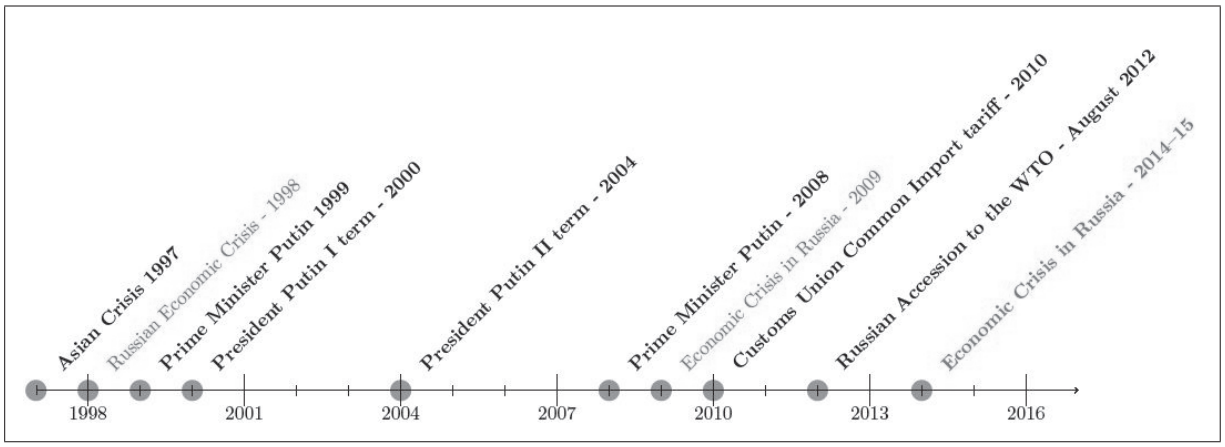
2.3.2 Data

The Russian Federation was the only G-20 member that was not a member of the World Trade Organization (WTO) at the beginning of the global recession in 2008 after 16 years of the WTO accession process, as discussed by Gerasimenko (2012). The trade

policy it followed during the crisis is noteworthy. Having made the choice to stay outside the WTO system during the latest global recession, Russia demonstrated a change in its priorities from a multilateral framework towards anti-crisis management, regional reform (the Customs Union creation stopped Russia's WTO accession process for around one year), and industrial development (modernization of the economy with the priority industries). Those policy choices were made while the oil price collapsed from 120 US dollars to less than 40 US dollars per barrel during the crisis in 2008-9. Russia was ranked first in the Global Trade Alert (GTA) database as the country that had introduced the largest amount of discriminatory measures; it was also positioned amongst the top (protectionist) countries according to other rankings of the GTA database for 2009-10. The Customs Union Code (common import tariff schedule), effective from 1 January 2010, introduced the Russian crisis-related measures into the trade policy of two other states, namely Belarus and Kazakhstan. To adjust the import tariff schedule to the new Customs Union (the CU), Russia increased 14 per cent of its import tariffs (further from the 2009 level) and decreased 4 per cent of its tariff lines at the 10-digit level. Belarus decreased 18 per cent of its import tariffs and increased 7 per cent of its import tariff lines. Kazakhstan decreased 45 per cent of its import tariffs and increased 10 per cent of its tariff lines from 1 January 2010. This fact shows that Kazakhstan had to make the largest adjustments to its import tariff policy for the Customs Union common import tariff. The implementation of the Customs Union import tariff schedule was later used as a bargaining tool for the Russian WTO accession process, which was resumed in September 2010. The final Russian WTO accession documents were signed in Geneva on 16 December 2011. The manipulation with the Customs Union creation during the crisis gave the Russian Government time to use the necessary policies to handle the main phase of the crisis in 2008-9 and to set up the modernization priorities. The Russian Federation became a WTO member on 22 August 2012. From the moment of accession (August 2012) Russia reduced its "anti-crisis" import tariffs, which were introduced in 2009-10 (Gerasimenko, 2012).

Import tariff data (t_i) for Russia are available for the year 2001 (the beginning of the Putin's first presidential term, immediately after the Russian economic crisis), for 2005 (the beginning of Putin's second term and a time of economic stability), for 2009 (anti-crisis management), and for 2010 (the common import tariff of the Customs Union of Russia, Belarus, and Kazakhstan). Import tariffs were aggregated by the author from the 10-digit to the 6-digit level of the HS code by simple average as well as by median. The import tariff data for 2001 at the 10-digit HS code level are from the

Figure 2.1: Timeline for Russia 1997-2014



Tariff Download Facility of the World Trade Organization. The data for 2005, 2009, and 2010 are extracted at the 10-digit HS code level from the official legal documents.

The import demand elasticity variable (e_i) is from Kee et al. (2008) and defined therein as "the percentage change in the quantity of an imported good when the price of this good increases by 1 per cent, holding the prices of all other goods, productivity and endowments of the economy constant."(Kee et al., 2008, p. 666)

The inverse import penetration ratio ($\frac{y_i}{m_i}$) is the value of domestic output divided by the value of imports. The import data are extracted from the UN Comtrade database at the 6-digit HS code level and aggregated by the author at the 3-digit level of the ISIC Revision 3 code. The output is available from the UNIDO Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit ISIC Revision 3 level for 2001, 2005, 2009, and 2010. There are 57 industries at the 3-digit level of the ISIC Revision 3 code. The list of those industries is presented in the Appendix in Table 2A.6. I match the data from the 3-digit ISIC Revision 3 coding with the HS 6-digit code using the transformation table from the World Bank's web page.

The data for the import and export values for Belarus and Kazakhstan in the residual regression analysis are downloaded from the UN Comtrade database at the 6-digit level of the HS code.

The Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit level of ISIC Revision 3 provides instrumental variables for the two-stage OLS in Equation (2.7) – the number of employees, wages, and value added per industry for 57 industries for 2001, 2005, 2009, and 2010.

The "Number of Protectionist (Red)[2] Measures other than Import Tariffs per Industry (2009-10)" is from the Global Trade Alert database. The variables "Announced Industrial Policy", "Announced Modernization", and "Announced Import Substitution" are from Gerasimenko (2012).

The descriptive statistics are presented in Table 2A.1 in the Appendix. The correlation tables for the "protection for sale" variables as well as for the industry variables are presented in the Appendix in Tables Tables 2A.3 and 2A.4.

There is one interesting point to keep in mind with respect to data that is related to the Harmonized System (HS) classifications of import tariffs. Not only are they updated every four years at the UN level by the creation and modification of tariff lines, but regular changes are made at the 10-digit level of the HS code by governments at home. Thus, to bring down the average import tariff rate, one creates "fake" import tariff lines at the 10-digit HS level, such as "other", and gives them the import tariff value 0. On paper this manipulation reduces the average import tariff level; however, the de facto import tariff can even rise for the particular good of interest. This trick was observed in the Russian import tariff schedule as well. Those "average import tariff" manipulations are well known in the trade policy world. Therefore, working with the average import tariff level, when the whole tariff schedule is included in the analysis, might in fact underpredict the actual (real) level of protection for particular industries.

2.4 Empirical Results

2.4.1 Description of Estimation Results

The estimation results are presented in Table 2.4.1. The results support the predictions of the model with respect to organized sectors (as I only use $I = 1$ in my specification) in which protection is negatively related to the import penetration ratio (or positively related to the inverse import penetration ratio). First, I estimate Equation 2.6, ignoring the potential endogeneity of the inverse import penetration ratio. The model is called "Model M1" in Table 2.4.1. The estimations for the β_t coefficients are positive and highly significant (at the 1 per cent level) for 2001, 2009, and 2010 and significant at the 5 per cent level for the year 2005. The value of parameter "a" is calculated separately for each year using the β_t coefficients. The estimated welfare-mindedness

[2]See `www.globaltradealert.org`. Refer to Table 2A.2 in the Appendix for the description of the colour coding used in the GTA database.

of the Government (parameter "a") is higher than the Government's weight on contributions for Russia for all the years ($a_{2001} = 0.9419$, $a_{2005} = 0.9741$, $a_{2009} = 0.9633$, $a_{2010} = 0.9556$). This result is in line with the respective literature described in the introductory section of this chapter. Moreover, one can notice a decreasing trend in the welfare-mindedness of the Government during the crisis relative to non-crisis times. To rephrase this, in 2009-10 the Russian Government placed more weight on contributions from industries $(1 - a)$ than on the welfare of the society ("a") relative to the time of economic stability in 2005.

As the second step, I use the two-stage OLS method to account for the endogeneity of the inverse import penetration ratio ($\frac{y_i}{m_i}$) by using an instrumental variable (IV-Model M2 in Table 2.4.1). I regress the inverse import penetration ratio on industry-specific variables, such as the number of employees, wages, and value added per industry for each year, as indicated in Equation 2.7. Again, the estimates of β_t are positive and highly significant (at the 1 per cent level) for 2001, 2009, and 2010 and significant at the 10 per cent level for 2005. The values of parameter "a" decrease but the pattern remains unchanged ($a_{2001} = 0.8931$, $a_{2005} = 0.9631$, $a_{2009} = 0.9405$, $a_{2010} = 0.9381$). The instrumental variable estimation method accounts for potential bias and provides more precision in estimating β. The price of the IV approach is a doubled value of standard errors relative to the simple OLS approach, but in this case it only changes the significance level of the estimation for 2005 from 5 to 10 per cent. The trend of the parameter "a" change remains the same - a decreasing value of "a" both during the anti-crisis policies in 2009 and even further for the Customs Union common schedule of 2010.

Table 2.4.1 presents the regression results with clustered standard errors. It is reasonable to perform the estimation using the clustered standard errors approach as the fact that the tariffs at the HS 6-digit level are structured by the industry groups at the 3-digit ISIC level should be taken into account. The clustered approach, however, leads to a slightly reduced significance level but more reliable results (relatively to the normal standard errors results).

Table 2.4.1 presents the pattern of the parameter change ("a") over the period 2001 to 2010. Therefore, Hypothesis H_0 of no change in "a" during the "Putin-Medvedev tandem" can be rejected. The alternative hypothesis (H_1) finds support in the Russian data used for this analysis.

As described above, Vladimir Putin came into power in 2000, during the time of anti-crisis policies and the economic recovery of Russia. It explains the low level of

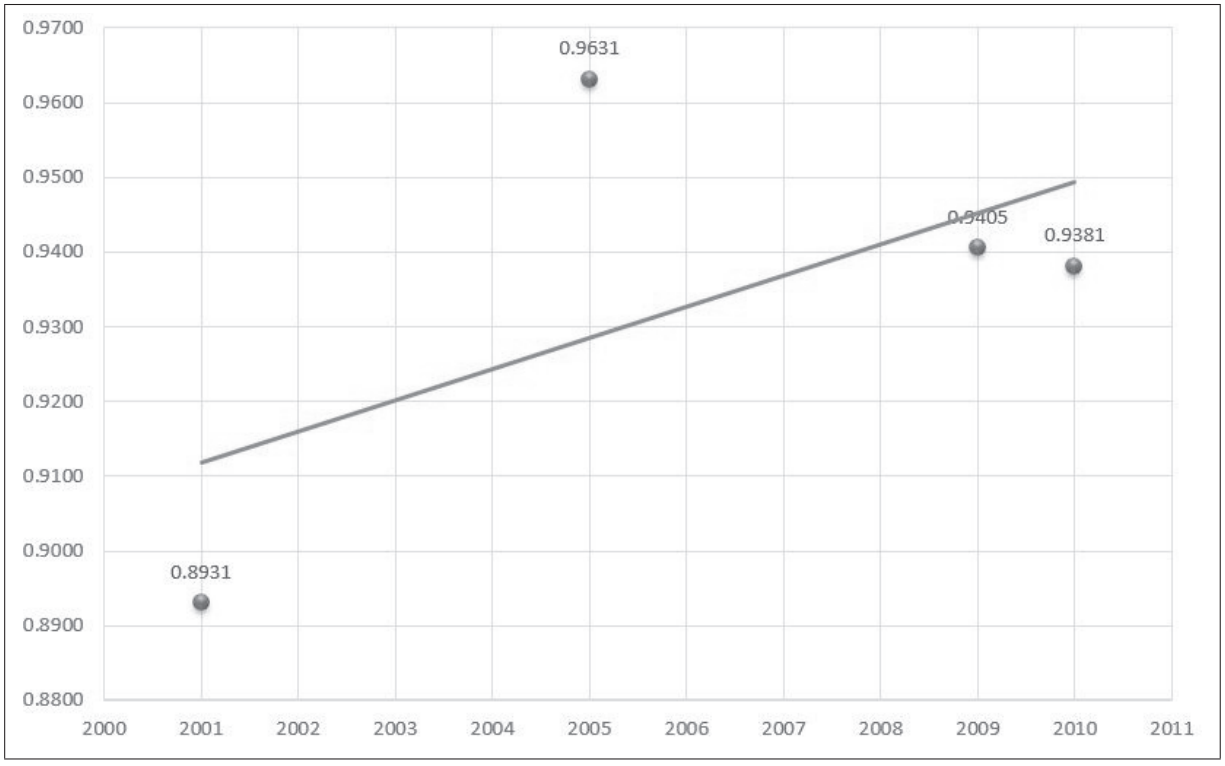
Table 2.4.1: Regression Results with Clustered Standard Errors at HS 6-Digit (by Industry at the ISIC 3-Digit Level)

	Model			
	M1	M2 (IV)	M3	M4 (IV)
β_{2001}	0.0617***	0.1197***	0.0618***	0.1199***
	(0.0143)	(0.0242)	(0.0144)	(0.0243)
t-statistics	4.31	4.94	4.30	4.93
R^2	0.0782	na	0.0782	na
Observations	4164	4164	4164	4164
β_{2005}	0.0265**	0.0383*	0.0266**	0.0383*
	(0.0125)	(0.0205)	(0.0125)	(0.0205)
t-statistics	2.12	1.87	2.13	1.87
R^2	0.0579	na	0.0579	na
Observations	4085	4085	4085	4085
β_{2009}	0.0381***	0.0633***	0.0381***	0.0634***
	(0.0081)	(0.0225)	(0.0081)	(0.0225)
t-statistics	4.70	2.81	4.70	2.81
R^2	0.0741	na	0.0740	na
Observations	3938	3938	3938	3938
β_{2010}	0.0465***	0.0660***	0.0465***	0.0661***
	(0.0081)	(0.0223)	(0.0081)	(0.0223)
t-statistics	5.76	2.96	5.76	2.96
R^2	0.0881	na	0.0879	na
Observations	3959	3959	3959	3959
	Corresponding Values for Parameter "a"			
a_{2001}	0.9419	0.8931	0.9418	0.8929
a_{2005}	0.9741	0.9631	0.9741	0.9631
a_{2009}	0.9633	0.9405	0.9633	0.9404
a_{2010}	0.9556	0.9381	0.9555	0.9380

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

parameter "a" in 2001, which can be described as the time of the intensive domestic industry development. However, with the stabilization of the economic situation in 2005, the value of welfare-mindedness of the Russian Government ("a") increased. The Government was placing more weight on the welfare of the society. The accumulation of the oil money and the stabilization of the economic and political situation allowed for various government actions, including a set of national projects, which were described above. However, the falling oil price in 2008 due to the world economic downturn forced the Russian Government to engage in anti-crisis management in its fastest form - trade policy manipulations. This fact is reflected (in the way in which the PFS model is designed) in the welfare-mindedness decrease during the active phase of the anti-crisis management. This result is driven by industry or firms actively lobbying to obtain state support in times of economic difficulty and the Government's return to an interest-driven industrial policy.

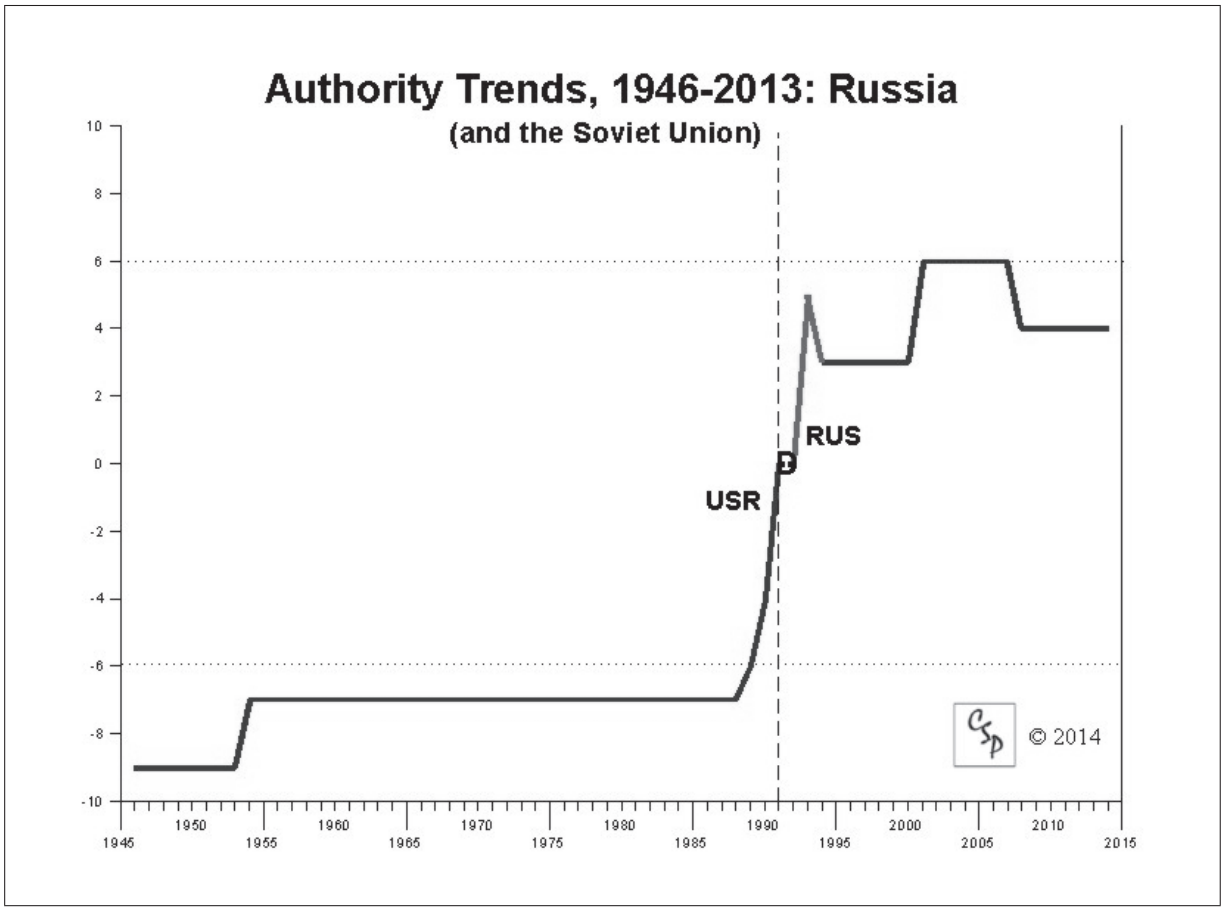
Figure 2.2: The Values of the Welfare-Mindedness (Parameter "a") of the Russian Government in 2001, 2005, 2009, and 2010



Source: The author's calculations.

The value of parameter "a" in 2009 is higher than that in 2010. This result could be (partly) driven by the rapid creation of the Customs Union and the implementation of the common external import tariff. As described above, all three countries had to adjust their import tariff schedules to the common external import tariff. Thus, Russia also

Figure 2.3: Development of the Russian Political Regime from 1946 to 2013 ("The Polity Score" over Time)



Source: Polity IV Project, available at http://www.systemicpeace.org/polity/rus2.htm.

had to take into account the trade and industrial policy interests of its partners, which could drive the value of parameter "a" further down in 2010. The exogenous aspect of the CU creation contradicts the endogenous nature of the PFS model; however, it is noticeable that Russia had to make smaller adjustments to its import tariff schedule of 2009 than its partners. This fact could justify further investigation of the 2010 external import tariff schedule of the CU within the PFS model by taking into account the CU story in the residual regression analysis later in this chapter.

In general the trend of the parameter "a" change supports the hypothesis of this chapter - the Government's weight on welfare during the crisis, "a", is relatively lower than the weight on welfare in times of economic stability. An interesting similarity is found between the parameter "a" change and the change in the "The Polity Score" of Russia from the Polity IV database (Marshall et al., 2014). This score is constructed by the authors yearly for each country on a 21-point scale ranging from −10 (hereditary monarchy) to 10 (consolidated democracy). The authors convert those scores into a political regime definition. They suggest the following categorization of the existing political regimes: "autocracies" (−10 to −6), "anocracies" or "undefined political regime" (−5 to 5) and three special values (−66, −77 and −88), and "democracies" (6 to 10).[3] According to the Polity IV database of political regime change (see Figure 2.3), when Vladimir Putin came into power the Polity Score for Russia was 3 points. In the time of economic stability after the crisis it rose to 6 points (defined as democracy (the lower border)). In the crisis it moved down to 4 points, which is defined again as an "anocracy" (or "undefined political regime"). This observation provides a potential explanation of the channel through which an economic crisis can exert an impact on the commercial policy making - through the political regime change. In the case of Russia, the political regime change could be a result of the worsening economic situation. In the way in which the PFS model is designed, this political regime change could be reflected in the decrease in welfare-mindedness of the Government ("a") in times of crisis.

2.4.2 Robustness Checks

To check the robustness of the results I use the median import tariffs at the 6-digit level of the HS code instead of the simple mean to cut off the outliers (tariff picks) to check whether they drive the results described in the previous section. I re-estimate the same two econometric specifications using the median import tariff, Model (M3) and Model

[3]The Polity Project, available at http://www.systemicpeace.org/polityproject.html.

(M4), with instrumental variables using clustered standards errors in Table 2.4.1. The results remain the same.

Table 2.4.2: Clustered Bootstrap at HS 6-Digit Level (by Industry at the ISIC 3-Digit Level)

	Model			
	M1	M2 (IV)	M3	M4 (IV)
Mean a_{2001}	0.9421	0.8929	0.9421	0.8928
Std. Dev.	(0.0092)	(0.0050)	(0.0092)	(0.0050)
Mean a_{2005}	0.9744	0.9632	0.9744	0.9632
Std. Dev.	(0.0036)	(0.0018)	(0.0036)	(0.0018)
Mean a_{2009}	0.9635	0.9404	0.9635	0.9404
Std. Dev.	(0.0050)	(0.0030)	(0.0050)	(0.0030)
Mean a_{2010}	0.9561	0.9381	0.9560	0.9380
Std. Dev.	(0.0056)	(0.0033)	(0.0056)	(0.0033)
Observations	700	700	700	700
Testing the Difference in Means in Consecutive Years for Significance				
$\Delta a_{2005} - a_{2001}$	0.0322***	0.0703***	0.0323***	0.0704***
Std. Error	(0.0004)	(0.0002)	(0.0004)	(0.0002)
t-statistics	86.19	350.00	86.22	350.00
$\Delta a_{2009} - a_{2005}$	-0.0109***	-0.0228***	-0.0109***	-0.0228***
Std. Error	(0.0002)	(0.0001)	(0.0002)	(0.0001)
t-statistics	-46.78	-173.53	-46.78	-173.81
$\Delta a_{2010} - a_{2009}$	-0.0075***	-0.0023***	-0.0075***	-0.0023***
Std. Error	(0.0003)	(0.0002)	(0.0003)	(0.0002)
t-statistics	-26.30	-13.77	-26.35	-13.95
Observations	1400	1400	1400	1400

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

To check whether this difference in parameter "a" is statistically significant, the clustered (by industry) bootstrap method is used to avoid misrepresentation of some of the industries in the bootstrap estimation samples. The Monte Carlo simulation is repeated 700 times for 4 models in Table 2.4.1 and the results are presented in Table 2.4.2. The value of parameter "a" remains the same with the same trend for "a" over

all the years. As the second step I check whether the difference in "a" over time is statistically significant by using the two-sided t-test. The results are presented in the lower section of Table 2.4.2. Thus, we can reject the hypothesis that $a_{2001} = a_{2005} = a_{2009} = a_{2010}$; in other words, we can reject the hypothesis that there is no change in parameter "a" over time. Moreover, the result shows that the difference in "a" in consecutive periods is significant at the 1 per cent level. This test supports the trend in the parameter "a" change described in the previous section of the chapter. The results of the normal (not clustered) bootstrap are presented in Table 2A.6. The difference in the results between the clustered bootstrap and the normal bootstrap method is marginal. The trend is robust.

Further robustness checks are presented in Tables 2A.7 and 2A.8 in the Appendix. I perform one more aggregation of the left-hand side of Equation 2.6 from the HS 6-digit tariff level to the 3-digit ISIC code by industry to check whether the results hold. The aggregation of the import tariffs is presented in Tables 2A.6 and 2A.6. I use only simple average tariffs. The median aggregation at the 3-digit ISIC level does not make sense as it will not be different from the simple mean with the ISIC 3-digit aggregation. By introducing such an aggregation (the simple mean at the 3-digit level of ISIC 3), the import tariff variation among industries is further reduced. I estimate the same regressions presented in Equations 2.6 and 2.7. The results and trends remain robust. However, the values of parameter "a" rise for both models (the simple OLS and the IV model) for all the years. The adjusted R^2 also increases. All those increases can be explained by the reduction in observations due to the aggregation as well as by the decrease in variation among the values of the left-hand-side variable (as presented in Tables 2A.6 and 2A.6). The bootstrap results for the 3-digit ISIC import tariff aggregation are shown in Table 2A.8. The values of "a" and the trend are robust. Therefore, one can reject the hypothesis that there is no change in parameter "a" over time. Moreover, the result shows that the difference in "a" in consecutive periods is again significant at the 1 per cent level.

2.5 More Findings and Residual Regression Analysis

Despite the change in parameter "a" over years not seeming to be as large as indicated in the lower section of Table 2.4.1, it is important to assess the quantitative significance

of the change in the welfare-mindedness of the Russian Government, "a". To do so, I calculate the impact of this change on the average tariff level in Russia across all the years of analysis. This calculation is based on Equation 2.4 and conducted by dividing the average value of each variable (t_i, a, $\frac{y_i}{m_i}$) by the average value of the same variable in the previous year using Equation 2.8, that is, the value for the year 2005 is divided by the value in 2001. As there is no variation in e_i over the years in my setting, this variable is eliminated:

$$\frac{\frac{t_{it}}{1+t_{it}}}{\frac{t_{i(t-1)}}{1+t_{i(t-1)}}} = \frac{\frac{(1-a_t)}{a_t}}{\frac{(1-a_{(t-1)})}{a_{(t-1)}}} * \frac{\frac{y_{it}}{m_{it}}}{\frac{y_{i(t-1)}}{m_{i(t-1)}}} \tag{2.8}$$

$i = 1, ...n$ and time period $t = 2001, 2005, 2009$ and 2010 and $(t-1)$ implies the previous period.

Table 2.5.1: Quantitative Significance of the Parameter "a" Change over Years

	$t/(1+t)$	$(1-a)/a$	$(1-a)/a$ in IV Model	y_i/m_i
2005/2001	0.9678	0.4283	0.3200	1.7328
2009/2005	0.9496	1.4350	1.6523	0.7985
2010/2009	0.9060	1.2196	1.0428	0.9265

Thus, if there had been a shift in parameter "a" (from 0.8931 to 0.9631) alone, the tariffs would have fallen, as predicted by the PFS model, by around 57 per cent (and by 68 per cent in the IV model) between 2001 and 2005. In fact one observes only about a 3 per cent average import tariff decrease in the Russian data set. An even more interesting result is presented for the year pair 2009/2005 in Table 2.5.1. The decrease in parameter "a" alone from 0.963 to 0.94 predicts an import tariff increase of 43 per cent (or of 65 per cent in the IV model). However, one observes almost a 5 per cent average import tariff reduction (not an increase). With the creation of the Customs Union, as indicated in Table 2.4.1, there is a further decrease in the welfare-mindedness of the Government from 0.94 to 0.938, which predicts an increase in the average import tariff level of 22 per cent (or of 4 per cent in the IV model). In fact, the data show a 10 per cent decrease (not an increase) of the average import tariff level in 2010. This observation gives a sense of substantial quantitative significance of the parameter change for the average protection level. Thus, considering Equation 2.4 and the resulting Equation 2.8, there could be other factors that are not in the original PSF

model but that still have potential explanatory power for the trade policy formation. Below I examine the residuals from the estimation of Equation 2.6 in an attempt to unfold those explanatory variables.

The next step is to run the residual regression analysis of the estimated models (M1, M2, M3, and M4) presented in Table 2.4.1. I perform new estimations using the residuals from the regression in Equation 2.6 for the import tariff schedule for December 2009 and for the Customs Union import tariff schedule of 2010 (valid from 1 January 2010) to find out whether there are other variables that are not in the PFS model but that have potential explanatory power for the level of protection. Thus, I take extra variables constructed from the GTA database on the commercial policy of the Russian Federation during the crisis in 2009-10. As presented in Table 2.5.2, the variable "Number of Protectionist Measures Other than Import Tariffs per Industry" (a proxy for the Government's attention to the industry) is significant at the 1 per cent level as well as the variable concerning whether the Russian Government has announced the industry to be part of its industrial policy programme (dummy variable "Announced Industrial Policy"). However, if I split "Announced Industrial Policy" into two more detailed variables - "Announced Modernization" and "Announced Import Substitution" (ISI) - the results for the 2009 import tariff schedule show positive significant (at the 1 per cent level) results only for "Announced Import Substitution" (ISI). No interpretation can be made with respect to the sign or the value of the coefficient as the residuals are taken from estimating not the import tariff level of protection but rather $(\frac{t_{it}}{1+t_{it}} * e_i)$ (see Equation 2.6) as we estimate the PFS model in its original design. Nevertheless, it is still important to show that the industrial policy might have an impact on the level of protection. Determining how those factors can be implemented in a model and through which channels, however, requires further theoretical work.

The Customs Union import tariff schedule residual regression analysis is presented in Table 2.5.3. It shows, in addition to the important factors that were described for the results in 2009, the significant negative coefficients for exports of Kazakhstan and imports of Belarus. The coefficient for imports of Belarus is very robust and significant at the 1 per cent level through all the econometric specifications. Again, it is not possible to provide an interpretation of this result, but rather to point out its significance for the common import tariff schedule of 2010. The theoretical questions here are why and in which way could the presence of the Customs Union affect the residuals in Table 2.4.1 in 2010? Can the interests of other CU members partly explain the residuals from the 2010 CU common import tariff schedule estimated for Russia?

Earlier in this chapter it was shown that all three countries had to adjust their import tariff schedules of 2009 to different extents to implement the common external import tariff of the CU. The largest adjustments (55 per cent of its tariff lines) were made by Kazakhstan. In March 2010 Kazakhstan also introduced an industrial policy strategy - "State Programme for the Accelerated Industrial Development for 2010-14". This programme also identifies the priority industries, which are supported by subsidies, export support measures, and other non-tariff measures. In October 2010 Kazakhstan also announced "The Programme for the Trade Development for 2010-14". That fact could potentially be responsible for the significance of the trade flows of Kazakhstan. The Belarussian import tariff adjustments for the 2010 CU common external tariff affected 25 per cent of the tariff lines. The Union State of Russia and Belarus came into force in 2000, leading Belarus and Russia to closer integration in political and economic areas. The Belarussian commercial policy as well as its trade flows became even more dependent on Russia. This explains the fact that Belarus had to make fewer import tariff policy adjustments than Kazakstan for the common import tariff schedule. It is possible that the earlier synchronization of commercial policies between Russia and Belarus can explain the significance of the Belarussian imports in the residual regression analysis. Again, further theoretical work is required to find out how and why those factors matter for trade policy determination.

The low R^2 for both the 2009 and the 2010 regression suggests that there could be other factors that determine trade policy formation, such as foreign direct investments (FDIs) per industry, internal investments, exchange rate manipulations, and others.

The question for further research is whether a higher parameter "a" leads to economic stability or whether economic stability leads to higher welfare-mindedness of the government. Theoretically the causality should work both ways, which implies that without external shocks to the system, parameter "a" has an impact on economic performance as well as economic performance having a subsequent impact on the value of parameter "a". However, if one looks at the role of an external shock, such as the global economic crisis, then the argument could be as follows: an external economic shock triggers a declining economic situation, which could lead to a decrease in the government's welfare-mindedness (parameter "a") simply by reflecting the needs of the problematic industries during the crisis $(1 - a)$ – it is the way in which the PFS model is designed. One of the possible channels for that impact could be the change in the political regime. The Polity IV data show that the change in the quality of the political regime follows the same pattern as the parameter "a" change for Russia. There could,

of course, be other explanations for the change in "a", such as the declining economic situation (independent of an external economic shock) or the socio-political differences between Medvedev's and Putin's regime (the level of corruption, for example), and others or all of them at the same time. It would be interesting to look at the PFS model with yearly dynamics if these data become available. Based on the results of this chapter, one can state that the value of welfare-mindedness of the Government (parameter "a") and the economic situation in the country could be correlated.

Table 2.5.2: Residual Regression Analysis for the Year 2009 (Import Tariff Schedule from December 2009)

	Model							
	M1	M1	M2	M2	M3	M3	M4	M4
Log Nb. of Measures per Industry (GTA)	-0.2279***	-0.1761***	-0.1936***	-0.1331***	-0.2272***	-0.1758***	-0.1929***	-0.1327***
	(0.0392)	(0.0416)	(0.0407)	(0.0435)	(0.0393)	(0.0417)	(0.0408)	(0.0436)
Reference: Announced Industrial Policy (Not)								
Announced Industrial Policy (Yes)	0.4787***		0.5411***		0.4805***		0.5430***	
	(0.0579)		(0.0601)		(0.0580)		(0.0602)	
Announced Modernization		0.0825		0.0779		0.0871		0.0825
		(0.0706)		(0.0897)		(0.0712)		(0.0902)
Announced Import-Substitution (ISI)		0.6076***		0.6917***		0.6084***		0.6927***
		(0.0709)		(0.0721)		(0.0710)		(0.0721)
Constant	0.5626***	0.4813***	0.3420***	0.2470***	0.5618***	0.4811***	0.3409***	0.2464***
	(0.0773)	(0.0813)	(0.0809)	(0.0854)	(0.0776)	(0.0815)	(0.0812)	(0.0856)
Observations	3938	3938	3938	3938	3938	3938	3938	3938
R^2	0.0361	0.0421	0.0353	0.0430	0.0361	0.0420	0.0353	0.0429

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2.5.3: Residual Regression Analysis for the Year 2010 (Customs Union Schedule from April 2010)

	Model							
	M1	M1	M2	M2	M3	M3	M4	M4
Log Nb. of Measures per Industry (GTA)	-0.1114***	-0.0761**	-0.0955***	-0.0574	-0.1106***	-0.0752**	-0.0947***	-0.0564
	(0.0329)	(0.0366)	(0.0339)	(0.0377)	(0.0331)	(0.0367)	(0.0341)	(0.0379)
Reference: Announced Industrial Policy (Not)								
Announced Industrial Policy (Yes)	0.3613***		0.4094***		0.3628***		0.4111***	
	(0.0544)		(0.0552)		(0.0545)		(0.0554)	
Announced Modernization		0.0944		0.1206*		0.0955		0.1218**
		(0.0594)		(0.0669)		(0.0601)		(0.0676)
Announced Import-Substitution (ISI)		0.4566***		0.5125***		0.4583***		0.5144***
		(0.0701)		(0.0705)		(0.0702)		(0.0706)
Belarus Log Export Value (USD) 2009	0.0062	0.0066	0.0069	0.0074	0.0061	0.0066	0.0068	0.0073
	(0.0050)	(0.0050)	(0.0051)	(0.0050)	(0.0050)	(0.0050)	(0.0051)	(0.0051)
Kazakhstan Log Export Value (USD) 2009	-0.0096*	-0.0081	-0.0111**	-0.0095	-0.0093	-0.0078	-0.0108**	-0.0093
	(0.0058)	(0.0058)	(0.0060)	(0.0059)	(0.0058)	(0.0058)	(0.0060)	(0.0059)
Belarus Log Import Value (USD) 2009	-0.0340***	-0.0356***	-0.0328***	-0.0345***	-0.0339***	-0.0355***	-0.0327***	-0.0344***
	(0.0095)	(0.0095)	(0.0097)	(0.0097)	(0.0095)	(0.0095)	(0.0097)	(0.0097)
Kazakhstan Log Import Value (USD) 2009	-0.0141	-0.0115	-0.0135	-0.0107	-0.0141	-0.0115	-0.0135	-0.0107
	(0.0090)	(0.0091)	(0.0092)	(0.0093)	(0.0090)	(0.0091)	(0.0092)	(0.0093)
Constant	0.8920***	0.8142***	0.7286***	0.6444***	0.8889***	0.8110***	0.7251***	0.6407***
	(0.0965)	(0.0991)	(0.0985)	(0.1014)	(0.0969)	(0.0993)	(0.0989)	(0.1017)
Observations	3959	3959	3959	3959	3959	3959	3959	3959
R^2	0.0503	0.0536	0.0504	0.0541	0.0499	0.0532	0.0500	0.0537

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

2.6 Conclusion

In this chapter the estimation of the determinants of trade policy making are closely guided by the theoretical model presented by Grossman and Helpman (1994). There are a couple of benefits to following this path. First, it allows the empirical examination of the existing model of trade policy making in other than Western democratic settings and in shock conditions such as the global economic crisis. Second, it allows the estimation of the structural parameter "a" in dynamics (2001, 2005, 2009, and 2010) over the same political leadership, which can contain interesting information about government priorities over time and in particular in a crisis.

I used two econometric model specifications to estimate the welfare-mindedness (parameter "a") of the Russian Government during the recent crisis. The data used for this chapter contain import tariffs and industry-specific information for 2001, 2005, 2009, and 2010. I find that the pattern of protection in the Russian Federation in 2001, 2005, 2009, and 2010 is in line with the predictions of the model, that is, protection for organized sectors is negatively related to import penetration. Both econometric model specifications show the same trend - positive highly significant values of the coefficient β, which were used to calculate the value of welfare-mindedness of the Russian Government, "a", for all four years.

The weight that the Government placed on welfare in its objective function is larger than the weight it placed on contributions across all the years of the analysis, which is in line with the findings in the existing literature on this subject. Then, I compared the estimation results in times of stability (2005) as well as during the hard phase of the anti-crisis policy in 2009 and the rapid creation of the Customs Union of Russia, Belarus, and Kazakhstan in 2010.

The welfare-mindedness of the Russian Government in the crisis is estimated to be smaller than that in times of economic stability. To rephrase this statement, the weight that the Government placed on contributions from lobbyists increased during the crisis relative to times of economic stability. This might be driven by intensified lobbying activities by industries or firms to obtain state support in times of financial difficulty and falling demand. Thus, Russia, being bound by neither the WTO commitments nor the WTO accession process in 2009-10, had the widest range of possible commercial policy moves. It actively used import tariff modifications as anti-crisis management and even industrial policy tools.

Despite the change in parameter"a" over years not appearing to be large, it had a substantial quantitative effect on the average import tariff level (if it would be a shift in parameter "a" alone). The residual regression analysis shows that the government industrial policy, the number of protectionist measures, and the trade flows of the Customs Union partners have further explanatory power for the import tariff level in Russia (2009-10).

There could be reasons other than the global economic crisis explaining the shift in parameter "a" during the crisis, such as the worsening domestic economic situation (independently of the global crisis), socio-political changes, and other reasons or all of them simultaneously. However, it is known that the latest global crisis had a negative impact on all economies to different extents. This fact, as I argue, led governments to focus on providing protection in various forms to the industries and firms in need. This implies, in the way in which the "protection for sale" model and its government utility function are designed, that the Government puts more weight on contributions $(1 - a)$ and as a consequence less weight on the welfare of society (parameter "a"). The owners of the production factors, facing financial difficulty in times of crisis and reduced demand both at home and abroad, would appeal for support in any form at the government's disposal.

One could argue that this trend (placing increasing weight on lobbyists' contributions in a crisis relative to times of economic stability) could also be found among other countries if it was possible to transfer the Global Trade Alert data on anti-crisis trade policies to import tariff equivalents and test the PFS model across countries. The literature mentioned above makes a qualitative assessment of the patterns of trade policy making around the world during the recent crisis. This research finds government selectivity patterns among industries and firms that gained support during the recent economic downturn. This qualitative observation could find support in the quantitative assessment of the parameter "a" change across countries.

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2A Appendix to Chapter 2

A list of the variables used in this chapter and their sources:

1. Russian Import Tariffs (t_i) for 2001 at the 10-digit Harmonized System (HS) level are downloaded from the Tariff Analysis Online facility of the World Trade Organization (WTO). They are aggregated by the author by simple average (as well as by median) to the 6-digit level of the HS code.

2. Russian Import Tariffs (t_i) for 2005, 2009, and 2010 are from the official legal documents at the 10-digit HS code level. They are aggregated by the author by simple average (as well as by median) to the 6-digit level of the HS code.

3. The Russian Import Value (m_i) for 2001, 2005, 2009, and 2010 is from the United Nations Comtrade database at the 6-digit level of the HS code in current US dollars and aggregated to the 3-digit ISIC Revision 3 code level.

4. The Domestic Output per Industry (y_i) is available from the Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit level of the ISIC Revision 3 code for 2001, 2005, 2009, and 2010 in current US dollars.

5. The Inverse Import Penetration Ratio ($\frac{y_i}{m_i}$) is the value of the domestic output per industry divided by the value of the total imports. It is calculated for 2001, 2005, 2009, and 2010 in current US dollars using the variables above.

6. The Import Demand Elasticity (e_i) is taken from Kee et al. (2008). The data are available for Russia at the 6-digit level of the HS code from the website of the World Bank. It is calculated over the period 1988-2001 for 117 countries. As it is the only import demand elasticity calculated for Russia I use it for all the years of analysis.

7. The Political Organization dummies ($I_i = 1$) for all 57 manufacturing industries at the 3-digit level of the ISIC code Revision 3.

8. The Number of Employees per Industry for 2001, 2005, 2009, and 2010 is from the UNIDO Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit level of ISIC Revision 3.

9. The Total Wages per Industry for 2001, 2005, 2009, and 2010 are from the UNIDO Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit level of ISIC Revision 3 in current US dollars.

10. The Total Value Added per Industry for 2001, 2005, 2009, and 2010 is from the UNIDO Industrial Statistics Database (INDSTAT4 - 2013 edition) at the 3-digit level of ISIC Revision 3 in current US dollars.

11. Belarus's and Kazakhstan's Export and Import Values for 2009 are from the United Nations Comtrade database at the 6-digit level of the HS code in current US dollars.

12. "Nb. of Protectionist (Red) Measures" other than import tariffs per industry (CPC coding) in Russia for 2009-10 are collected from the various legal documents (part of the GTA database).[4]

13. "Announced Industrial Policy" is a dummy variable (Yes/No) constructed at the 4-digits ISIC level by the author based on the legal documents listed in Gerasimenko (2012) - indicating whether the industry was announced as an priority industry in the government programmes in 2008-9. This variable is subdivided into "Announced Modernization" and "Announced Import Substitution Industrialization".

14. "Announced Modernization" is a dummy variable (Yes/No) constructed by the author based on the information in Gerasimenko (2012). Those are the industries that were announced as "perspective" from the modernization point of view.

15. "Announced Import Substitution" is a dummy variable (Yes/No) constructed by the author based on the information in Gerasimenko (2012). Those are the industries that were announced as "perspective" from the point of view of the import substitution strategy.

[4]See `www.globaltradealert.org`. Refer to Table 2A.2 in the Appendix for the description of the colour coding used in the GTA database.

Table 2A.1: Summary Statistics

	2001		2005		2009		2010	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Mean-Tariff (in %)	10.96	6.1	10.59	6.2	10.10	6.9	9.08	6.7
Median-Tariff (in %)	10.00	*na*	10.00	*na*	10.00	*na*	9.17	*na*
Imp.-Penetration-Ratio	0.50	0.6	0.37	0.4	0.51	0.5	0.55	0.6
Imp.-Demand-Elasticity	7.04	17.5	7.04	17.5	7.04	17.5	7.04	17.5
Organisational Dummy	1	0	1	0	1	0	1	0

Table 2A.2: Global Trade Alert GTA Colour Codes

Colour Code		Criteria
Red	(i)	The measure has been implemented and almost certainly discriminates against foreign commercial interests.
Amber	(i)	The measure has been implemented and may involve discrimination against foreign commercial interests; *or*
	(ii)	The measure has been announced or is under consideration and would (if implemented) almost certainly involve discrimination against foreign commercial interests.
Green	(i)	The measure has been announced and involves liberalization on a non-discriminatory (i.e. most-favoured nation) basis; *or*
	(ii)	The measure has been implemented and is found (upon investigation) not to be discriminatory: *or*
	(iii)	The measure has been implemented, involves no further discrimination, and improves the transparency of a jurisdiction's trade-related policies.

Source: Global Trade Alert, available at www.globaltradealert.org.

Table 2A.3: Correlations among Industry Regressors

	2001				
	(1)	(2)	(3)	(4)	(5)
(1) Import-Penetration-Ratio	1.0000				
(2) Inverse-Import-Penetration	-0.3314	1.0000			
(3) Number of Employees	0.0673	-0.0414	1.0000		
(4) Wages	-0.1588	0.0150	0.8499	1.0000	
(5) Value Added	-0.2703	0.0250	0.6369	0.9271	1.0000
	2005				
	(1)	(2)	(3)	(4)	(5)
(1) Import-Penetration-Ratio	1.0000				
(2) Inverse-Import-Penetration	-0.2703	1.0000			
(3) Number of Employees	0.0198	-0.0850	1.0000		
(4) Wages	-0.1207	0.0220	0.9021	1.0000	
(5) Value Added	-0.3292	0.3672	0.4378	0.6987	1.0000
	2009				
	(1)	(2)	(3)	(4)	(5)
(1) Import-Penetration-Ratio	1.0000				
(2) Inverse-Import-Penetration	-0.3229	1.0000			
(3) Number of Employees	-0.0443	-0.0501	1.0000		
(4) Wages	-0.1241	0.0123	0.9441	1.0000	
(5) Value Added	-0.3943	0.2938	0.4784	0.6421	1.0000
	2010				
	(1)	(2)	(3)	(4)	(5)
(1) Import-Penetration-Ratio	1.0000				
(2) Inverse-Import-Penetration	-0.3479	1.0000			
(3) Number of Employees	-0.0807	-0.0643	1.0000		
(4) Wages	-0.1555	0.0053	0.9414	1.0000	
(5) Value Added	-0.4097	0.3448	0.4184	0.6033	1.0000

Table 2A.4: Correlations among "Protection for Sale" Model Variables

	2001		
	(1)	(2)	(3)
(1) Tariff (6-Digits-Level)	1.0000		
(2) Abs. Import-Demand-Elasticity (e)	0.0166	1.0000	
(3) Import Penetration Ratio (m/y)	0.0124	-0.0349	1.0000
	2005		
	(1)	(2)	(3)
(1) Tariff (6-Digits-Level)	1.0000		
(2) Abs. Import-Demand-Elasticity (e)	0.0226	1.0000	
(3) Import Penetration Ratio (m/y)	-0.1153	-0.0921	1.0000
	2009		
	(1)	(2)	(3)
(1) Tariff (6-Digits-Level)	1.0000		
(2) Abs. Import-Demand-Elasticity (e)	0.0389	1.0000	
(3) Import Penetration Ratio (m/y)	-0.0915	-0.0764	1.0000
	2010		
	(1)	(2)	(3)
(1) Tariff (6-Digits-Level)	1.0000		
(2) Abs. Import-Demand-Elasticity (e)	0.0393	1.0000	
(3) Import Penetration Ratio (m/y)	-0.1951	-0.0676	1.0000

Table 2A.5: Bootstrap at the HS 6-Digit Tariff Level

	Model			
	M1	M2 (IV)	M3	M4 (IV)
Mean a_{2001}	0.9414	0.8929	0.9414	0.8928
Std. Dev.	(0.0101)	(0.0051)	(0.0101)	(0.0051)
Mean a_{2005}	0.9741	0.9628	0.9741	0.9628
Std. Dev.	(0.0046)	(0.0055)	(0.0046)	(0.0055)
Mean a_{2009}	0.9630	0.9400	0.9629	0.9400
Std. Dev.	(0.0053)	(0.0059)	(0.0053)	(0.0059)
Mean a_{2010}	0.9554	0.9378	0.9553	0.9377
Std. Dev.	(0.0061)	(0.0046)	(0.0061)	(0.0047)
Observations	700	700	700	700
Testing the Difference in Means in Consecutive Years for Significance				
$\Delta a_{2005} - a_{2001}$	0.0327***	0.0699***	0.0327***	0.0700***
Std. Error	(0.0004)	(0.0003)	(0.0004)	(0.0003)
t-statistics	77.91	250.00	77.91	250.00
$\Delta a_{2009} - a_{2005}$	-0.0111***	-0.0228***	-0.0111***	-0.0228***
Std. Error	(0.0003)	(0.0003)	(0.0003)	(0.0003)
t-statistics	-41.86	-74.96	-41.85	-74.99
$\Delta a_{2010} - a_{2009}$	-0.0076***	-0.0022***	-0.0076***	-0.0023***
Std. Error	(0.0003)	(0.0003)	(0.0003)	(0.0003)
t-statistics	-24.94	-7.94	-24.98	-8.03
Observations	1400	1400	1400	1400

Notes: Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2A.6: Russian Mean Tariff Rate at the ISIC 3-Digit Level

ISIC	Description	2001	2005	2009	2010
151	Production, processing of meat, fish, fruit,etc.	12.83	13.90	15.05	15.84
152	Man. dairy products	13.67	13.51	13.67	14.53
153	Man. grain mill products	9.48	11.37	11.50	11.50
154	Man. other food products	13.41	12.13	12.14	13.26
155	Man. beverages	27.67	27.00	27.00	27.00
160	Man. tobacco products	25.00	22.78	22.78	22.78
171	Spinning, weaving and finishing of textiles	10.57	10.63	10.58	9.56
172	Man. other textiles	15.18	15.18	14.95	14.41
173	Man. knitted and crocheted fabrics	13.05	11.98	11.96	10.58
181	Man. wearing apparel, except fur apparel	19.84	19.83	19.81	10.24
182	Dressing and dyeing of fur	12.17	12.44	11.66	11.21
191	Tanning and dressing of leather	10.71	9.90	9.26	8.97
192	Manufacture of footwear	14.31	14.31	10.58	8.37
201	Sawmilling and planing of wood	15.00	15.00	15.00	15.00
202	Manufacture of products of wood, cork,etc.	14.93	14.64	15.40	14.55
210	Man. paper and paper products	13.49	13.59	13.49	12.71
221	Publishing	8.84	8.66	4.45	4.45
222	Printing and service activities related to it	13.89	13.89	13.33	13.33
231	Man. coke oven products	5.00	5.00	5.00	5.00
232	Man. refined petroleum products	5.00	4.99	4.84	4.84
233	Processing of nuclear fuel	7.00	7.00	5.67	5.67
241	Man. basic chemicals	6.01	5.97	5.91	5.76
242	Man. other chemical products	7.95	8.08	7.98	6.97
243	Man. man-made fibres	8.59	8.58	8.46	8.69
251	Man. rubber products	8.79	8.57	8.31	7.51
252	Man. plastics products	13.59	13.09	12.75	11.97
261	Man. glass and glass products	14.25	13.70	13.44	13.23
269	Man. non-metallic mineral products n.e.c	14.08	13.82	13.77	13.39
271	Man. basic iron and steel	6.87	6.81	6.72	7.79
272	Man. basic precious and non-ferrous metals	11.00	11.32	11.02	10.13
281	Man. structural metal products, tanks, etc.	12.88	12.88	12.24	11.18
289	Man. other fabricated metal products	13.11	12.87	12.41	11.60
291	Man. general purpose machinery	9.93	8.26	5.44	3.74
292	Man. special purpose machinery	8.90	7.06	4.54	3.37
293	Man. domestic appliances n.e.c.	14.40	14.15	14.02	10.24
300	Man. office, accounting and computing machinery	9.63	8.17	4.93	4.01
311	Man. electric motors, generators and transformers	9.06	8.16	4.99	4.71
312	Man. electricity distribution and control apparatus	12.89	11.28	10.29	10.29
313	Man. insulated wire and cable	17.50	15.42	14.17	14.17
314	Man. accumulators, primary cells and batteries	10.57	10.48	9.87	7.01
315	Man. electric lamps and lighting equipment	16.38	14.72	14.54	13.49
319	Man. other electrical equipment n.e.c.	10.48	9.51	7.51	6.70

Table 2A.6: Russian Mean Tariff Rate at the ISIC 3-Digit Level (continued)

ISIC	Description	2001	2005	2009	2010
321	Man. electronic valves and tubes, etc.	13.98	7.48	6.91	6.88
322	Man. television and radio transmitters	7.46	6.14	6.66	6.09
323	Man. television and radio receivers, etc.	17.47	12.44	11.84	9.93
331	Man. medical appliances and instruments	7.95	6.87	4.49	4.05
332	Man. optical instr. and photo. equipment	10.42	10.42	9.71	7.68
333	Man. watches and clocks	19.17	19.10	19.00	16.55
341	Man. motor vehicles	12.43	11.92	15.62	14.99
342	Man. bodies (coachwork) for motor vehicles	12.81	12.29	12.32	12.11
343	Man. parts and accessories for motor vehicles	5.29	2.89	2.06	2.07
351	Building and repairing of ships and boats	12.27	11.76	11.47	10.69
352	Man. railway and tramway locomotives	7.61	7.61	7.01	7.01
353	Man. aircraft and spacecraft	14.09	14.24	11.75	10.75
359	Man. transport equipment n.e.c.	12.25	12.25	10.71	10.50
361	Man. furniture	20.00	19.48	17.60	13.65
369	Manufacturing n.e.c.	16.23	16.16	16.13	13.28

Table 2A.7: Regression Results - Tariff Aggregation at the ISIC 3-Digit Level

	Model (M1)	IV-Model (M2)
β_{2001}	0.04247***	0.0911***
Std. Error	(0.004038)	(0.0353)
t-statistics	10.52	2.58
$Adj.R^2$	0.7045	na
Obs.	46	44
β_{2005}	0.01737***	0.0096**
Std. Error	(0.00348)	(0.0048)
t-statistics	4.99	1.99
$Adj.R^2$	0.3799	na
Obs.	39	38
β_{2009}	0.02790***	0.0224***
Std. Error	(0.00404)	(0.0067)
t-statistics	6.91	3.34
$Adj.R^2$	0.5449	na
Obs.	39	38
β_{2010}	0.0303***	0.0660***
Std. Error	(0.0042)	(0.0074)
t-statistics	8.52	4.12
$Adj.R^2$	0.6473	na
Obs.	39	39
	Corresponding Values for Parameter "a"	
a_{2001}	0.9593	0.9165
a_{2005}	0.9829	0.9905
a_{2009}	0.9729	0.9781
a_{2010}	0.9654	0.9706

Notes: Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2A.8: Bootstrap for ISIC the ISIC 3-Digit Level of Tariff Aggregation

	Model (M1)	IV-Model (M2)
Mean a_{2001}	0.9565	0.9204
Std. Dev.	(0.0106)	(0.0167)
Mean a_{2005}	0.9765	0.9716
Std. Dev.	(0.0153)	(0.0275)
Mean a_{2009}	0.9711	0.9655
Std. Dev.	(0.0105)	(0.0226)
Mean a_{2010}	0.9656	0.9609
Std. Dev.	(0.0086)	(0.0198)
Obs.	799	799
Testing the Difference in Means in Consecutive Years for Significance		
$\Delta a_{2005} - a_{2001}$	0.0200***	0.0512***
Std. Error	(0.0007)	(0.0011)
t-value	30.34	44.93
$\Delta a_{2009} - a_{2005}$	-0.0054***	-0.0061***
Std. Error	(0.0007)	(0.0013)
t-value	-8.19	-4.83
$\Delta a_{2010} - a_{2009}$	-0.0055***	-0.0047***
Std. Error	(0.0005)	(0.0011)
t-value	-11.34	-4.37
Obs.	1598	1598

Notes: Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Chapter 3

Democracy, Trade and Protectionism during the Global Systemic Crisis (2009-13)

Darya Gerasimenko and *Marco Helm*

3.1 Introduction

Much has been written on democracy and its role in world development. However, little work has been undertaken on the relationship between democracy (political regime) and trade policy and, to our knowledge, very few studies examine this relationship during the current global recession. One example of such work is that by Mansfield and Milner (2014), which focuses on political regimes and the probability of PTA formation during hard economic times (using data for 1952-2010).

It is known that the global crisis has shocked economies around the world, resulting in a decline in GDP, bankruptcies, high unemployment rates, decrease and outflow of foreign direct investments (FDIs), and so on. As reported by the World Trade Organization (2014), in 2009 the volume of the world exports was falling by 12 per cent, while the value of the world exports was falling by 23 per cent. In 2010, the volume of exports recovered by 14 per cent (the value of exports increased by 22 per cent). From 2012 onwards the export growth remained lower than the average export growth for 2000-10, only about 2.5 per cent per year. The global GDP fell by 2 per cent

in 2009 and recovered by 4 per cent in 2010. The great trade collapse in 2009 echoed the Great Depression and triggered the fear of the proliferation of protectionism (active use of discriminatory commercial policy as an anti-crisis measure) in the same way as happened in the 1930s.

The political science literature points out that democratic countries are less likely to fight wars with each other. The fundamental factor that contributes to the peace between two democracies is the bilateral trade volumes (Polachek, 1997). Moreover, Mansfield et al. (2000) find that democratic pairs of countries had more open trade relations than mixed pairs in 1960-90, meaning that democratic dyads traded more than mixed pairs (autocracy-democracy) in 1960-1990. We would like to test this argument with respect to the commercial policy during the recent global economic downturn. We analyse the relationship between the political regime type of country pairs and their export performance during the global trade collapse and recovery in 2009-13. We also construct a bilateral protectionism data set using the Global Trade Alert (GTA) database to control for the commercial policy during the recent global economic crisis and the post-crisis recovery period (2009-13). Using the standard gravity approach and the theoretical predictions of Mansfield et al. (2000)), we estimate the effect of being a democratic pair of countries on export flows during the recent global recession, controlling for international institutions as well as for the flow of bilateral protectionism between 2009 and 2013 for 158 countries. We use the Poisson pseudo-maximum likelihood (PPML) method as well as ordinary least squares (OLS). By taking the first difference of logs from the (OLS) gravity model we construct the export growth model to check whether the democratic dyads suffered from a smaller bilateral trade collapse (due to the institutional quality) in 2008-9 and a faster trade recovery in 2009-10.

Using the Poisson pseudo-maximum likelihood (PPML) method, we find that our results do not support the predictions from the model developed by Mansfield et al. (2000), which states that democratic dyads trade more than mixed pairs (autocracy and democracy). We find that two democratic countries traded less than all the other combinations of country pairs in 2009-13. We offer several explanations for why this could be the case: the econometric model specification (PPML vs. OLS), the amount of countries in the sample (many of which are democracies, but some of them do not trade), the new trade patterns around the world (trade in services, supply chains, and outsourcing), as well as the political economy theory adjusted to the crisis times, during which, because of the divided polity and multiple stakeholders, it is more cumbersome

for two democracies to react to the rapidly changing economic conditions. With respect to the export growth model, we do not find that the democratic dyads had a smaller bilateral trade collapse in 2008-9 or a faster trade recovery in 2009-10.

This chapter contributes to the literature on the relationship between trade policy and political regime as well as to the literature on modern commercial policy developments during the great trade collapse and the global recession.

The structure of the chapter is as follows. Section 3.2 reviews the relevant literature. Section 3.3 describes the data. Section 3.4 presents the econometric strategy, results and robustness check for the classical gravity model. Section 3.5 provides empirical strategy, results, and robustness checks for the trade growth model. Section 3.6 concludes.

3.2 Literature Review and Discussion

Scholars in the area of international affairs and comparative political science have emphasized the willingness of democracies to cooperate along various dimensions: peace, military cooperation, humanitarian operations, and so on. There are two main schools that explain this cooperation: cultural and structural (Polachek, 1997). The first one - cultural - states that the democratic societal norms imply peaceful resolution of potential conflicts with other democracies (the rule of negotiations). The second one - structural - explains this cooperation through the system of checks and balances and the wider representation of various actors in the socio-political process. Those arguments, however, do not explain the relationship of democracies with non-democratic regimes, which is a different and very interesting research topic.

Rosendorff (2006) investigates whether the political regime affects the willingness of a country to abstain from beggar-thy-neighbour policies and concludes that democratic institutions enhance cooperation over commercial policy. He finds evidence that democracies cooperate more in the international economic area and concludes that there are two aspects of a democratic regime that can explain this fact. The first one is the effect of a divided polity in a democracy, which implies dividing the authority over commercial policy between various government bodies (for examples, legislative vs. executive power). The second aspect is the institute of elections and its role in the accountability of politicians to the society. Mansfield et al. (2002) investigate the effect of political regimes on the willingness to enter regional trade agreements (RTAs). The authors conclude that democratic dyads are more likely to establish an RTA than the other pairs of political regimes. Mansfield and Milner (2014) study the relationship between

the political regime and the formation of RTAs for the period from 1952 to 2010 and find that democratic countries are more likely to ratify RTAs during times of economic difficulty.

Mansfield et al. (2000) provide one of the first empirical assessments of the relationship between the patterns of commercial policy and the type of political regime. They develop a formal model that focuses on the divided polity aspect of a democratic regime and particularly on its legislative structure. The authors argue that these institutional specifics are equally relevant to both presidential (ex post ratification) and parliamentary (ex ante ratification) democracies. In non-democratic regimes (autocracies) the chief executive has much more power over the introduction of trade policy, as the legislator (if it exists) just rubber stamps the proposals of the chief executive. The main assumption of their model is that the legislator in a democracy (representing particular interests) is much more protectionist than the chief executive, who cares about the welfare of the society overall and wants to be re-elected (pro-free trade). However, both chief executive and legislator want to have no trade barrier to foreign market access when they negotiate with a foreign country. The authors point out that the chief executive in a democracy, though, needs the approval of his legislator to introduce the commercial policy vector. In the case that the trade policy vector does not satisfy the legislator, the legislator's policy (protectionist) preference becomes a law (the bilateral non-cooperative outcome of a game - "trade war"). The legislator's possible veto of a trade proposal (a credible threat) in a democratic dyad forces the chief executives to compromise on freer mutual trade policy barriers compared with the deal between democracy and autocracy (taking into account the other assumptions of the model). The final outcome of a cooperative game is a middle way between the protectionist legislator's trade policy and the pro-free trade policy of the chief executive in a democracy. The divided polity in a democracy leads to the fact that two democracies agree upon lower barriers to trade relative to a democracy and an autocracy.[1] Their empirical analysis supports this theoretical prediction. Based on the standard gravity model (using ordinary least squares (OLS)) and the data for the period 1960-90, they find that the democratic dyads indeed trade on average more than mixed (democracy-autocracy) pairs of countries. Interesting research is conducted on the effect of a democratic transition on trade growth. Yu (2010) estimates that the

[1]The model does not give predictions with respect to non-democratic pairs of countries as it depends on the preference of the chief executive in those regimes as well as on the institutional differences among non-democratic regimes.

democratic transition (democratization process) contributed 3-4 per cent to bilateral trade growth for the period 1962-98.

The global financial crisis in 2008-10 has greatly changed the understanding of financial regulation, development, the role of the state in socio-economic process, ethical norms and values, and so on. Regarding the economic side of this shock, the governments around the world have introduced a wide range of anti-crisis policies – the classical macroeconomic policy such as exchange rate regulation as well as fiscal and trade policies – to stabilize the economies around the world. The great trade collapse in 2008-9 has become one of the most shocking consequences of the global financial crisis. The trade patterns from 2008 onwards remain in the focus of social science research. We aim to investigate whether there is a systemic difference in the export performance of democratic dyads relative to the other political regime combinations during the period 2009-13.

Bems et al. (2012) provide a literature review on the causes of the great trade collapse in 2008-9 during the global recession. They identify three potential channels that contributed to a trade collapse in 2009. The authors conclude that the changes in real final expenditure contributed the most to the great trade collapse (the demand side). The second channel was the disrupted export supply as well as impeded international transactions (the so-called supply side). The authors are cautious about the role of the third potential channel – protectionism. They conclude that in aggregate protectionism played no role in explaining the trade collapse. They even provide an explanation for why protectionism may have been muted, such as the role of the WTO and the RTAs in this process, flexible exchange rates, and supply chains around the world. They mainly base this argument on the paper by Kee et al. (2013), who study trade policy's impact on trade flows for 100 countries over the period 2008-9. The authors use only import tariff data and anti-dumping duties (AD) for 2008-9 and conclude that the associated trade policy measures are responsible for less than 2 per cent of the trade collapse between 2008 and 2009. However, it is important that the authors themselves make the following statement in their paper: "Due to data limitations, we do not look at other policies that may affect trade, such as government bailouts and buy-national requirements, which could play a much larger role than tariffs and AD in affecting trade during the crisis period" (Kee et al., 2013, p. 342). This, however, does not imply that the protectionism did not matter for trade; it just means that those two policy instruments (all other things being correctly specified) were not for the large part responsible for the trade collapse, which is a fair statement. The protectionist alarm

from the Global Trade Alert (GTA) and its research was made not to explain the trade collapse of 2008-9 but rather to monitor the role of the various forms of beggar-thy-neighbour policies in a crisis and even more importantly in the after-crisis economic recovery from 2010 onwards. It is more important to consider the (non-)proliferation of protectionism than to learn the extent to which protectionism is responsible for the great trade collapse. To our mind, this misunderstanding among researchers has pushed the importance of non-proliferation of "unnecessary" protectionism away, although it is a crucial issue for economic recovery. We use a unique commercial policy bilateral data set for 2009-13 constructed from the Global Trade Alert database (in November 2014), which includes various government commercial policy interventions (in addition to import tariffs and AD), such as bailouts, various subsidies, government procurement, local content requirement, TBT, and other measures.

We study the trade (export) patterns based on the bilateral data for 2009-13 for 158 countries to check whether democratic dyads perform more (goods) trade than the other combinations of political regimes during the systemic crisis. We also use our bilateral protectionism data set to control for the commercial policies around the world and their potential effect on trade growth during the recent global recession.

3.3 Data

We collect data from various sources. The data on aggregate bilateral export flows in constant US dollars (2005) are downloaded from the UN Comtrade database.[2] We use the imports of country j from i to obtain the exports of i to j as import statistics are known to be collected by customs in a more accurate way for tax purposes.

The GDP data are downloaded from the World Development Indicators (WDI) database of the World Bank.[3] The gravity variables, such as distance, common border, language, and colonial past, are taken from the CEPII GeoDist database (Mayer and Zignago, 2011).

The political regime variables are downloaded from the Polity IV database (Marshall et al., 2014). It is an authoritative dataset on political regimes of more than 160 countries over many years. We use the the "Polity Score" constructed by the authors yearly for each country on a 21-point scale ranging from -10 (hereditary monarchy) to 10 (consolidated democracy). We follow the suggestion of the authors to convert

[2]United Nations Publications Board, available at http://comtrade.un.org/.
[3]World Development Indicators, The World Bank.

those scores into political regime definitions. They suggest the following categorization of the existing political regimes: "autocracies" (−10 to −6), "anocracies", or "undefined political regime" (−5 to 5) and three special values: (−66, −77 and −88), and "democracies" (6 to 10).[4] The same definitions of the political regimes were used in the paper by Mansfield et al. (2000). The descriptive statistics on the political regime of the sample are presented in Table 3.3.1 and Table 3A.2 in the Appendix. The statistics on country pairs per year and the yearly change of the political regimes status of country pairs are shown in Tables 3.3.2 and 3.3.3. One can see from the descriptive statistics that the largest wave of bilateral political regime change took place between 2010 and 2011 (around 6 per cent of country pairs). However, no change was registered between 2012 and 2013, which means no country changed its political regime status in that period (within the definition of political regimes provided by the Polity IV project). This, however, does not mean that there was no change within the group, for example, from 3 to −3 (Polity Score). It is still registered as "other" political regime, but in fact it is a large change.

Table 3.3.1: Shares (as a Percentage) of Political Regime Types by Year

	2008	2009	2010	2011	2012	2013
Autocracy (A)	13.29	12.66	12.03	11.39	11.39	11.39
Democracy (D)	57.59	56.33	56.33	58.23	56.96	56.96
Other (O)	29.11	31.01	31.65	30.38	31.65	31.65
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: The total number of countries is 158 for each year.

The international institutions (BITs, RTAs, WTO) are taken from several sources. We construct the data set on bilateral investment treaties (BITs) for 2007-13 based on the International Investment Agreements Navigator database from the United Nations Conference on Trade and Development (UNCTAD).[5] The Regional Trade Agreements (RTA), the yearly dummy indicating whether a pair of countries is involved in at least one RTA, are downloaded from de Sousa (2012). The information on WTO membership is taken from the official website of the World Trade Organization.[6] The descriptive statistics on international institution variables for the pairs of countries are presented in Table 3.3.4. One can see from our sample of 158 countries that the amount of country

[4]The Polity Project, available at http://www.systemicpeace.org/polityproject.html.

[5]UNCTAD, International Investment Agreements Navigator, available at http://investmentpolicyhub.unctad.org/IIA/IiasByCountry#iiaInnerMenu.

[6]World Trade Organization (WTO), available at http://www.wto.org/.

pairs being involved in at least one RTA grows after the crisis (from 11.4 per cent in 2008 to 15.4 per cent in 2013) and slowly approaches the amount of the country pairs being signatories to BITs.

Table 3.3.2: Shares (as a Percentage) of Country Pairs that Belong to a Specific Political Regime Group Type by Year

	2008	2009	2010	2011	2012	2013
DD	33.02	31.57	31.57	33.75	32.29	32.29
DA	7.70	7.18	6.82	6.68	6.53	6.53
AD	7.70	7.18	6.82	6.68	6.53	6.53
AA	1.69	1.53	1.38	1.23	1.23	1.23
Other	49.88	52.54	53.41	51.66	53.41	53.41
Total	100.0	100.0	100.0	100.0	100.0	100.0
Observations	24'806	24'806	24'806	24'806	24'806	24'806

Note: The total number of countries is 158 for each year.

Table 3.3.3: Change of Political Regime Status of Country Pairs

Period (from/to)	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Pairs with Changed Status	660	644	1'286	434	0
Share in %	2.66	2.60	5.18	1.75	0.00
Observations	24'806	24'806	24'806	24'806	24'806

Note: The total number of countries is 158 for each year.

Table 3.3.4: Share (as a Percentage) of the Country Pairs that Are Bound by a Specifics Type of International Agreement by Year

	2008	2009	2010	2011	2012	2013
WTO	70.77	70.77	70.77	70.77	71.85	74.01
BIT	16.14	16.57	16.78	16.95	17.04	17.12
RTA	11.42	12.91	14.04	14.10	14.44	15.38
Observations	24'806	24'806	24'806	24'806	24'806	24'806

Note: The total number of countries is 158 for each year.

We construct the bilateral protectionism data set using the Global Trade Alert (GTA) database (in November 2014). The 16th GTA Report published on 12 December 2014 (Evenett, 2014) demonstrates that the level of resorting to protectionism has been much higher than previously thought. Thus, in 2013 it was higher than in 2009 during

the global trade collapse. This conclusion is even more threatening since the GTA team updated the protectionism database for 2009-10 government measures during autumn 2014, and it increased the amount of measures in the GTA database for that period by over 30 per cent. The amount of protectionist measures for 2010-11 increased by over 45 per cent (relative to the numbers reported in 2012). The number of new protectionist measures for 2012-13 is 95 per cent higher for the 16th GTA Report than for the 15th GTA Report. Therefore, it is very important to look at protectionism during the global trade collapse and recovery after obtaining more complete information on the actual patterns of protection for 2009-12. Evenett (2014) shows that there are three main phases of protectionism around the world: the first one is a spike of protectionist policies in 2009, the second one is the relative slowdown and recovery of the world economy, and the new third phase (2012-13) is an increase in protectionist policies in 2013 above the level of 2009. We collect the bilateral protectionist (red) measures for 2009-12 per year.[7] The measures include various types of commercial policies, such as import and export tariffs, bailouts, various subsidies, government procurement, import bans, export restrictions, quotas, local content requirement, technical barriers to trade, trade finance, and other measures. We count the amount of protectionist (red) measures implemented by one country that affect the commercial interests of its trade partner. This is not a perfect way to deal with the volume of protectionism, but it gives a good proxy for the *relative intensity of bilateral protectionism* to calculate its potential affect on the bilateral trade growth in times of recession.

The yearly descriptive statistics on the top 20 country pairs for bilateral protectionism, ranked by the number of protectionist measures implemented by an offender (partner) to a victim (exporter), is presented in the Appendix in Table 3A.3. It shows that the main offenders and victims (with some exceptions) are the countries from the G-20 group. The column titled "Share" shows the percentage of the total measures adopted by an offender, which affect the particular victim ("the protectionist attention" from offender to victim). In the gravity and growth equations below, the victim is the exporter (export value on the left-hand side) and the offender is the partner. It is also interesting to consider the combination of top offenders as well as top victims per year. Thus, in 2009 Russia takes 19 places out of 20 for being the main offender.[8] In

[7]The red measure means that a measure has been implemented and almost certainly discriminates against foreign commercial interests. A detailed description of the meaning of the colors in the GTA dataset is provided in Table 3A.1 in the Appendix.

[8]Russia was the only G-20 country outside the WTO system during great trade collapse (2009) and even stopped the WTO accession process for about a year to conduct anti-crisis and industrial

2010 Russia shares this ranking with Argentina. In 2011 Argentina becomes the world main offender. In 2012 India takes the leading role, sharing it with Brazil, Argentina, and Russia.

We make several data modifications. Thus, we only take into account observations that have full data on the GDP, political regime type, and standard gravity variables. Those are 158 countries per year (the same countries over all the years). In the second block of variables in Equations 3.1 and 3.2 our relative group is DD (democracy-democracy). We also perform the following transformation of the GTA variables: $(log(value + 1))$. To estimate our gravity equation using the PPML method we use the export levels on the left-hand side $(X_{ij,t})$ as required by this method. To estimate our gravity using the OLS method we use $(log(X_{ij,t} + 1))$ on the left-hand side instead of $(X_{ij,t})$ (for PPML). The correlation tables are presented in the Appendix in Tables 3A.4, 3A.5, 3A.6, and 3A.7.

3.4 Empirical Strategy and Results of the Classical Gravity Model (for 2009-13)

3.4.1 Classical Gravity Strategy

We borrow the following hypothesis from Mansfield et al. (2000) and adjust it to the recent global systemic crisis:

Hypothesis 1: *The Aggregate trade barriers were lower between two democracies than within pairs consisting of democracy and autocracy in 2009-13.*

The theoretical prediction of Mansfield et al. (2000) is given only with respect to mixed pairs (democracy-autocracy) relative to two democracies. We take one more step and ask whether there is a systemic difference for the pairs of countries if an autocracy is an exporting country to a democracy or a democracy is an exporting country to an autocracy to check whether the political regime of the origin or destination plays a role.

We estimate the following empirical model, adding to the traditional gravity model three additional groups of policy variables: political regime, international agreements, and bilateral protectionism.

policies. For more information on the Russian commercial policy during crisis, please see Gerasimenko (2012).

$$
\begin{aligned}
X_{ij,t} \;=\; & log\beta_0 + \beta_1 log(GDP_{i,t-1}) + \beta_2 log(GDP_{j,t-1}) + \beta_3 log(Dist_{ij}) \\
& + \beta_4 Cont_{ij} + \beta_5 Lang_{ij} + \beta_6 Col_{ij} \\
& + \beta_7 (Democ^{exp}_{i,t-1} Autoc^{imp}_{j,t-1}) + \beta_8 (Autoc^{exp}_{i,t-1} Democ^{imp}_{j,t-1}) \\
& + \beta_9 (Autoc_{ij,t-1}) + \beta_{10} (Other_{ij,t-1}) \\
& + \beta_{11} BIT_{ij,t-1} + \beta_{12} RTA_{ij,t-1} + \beta_{13} WTO_{ij,t-1} \\
& + \beta_{14} log(\#RedMeasures_{ji,t-1} + 1) \\
& + \beta_{15} log(\#RedMeasures_{ij,t-1} + 1) + \varepsilon_{ij,t}
\end{aligned}
\tag{3.1}
$$

where t = 2009, 2010, 2011, 2012, and 2013 and where:

- $X_{ij,t}$ is an export value (level) of country i to j in t in US dollars.
- $log(GDP_{i,(t-1)})$ is a log of the GDP value of country i in $(t-1)$ in constant US dollars (2005).
- $log(GDP_{j,(t-1)})$ is a log of the GDP value of country j in $(t-1)$ in constant US dollars (2005).
- $log(Dist_{ij})$ is a log of the distance between two major cities in countries i and j.
- $Cont_{ij}$ - dummy variable - equals 1 if i and j have a common border.
- $Lang_{ij}$ - dummy variable - equals 1 if i and j have a common language.
- Col_{ij} - dummy variable - equals 1 if i and j share a colonial past.
- $(Democ^{exp}_{i,(t-1)} Autoc^{imp}_{j,(t-1)})$ - dummy variable - equals 1 if i is a democratic exporter and j is an autocratic partner in $(t-1)$.
- $(Autoc^{exp}_{i,(t-1)} Democ^{imp}_{j,(t-1)})$ - dummy variable - equals 1 if i is an autocratic exporter and j is a democratic partner in $(t-1)$.
- $Autoc_{ij,(t-1)}$ - dummy variable - equals 1 if both i and j are autocracies in $(t-1)$.
- $Other_{ij,(t-1)}$ - dummy variable - equals 1 if *at least* one country is an undefined political regime in $(t-1)$.

- $BIT_{ij,(t-1)}$ - dummy variable - equals 1 if i and j have a Bilateral Investment Treaty (BIT) in $(t-1)$.

- $RTA_{ij,(t-1)}$ - dummy variable - equals 1 if i and j are both members of at least one RTA in $(t-1)$.

- $WTO_{ij,(t-1)}$ - dummy variable - equals 1 if i and j are both the WTO members in $(t-1)$.

- $log(\#RedMeasures_{ij,(t-1)}+1)$ - log of the number of red measures country j (partner) introduced in $(t-1)$ that affect country i's (exporter) export interests plus one.

- $log(\#RedMeasures_{ji,(t-1)}+1)$ - log of the number of red measures country i (exporter) introduced in $(t-1)$ that affect country j's (partner) export interests plus one.

The empirical literature on gravity estimation (summarized in Head and Mayer, 2014) addresses two problems with the classical (log-linearized) OLS methodology. The first one is known as the problem of "zero" trade flows, that is, Helpman et al. (2008) report that around half of their observations do not trade. Around 20 per cent of observations (country pairs) in our study do not export goods, namely 25.058 out of 124.030. Thus, the log of zero is not defined. As a consequence, we either leave out a substantial part of the sample or (as performed often) we add one to the observed export value and then take the log ($log(X_{ij,t}+1)$). The first option may lead to severe selection bias and the second one depends on the units of measurement (for example, millions vs. thousands). Therefore, because of this measurement issue, the interpretation of coefficients as elasticities is lost (Head and Mayer, 2014, p. 51). The second big problem is (potential) heteroskedastic errors as it leads to biased and inconsistent estimates. Both those problems ("zero" trade flows and heteroskedasticity) are addressed by Silva and Tenreyro (2006), who show that the Poisson pseudo-maximum likelihood (PPML) method allows for the easy incorporation of zeros and consistent estimation even if the share of zeros is high. According to Silva and Tenreyro (2006) simulation study as well as some other studies (see Martinez-Zarzoso, 2013; Head and Mayer, 2014), PPML outperforms the alternatives, such as the classical ordinary least squares (OLS) method. The PPML estimator has additional desirable properties as described by Shepherd (2013, p. 51–54). First, it is consistent in the presence of fixed effects, which

can be entered as dummy variables. Second, the interpretation of the coefficients is straightforward and follows exactly the same pattern as under OLS. Although the dependent variable (export value) is specified in "levels" and not in "log-levels", the interpretation of coefficients of independent variables in logs is simple elasticity and the interpretation of those in levels is semi-elasticity. Therefore, we use the PPML method as the main tool to estimate our gravity model.[9] We also perform the estimation using the classical OLS to compare the results and as a robustness check. We estimate a panel (2010-13) as well as the separate years. We think that the great trade collapse (2009) and the trade patterns of the subsequent years deserve additional analysis for the reasons mentioned earlier in this chapter. As we do not have the GTA data for 2008, we estimate our gravity for the year 2009 without the GTA block of variables. The panel results for 2009-13 (without the GTA variables) are presented in Table 3.4.1 in column 1 (M3&2009). Our robustness check is to estimate the four blocks of variables step by step to check whether the coefficients and their sign remain robust with some extra variables added to the estimation.

3.4.2 Results of the Classical Gravity (2009-13) and Robustness Checks

The panel estimation results for Equation 3.1 using the PPML method are presented in Table 3.4.1 for 2010-13 (M1, M2, M3, and M4) and for 2009-13 (M3&2009). The columns M1, M2, M3, and M4 represent the specifications of Equation 3.1 consisting of four main blocks of variables: traditional gravity (M1), political regime variables (M2), international agreements (M3), and the GTA data on bilateral protectionism (M4). Adding them block by block to the estimation plays the role of an additional robustness check. Column 1 (M3&2009) in Table 3.4.1 has only the first three blocks of variables. This relates to the fact that the GTA data for 2008 are not available, as the GTA project has been monitoring the commercial policies around the world since November 2008.

The variables in the *first block* (traditional gravity) in Table 3.4.1 such as the GDP of exporter, GDP of the partner, distance, and contiguity are statistically significant through all the model specifications at the 1 per cent level. The values of coefficients do not vary much across specifications, which is a very robust result. This result is

[9]For the estimation we use the command for STATA developed by Silva and Tenreyro (2011), which is more stable and reliable than the build-in-command from STATA and, in addition, it automatically estimates robust standard errors.

also robust across different years separately (see Tables 3A.10, 3A.11, 3A.12, 3A.13). The colonial tie and common language variables do not show robust stable results for the panel version with the PPML. This concerns the yearly estimations presented in the Appendix, in which the colonial tie and common language are not significant in a yearly analysis.

The second block of variables (the political regime variables) does not support Hypothesis 1 and the theoretical predictions of Mansfield et al. (2000) with respect to mixed pairs relative to democratic dyads. Thus, the coefficients imply that the mixed pairs (democracy - autocracy) are estimated to trade 104 per cent more than the democratic dyads on average during the period 2009 to 2013.[10] The predicted volume of trade of a mixed pair of countries (autocracy - democracy) is 200 per cent higher than for a democratic pair of countries. Two autocracies trade 197 per cent more than two democracies. We discuss this astonishing result in the next section of this chapter in greater detail. Mansfield et al. (2000), using data for 1960-90, find that two autocracies trade around 10 per cent more than two democracies. They explained that finding by the specifics of the preferences of those autocratic regimes.

The *third block* of variables for the panel data shows that countries that have a common BIT in $(t-1)$ trade 6.5 per cent more in t. When both countries are WTO members in $(t-1)$, the predicted trade is 47 per cent higher. Countries that share a common RTA trade 87 per cent more on average.

We cannot calculate the effect of protectionism in the gravity model, as we do not compare the same country in two periods, but rather we can determine whether the countries that are affected by protectionism and are introducing protectionism themselves are also exporting more relative to the other countries in that year. The *fourth block* of variables (GTA) shows statistically significant and positive results. This means that the countries that are victims of protectionism also export more on average. Moreover, the countries that export more also introduce more protectionism themselves to support their domestic production and exports. This effect varies across the years, as presented in the Appendix in Tables 3A.10, 3A.11, 3A.12, and 3A.13.

Across the variables in the panel results that explain the trade flows, the GDP of the partner (0.812), a mixed political autocracy-democracy regime (1.123), and RTAs (0.6243) have the highest values of the coefficients in each of the blocks. The R-

[10]More precisely, the correct interpretation is calculated in the following way: $(e^{beta}-1)$. Thus, $e^{0.7127}-1$=1.0394, which means that the predicted volume of trade of a mixed pair of countries (democracy - autocracy) is 104 per cent higher than that of democratic dyads.

Table 3.4.1: (Pooled) Regression - Export Value - Years 2009/2010 to 2013 - PPML

	M3&2009	M1	M2	M3	M4
Log Exporter GDP - LAG1	0.8076***	0.7668***	0.7955***	0.8042***	0.7694***
	(0.007)	(0.009)	(0.008)	(0.008)	(0.008)
Log Partner GDP - LAG1	0.8446***	0.8117***	0.8338***	0.8452***	0.8129***
	(0.008)	(0.012)	(0.009)	(0.009)	(0.009)
Log Distance	-0.4395***	-0.4841***	-0.5641***	-0.4369***	-0.4403***
	(0.020)	(0.018)	(0.018)	(0.022)	(0.022)
Contiguity Dummy	0.6358***	0.6855***	0.6634***	0.6425***	0.5847***
	(0.053)	(0.064)	(0.070)	(0.059)	(0.060)
Common Language Dummy	0.1040**	0.0458	0.1373***	0.0978**	0.0911*
	(0.044)	(0.051)	(0.052)	(0.048)	(0.049)
Colonial-tie Dummy	0.0991**	-0.1280**	-0.0111	0.1034**	0.1092**
	(0.043)	(0.063)	(0.054)	(0.048)	(0.048)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*					
Democracy - Autocracy	0.7546***		0.5636***	0.7567***	0.7127***
	(0.054)		(0.061)	(0.059)	(0.060)
Autocracy - Democracy	1.1644***		0.9641***	1.1639***	1.1231***
	(0.058)		(0.057)	(0.062)	(0.054)
Autocracy - Autocracy	1.0536***		0.8556***	1.0645***	1.0881***
	(0.084)		(0.090)	(0.092)	(0.095)
Other	0.7765***		0.5059***	0.7647***	0.7312***
	(0.035)		(0.034)	(0.038)	(0.035)
International Relations with LAG1					
BIT Dummy	0.1265***			0.1211***	0.0627*
	(0.028)			(0.031)	(0.033)
RTA Dummy	0.5964***			0.5965***	0.6243***
	(0.037)			(0.040)	(0.041)
WTO Dummy	0.3852***			0.3695***	0.3878***
	(0.034)			(0.037)	(0.037)
GTA Policy Measure with LAG1					
Log Red Measures					0.0786***
(Partner to Exporter)					(0.018)
Log Red Measures					0.0805***
(Exporter to Partner)					(0.019)
Constant	-20.3404***	-16.8936***	-17.9275***	-20.2229***	-18.4875***
	(0.412)	(0.549)	(0.421)	(0.444)	(0.445)
Observations	124,030	99,224	99,224	99,224	99,224
R^2	0.759	0.652	0.742	0.766	0.774

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

square increases from 0.65 (the block of traditional gravity variables) to 0.74 (by adding political regime variables) and reaches 0.774 with GTA variables.

We also use the OLS model to estimate Equation 3.1 as a comparison and as an additional robustness check. The results are presented in the Appendix in Table 3A.8. The significance and sign of the coefficients remain the same for blocks 1, 3, and 4. The values of the coefficients with OLS are higher than those with PPML, which is normal because of heteroskedasticity (Silva and Tenreyro, 2006, p. 650). However, the sign of the variables from the second block (political regime variables) is the opposite, which can also be explained by the reasons mentioned in section 3.4.1, such as the biased OLS estimates because of heteroskedastic errors in the gravity model. Based on those arguments, we suggest trusting the PPML results, particularly because the other coefficients in PPML have the expected signs and expected relative magnitudes.

We also consider the bilateral trade patterns on a yearly basis (Tables 3A.9, 3A.10, 3A.11, 3A.12, and 3A.13). The yearly patterns of trade presented in those tables look stable and robust across all the years. This implies that the patterns of the great trade collapse, great trade recovery, and post-recovery trade flows on average remain the same. Interestingly, as mentioned above, the results for colonial tie and common language are not significant and not robust across the years. The significance of the BIT results varies across the model specifications in the yearly analysis.

3.4.3 Discussion of the Results for the Political Regime Variables

The panel data results from the PPML method do not support the theoretical predictions and the empirical findings of Mansfield et al. (2000). They find that a democratic dyad trades on average more than a mixed pair (democracy-autocracy) using the data for 1960-90 and the OLS method. Our OLS results, however, support these findings. There could be several explanations for this result, which are discussed in this section.

First, we discuss why the results differ between PPML and OLS. This fact concerns the reasons discussed in section 3.4.1, namely the presence of heteroskedastic errors that lead to biased OLS coefficients. The performance of the two methods is compared and discussed in several papers, as mentioned in section 3.4.1. The common conclusion following those studies is that PPML outperforms OLS in the case of the gravity model, especially with many "zero" trade flows. Therefore, we tend to trust the PPML results,

especially as the other coefficients show the expected results and expected relative magnitudes.

Now we turn to the arguments for why the PPML results, which show that democratic dyads traded fewer goods with each other in 2009-13 relative to the other political regime groups, can be reasonable.

The *first* possible explanation concerns the data and the sample. Modern data have better quality for more countries around the world. There was also a larger amount of democracies in the world in 2009-13 relative to 1960-90. We have data for 158 countries and about 90 of them are democracies (the figure differs per year, but not substantially, see Table 3A.2). The amount of democracies has increased substantially since 1960-90. Nowadays the world has new (small) democracies that do not export many goods and are more focused on service exports (like tourism, for example). Therefore, the average effect over many democracies, some of which do not trade many goods with each other, can contribute to the result that democratic dyads on average trade fewer goods than the other combinations of political regimes. This does not mean that democracies trade less in general; it just implies that, due to the new trend on the political map of the world in 2009-13 (an increased amount of democracies), on average two democracies trade fewer goods than a democracy would trade with the other political regimes. The "China" factor (autocracy) and its trade with 157 partners, of course, also affects the results substantially (Chinese exports to the countries around the world). Russia belongs, according to Polity IV, to the group "Other". It is also known to be a large trader-importer. However, the theory gives a general prediction and we take it as it is and check its generality using the data available at this moment in time. Another question, of course, is the definition of the political regime. To our best knowledge the Polity IV database is a very authoritative database on the political regimes around the world and includes information on more than 166 countries over many years. It is, however, a question of whether alternative definitions of the political regimes (in case they become available to us) would give the same results.

Our sample is large, consisting of 158 countries, including around 20 per cent of country pairs that do not trade at all. Thus, if we limited the sample to the country pairs that actually trade in goods, or exclude China and Russia, the result for democracies could be different but selection biased. In that case, it could support the theory, but the theory would not be general and would require adjustments to the new trade patterns.

The *second* potential explanation that contributes to the result is the new trade patterns around the world. Those changes include rapidly increasing service trade, es-

pecially the rise of BRICS and Internet trade, as well as supply chains and outsourcing. Those factors have changed the trade map dramatically in the last 10 years. They have changed the trade flows and redirected the goods trade towards developing countries. Looking at the patterns of outsourcing, service trade, and supply chains, one can see that more service work is conducted in developed countries and more and more manufacturing (and assembling) is concentrated in the developing world and in BRICS. Trade (both goods and services) is becoming truly global and increasingly less dependent on the political regime type (the best example of this phenomenon is China). It is interesting for further research to estimate our gravity model again including the political regime variables from 1960 until 2014 using the PPML method to ascertain whether those changes are indeed taking place on a bilateral basis.

The *third* block of this discussion is about the theory of political economy of commercial policy making in the different political regimes (in times of crisis). We would like to make one comment on the theory of Mansfield et al. (2000) following their logic. Taking into account the resorting to anti-crisis policies and protection as well as the return to industrial policies around the world from 2008 onwards, one can presume that political regimes other than democracies can adjust to crisis situations faster than democracies. In the theory the predictions are only given with respect to democratic dyads relative to mixed pairs. No prediction is made with respect to two autocracies or combinations with other political regimes. The authors even point out that the preferences of autocratic leaders can be different (from a benevolent dictator with free trade in mind to a protectionist leader). We argue that those preferences can also change rapidly and be implemented much faster than in the divided polity environment, which requires negotiations and the agreement of multiple actors. It could be that in times of crisis the political process in a democracy is more cumbersome in implementing anti-crisis measures. Therefore, the trade flows of all the other groups of political regimes (including autocracy and the group "Other" trading with a democracy) are higher than between two democracies during times of crisis. Although one might expect the trade patterns in 2009-10 (the great trade collapse and great trade recovery) to be different from those in the following years (2011-13), interestingly, the patterns of trade remain the same across all the years of analysis (2009-13). These patterns look like a robust trend from 2009 onwards. In the next section we check whether the democratic dyads had a smaller bilateral trade collapse in 2008-9 and/or a faster trade recovery in 2009-10 due to the institutional quality of anti-crisis management.

3.5 Empirical Strategy and Results of the (Goods) Trade Growth (2008-10) Model

3.5.1 (Goods) Trade Growth (2008-10) Model

Another interesting question concerns what determined the export change (growth) during the crisis (2008-10). The great trade collapse in 2009 threatened the world economy. As reported by the World Trade Organization (2014), in 2009 the volume of world exports was falling by 12 per cent, while the value of world exports was falling by 23 per cent. The global GDP fell by 2 per cent in 2009 and recovered by 4 per cent in 2010. In 2010 the volume of export recovered by 14 per cent (the value of exports increased by 22 per cent).

We take the first difference of the logs for the *traditional gravity part* of our gravity model (i.e. the growth rate). The fixed effects, such as distance, language, colony, and a common border, will disappear from that new equation as they are time invariant. However, we keep in our growth equation the political regime variables (the second block), international institutions (the third block), and the GTA set of variables (the fourth block). There are two reasons for this. First, we are interested in the effect of a political regime on the export change (export collapse, export recovery) and not in the effect of a change in the political regime on the export change in 2008-10. Second, the way in which the political variables are designed in the second part of our gravity equation is too complicated to capture the difference. The same argument is relevant to the international agreements block of variables (RTAs, BITs, and WTO). The fourth block of variables consists of the trade protectionism flow per year, which is already a yearly change.

Bems et al. (2012) review the trade collapse (2008-9) literature and find that the real final expenditure (the demand side) was responsible for most of the international trade collapse in 2009. We can check that statement by looking at the export change (growth) and the GDP change (growth) of the partner. The second channel was the disrupted export supply as well as impeded international transactions (the supply side), which can indirectly be reflected in the GDP growth of the exporter. The third channel (protectionism) is not found to explain the trade collapse, as mentioned in the literature review part of our study. We can check the first channel and indirectly the second channel for both the trade collapse (2008-9) and the trade recovery (2009-10). As we only have the GTA bilateral protectionist flows from 2009 onwards, we can only use

them to check the trade recovery part. We are, however, interested in the following question: what was the role of bilateral political regimes (two democracies vs. other dyads) in the trade flow fluctuations during the great trade collapse and recovery?

We argue that the channels responsible for the trade collapse mentioned by Bems et al. (2012) might involve the political regime setting. We argue that two channels, the total spending and the disrupted export supply, related to the financial difficulties could be better handled within the democratic regimes due to the quality of institutions and the quality of the anti-crisis management overall. This argument does not necessarily hold for the after-recovery (stability) times, as there can be other long-term factors determining the export growth, such as the market potential or the speed of market development, which can be higher for autocracies or for other political regimes. Therefore, we offer the following hypothesis to test:

Hypothesis 2: *Two democracies have higher export growth during 2008-10 (great trade collapse and great trade recovery) relative to the other dyads.*

We look at the great trade collapse (2008-9) and the great trade recovery (2009-10) separately. We use the OLS model to estimate our growth Equation 3.2.

Our econometric specification is as follows:

$$\begin{aligned} log(X_{ij,t}/X_{ij,t-1}) &= log\beta_0 + \beta_1 log(GDP_{i,t}/GDP_{i,t-1}) + \beta_2 log(GDP_{j,t}/GDP_{j,t-1}) \\ &+\beta_3(Democ^{exp}_{i,t-1}Autoc^{imp}_{j,t-1}) + \beta_4(Autoc^{exp}_{i,t-1}Democ^{imp}_{j,t-1}) \\ &+\beta_5(Autoc_{ij,t-1}) + \beta_6 Other_{ij,t-1} \\ &+\beta_7 BIT_{ij,t-1} + \beta_8 RTA_{ij,t-1} + \beta_9 WTO_{ij,t-1} \\ &+\beta_{10} log(\#RedMeasures_{ji,t-1} + 1) \\ &+\beta_{11} log(\#RedMeasures_{ji,t-1} + 1) + \varepsilon_{ij,t} \end{aligned} \tag{3.2}$$

- $log(X_{ij,t}/X_{ij,(t-1)})$ is a log of the export growth rate of country i to j in t relative to $(t-1)$.

- $log(GDP_{i,t}/GDP_{i,(t-1)})$ is a log of the GDP growth rate of country i in t relative to $(t-1)$.

- $log(GDP_{j,t}/GDP_{j,(t-1)})$ is a log of the GDP growth rate of country j in t relative to $(t-1)$.
- $(Democ^{exp}_{i,(t-1)}Autoc^{imp}_{j,(t-1)})$ - dummy variable - equals 1 if i is a democratic exporter and j is an autocratic partner in $(t-1)$.
- $(Autoc^{exp}_{i,(t-1)}Democ^{imp}_{j,(t-1)})$ - dummy variable - equals 1 if i is an autocratic exporter and j is a democratic partner in $(t-1)$.
- $Autoc_{ij,(t-1)}$ - dummy variable - equals 1 if both i and j are autocracies in $(t-1)$.
- $Other_{ij,(t-1)}$ - dummy variable - equals 1 if *at least* one country is an undefined political regime in $(t-1)$.
- $BIT_{ij,(t-1)}$ - dummy variable - equals 1 if i and j have a Bilateral Investment Treaty (BIT) in $(t-1)$.
- $RTA_{ij,(t-1)}$ - dummy variable - equals 1 if i and j are both members of at least one RTA in $(t-1)$.
- $WTO_{ij,(t-1)}$ - dummy variable - equals 1 if i and j are both the WTO members in $(t-1)$.
- $log(\#RedMeasures_{ij,(t-1)}+1)$ - log of the number of red measures country j (partner) introduced in $(t-1)$ that affect country i's (exporter) export interests plus one.
- $log(\#RedMeasures_{ji,(t-1)}+1)$ - log of the number of red measures country i (exporter) introduced in $(t-1)$ that affect country j's (partner) export interests plus one.

We only use the pairs of countries for this estimation that have trade growth that is mathematically defined. We also removed the extreme outliers for the variable $log(X_{ij,t}/X_{ij,(t-1)})$. We drop 142 observations out of 15'974 (0.01 per cent of observations).

3.5.2 Results of the (Goods) Trade Growth (2008-10) Model and Robustness Checks

The results are presented in Tables 3.5.1 and 3.5.2. With respect to the great trade collapse in 2008-9, the coefficient for the GDP growth of a partner is positive, statisti-

cally significant, and robust. It means that if there is an increase in the demand side of the partner (partner's GDP increase), the exporter can export more to the partner. This result is in line with the first explanation of the trade collapse described by Bems et al. (2012), who point out that the real final expenditure decline (demand side) caused the great trade collapse. The GDP growth of the exporter is not found to be significant in explaining the export growth in 2009. We find only one robust result for 2008-9 with respect to the political regime variables. It shows that the country pair group classified as "Other" is predicted to have 7 per cent more growth than democratic dyads. We should say that the group "Other" is the most complicated category. The group "Other" includes "anocracies" (-5 to 5 and three special values: -66, -77 and -88) and their combinations with autocracies, democracies, and other anocracies. The "Other" pair of countries, for example, includes such pairs as Russia-Germany, Germany-Russia, Russia-China, USA-Russia, and others. We do not find that the democratic pairs achieved higher export growth than the other pairs of political regimes in 2009. However, if both countries were WTO members during the great trade collapse in period $(t-1)$, the model predicts 7 per cent more export growth in 2009. On the contrary, if two countries have a BIT in period $(t-1)$, the model predicts 8 per cent less export growth.

Now we turn to the great trade recovery in 2009-10. The GDP growth of the partner has an even higher coefficient than in 2009, and it is statistically significant at the 1 per cent level. The autocracy (exporter) - democracy (partner) pairs recovered their exports faster than two democracies (almost 14 per cent higher growth than the average export growth rate of two democracies). This fact could also be driven by the factor "China" and its exports to democracies. We do not find any statistically significant effect of bilateral protectionism on goods trade growth in 2009-10 (the way that we constructed those variables).

The explanations of the results provided in Section 3.4.3 are also relevant to the findings of this section with respect to the political regime variables.

3.6 Conclusion

The theoretical and empirical work carried out by Mansfield et al. (2000) and by Mansfield et al. (2002) shows that the political regime affects the trade flows between two countries as well as their willingness to cooperate in an economic arena such as RTAs. The authors claim that the aggregate trade barriers are lower between two democracies

Table 3.5.1: Regression - Log Export Growth - Year 2009 - OLS

	M1	M2
Log Exporter GDP Growth	0.2803	0.2537
	(0.250)	(0.254)
Log Partner GDP Growth	1.6381***	1.6069***
	(0.221)	(0.223)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*		
Democracy - Autocracy	-0.0262	0.0086
	(0.042)	(0.045)
Autocracy - Democracy	-0.0455	-0.0135
	(0.058)	(0.059)
Autocracy - Autocracy	-0.2482**	-0.1902
	(0.119)	(0.121)
Other	0.0616**	0.0696**
	(0.026)	(0.027)
International Relations with LAG1		
BIT Dummy		-0.0871***
		(0.020)
RTA Dummy		0.0202
		(0.024)
WTO - Membership Dummy		0.0722**
		(0.033)
Constant	-0.1589***	-0.2060***
	(0.017)	(0.038)
Observations	15,832	15,832
R^2	0.005	0.006

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3.5.2: Regression - Log Export Growth - Year 2010 - OLS

	M1	M2	M3
Log Exporter GDP Growth	0.2333	0.2379	0.2263
	(0.337)	(0.341)	(0.342)
Log Partner GDP Growth	2.3062***	2.3101***	2.3265***
	(0.339)	(0.342)	(0.342)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*			
Democracy - Autocracy	-0.0555	-0.0418	-0.0417
	(0.038)	(0.041)	(0.041)
Autocracy - Democracy	0.1152**	0.1279**	0.1272**
	(0.051)	(0.053)	(0.053)
Autocracy - Autocracy	-0.0913	-0.0691	-0.0690
	(0.098)	(0.100)	(0.100)
Other	-0.0291	-0.0234	-0.0260
	(0.023)	(0.025)	(0.025)
International Relations with LAG1			
BIT Dummy		-0.0030	0.0021
		(0.019)	(0.018)
RTA Dummy		-0.0037	-0.0026
		(0.022)	(0.022)
WTO - Membership Dummy		0.0338	0.0345
		(0.031)	(0.031)
GTA Policy Measures with LAG1			
Log Red Measures (P. to Exp.)			0.0021
			(0.012)
Log Red Measures (Exp. to P.)			-0.0173
			(0.012)
Constant	0.0786***	0.0490	0.0526
	(0.022)	(0.040)	(0.040)
Observations	15,832	15,832	15,832
R^2	0.003	0.004	0.004

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

than within the country pairs consisting of democracy and autocracy. This statement is based on the divided polity argument (executive vs. legislative power) for democracies, which highlights the role of the legislator in the trade policy making. The authors test this hypothesis using the OLS method using the data for 1960-90 and find that democratic dyads, indeed, had freer trade relationships than mixed pairs in that period.

To the best of our knowledge, this chapter is the first attempt to assess the role of the political regime during the great trade collapse and global recession (2009-13) using the bilateral gravity approach and the Poisson pseudo-maximum likelihood (PPML) method. We also constructed a bilateral protectionism data set using the Global Trade Alert database to control for commercial policies around the world during the recent global economic crisis and the post-crisis period (2009-13). Using the standard gravity approach and the theoretical predictions of Mansfield et al. (2000), we estimated the effect of being a democratic pair of countries on (goods) export flows, controlling for international institutions as well as for the flow of bilateral protectionism during 2009-13 for 158 countries. Taking the first difference of logs from our gravity model, we constructed the export growth model to check whether the democratic dyads had a smaller bilateral trade collapse in 2008-9 and a faster trade recovery in 2009-10 due to the institutional quality and the quality of the anti-crisis management overall.

Using the PPML method to test our gravity model for the goods trade flows during the crisis and after the crisis recovery (2009-13), we found that our results do not support the predictions of the model developed by Mansfield et al. (2000). On the contrary, we found that two democratic countries traded less than all the other combinations of country pairs in 2009-13, and we suggested several reasons why this could be the case: the econometric model specification (PPML vs. biased OLS); the data quality and the amount of countries (158 in total and around 90 democracies in the sample); the new trade patterns around the world, such as trade in services, world supply chains, and outsourcing; "China" factor; and the political economy of commercial policy theory adjusted to the time of crisis, in which, because of the divided polity and multiple actors, it is more cumbersome for two democracies to react on time to the changing economic circumstances. We also do not find that the democratic dyads had a smaller bilateral trade collapse in 2008-9 or a faster trade recovery in 2009-10.

Across the variables in the panel results that explain the trade flows, the GDP of the partner and exporter, mixed autocracy-democracy political regimes, and RTAs have the highest explanatory power for the trade flows in 2009-13. The GDP growth of the partner, the political regime group "Other", and WTO bilateral membership

explain the trade growth in 2008-9 (the great trade collapse). The GDP growth of the partner and a mixed autocracy-democracy political regime have explanatory power for the great trade recovery in 2009-10.

This chapter contributes to the literature on the relationship between trade policy and political regime as well as to the literature on modern commercial policy developments during the great trade collapse and the recent global recession. Further research could be undertaken to study those issues. Thus, one could run the gravity model presented in this chapter using the PPML method for 1960-2014 data to check whether the differences in trade patterns discussed in section 3.4.3 are indeed taking place. Another research question that deserves special attention is whether there are any systemic differences in the patterns of protectionism among different political regimes or political regime groups during the period 2009-14.

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3A Appendix to Chapter 3

Table 3A.1: Global Trade Alert GTA Colour Codes

Colour Code		Criteria
Red	(i)	The measure has been implemented and almost certainly discriminates against foreign commercial interests.
Amber	(i)	The measure has been implemented and may involve discrimination against foreign commercial interests; *or*
	(ii)	The measure has been announced or is under consideration and would (if implemented) almost certainly involve discrimination against foreign commercial interests.
Green	(i)	The measure has been announced and involves liberalization on a non-discriminatory (i.e. most-favoured nation) basis; *or*
	(ii)	The measure has been implemented and is found (upon investigation) not to be discriminatory: *or*
	(iii)	The measure has been implemented, involves no further discrimination, and improves the transparency of a jurisdiction's trade-related policies.

Source: Global Trade Alert, available at www.globaltradealert.org.

Table 3A.2: Country and Political Regime by Year

	2008	2009	2010	2011	2012	2013
Afghanistan	O	O	O	O	O	O
Albania	D	D	D	D	D	D
Algeria	O	O	O	O	O	O
Angola	O	O	O	O	O	O
Argentina	D	D	D	D	D	D
Armenia	O	O	O	O	O	O
Australia	D	D	D	D	D	D
Austria	D	D	D	D	D	D
Azerbaijan	A	A	A	A	A	A
Bahrain	A	A	O	A	A	A
Bangladesh	A	O	O	O	O	O
Belarus	A	A	A	A	A	A
Belgium	D	D	D	D	D	D
Benin	D	D	D	D	D	D
Bhutan	O	O	O	O	O	O
Bolivia (Plurinational State of)	D	D	D	D	D	D
Bosnia and Herzegovina	O	O	O	O	O	O
Botswana	D	D	D	D	D	D
Brazil	D	D	D	D	D	D
Bulgaria	D	D	D	D	D	D
Burkina Faso	O	O	O	O	O	O
Burundi	D	D	D	D	D	D
Cabo Verde	D	D	D	D	D	D
Cambodia	O	O	O	O	O	O
Cameroon	O	O	O	O	O	O
Canada	D	D	D	D	D	D
Central African Republic	O	O	O	O	O	O
Chad	O	O	O	O	O	O
Chile	D	D	D	D	D	D
China	A	A	A	A	A	A
Colombia	D	D	D	D	D	D
Comoros	D	D	D	D	D	D
Congo	O	O	O	O	O	O
Costa Rica	D	D	D	D	D	D
Croatia	D	D	D	D	D	D
Cuba	A	A	A	A	A	A
Cyprus	D	D	D	D	D	D
Czech Republic	D	D	D	D	D	D
Cote d'Ivoire	O	O	O	O	O	O
Democratic Republic of the Congo	O	O	O	O	O	O

Note: The total number of countries is 158. "D"- democracy "A"- autocracy and "O"- other.

Table 3A.2: Country and Political Regime by Year (continued)

	2008	2009	2010	2011	2012	2013
Denmark	D	D	D	D	D	D
Djibouti	O	O	O	O	O	O
Dominican Republic	D	D	D	D	D	D
Ecuador	O	O	O	O	O	O
Egypt	O	O	O	O	O	O
El Salvador	D	D	D	D	D	D
Equatorial Guinea	O	O	O	O	O	O
Eritrea	A	A	A	A	A	A
Estonia	D	D	D	D	D	D
Ethiopia	O	O	O	O	O	O
Fiji	O	O	O	O	O	O
Finland	D	D	D	D	D	D
France	D	D	D	D	D	D
Gabon	O	O	O	O	O	O
Gambia	O	O	O	O	O	O
Georgia	D	D	D	D	D	D
Germany	D	D	D	D	D	D
Ghana	D	D	D	D	D	D
Greece	D	D	D	D	D	D
Guatemala	D	D	D	D	D	D
Guinea	O	O	O	O	O	O
Guinea-Bissau	D	D	D	D	O	O
Guyana	D	D	D	D	D	D
Haiti	O	O	O	O	O	O
Honduras	D	D	D	D	D	D
Hungary	D	D	D	D	D	D
India	D	D	D	D	D	D
Indonesia	D	D	D	D	D	D
Iran (Islamic Republic of)	A	A	A	A	A	A
Iraq	O	O	O	O	O	O
Ireland	D	D	D	D	D	D
Israel	D	D	D	D	D	D
Italy	D	D	D	D	D	D
Japan	D	D	D	D	D	D
Jordan	O	O	O	O	O	O
Kazakhstan	A	A	A	A	A	A
Kenya	D	D	D	D	D	D
Kuwait	A	A	A	A	A	A
Kyrgyzstan	O	O	O	D	D	D
Lao People's Democratic Republic	A	A	A	A	A	A

Note: The total number of countries is 158. "D"- democracy "A"- autocracy and "O"- other.

Table 3A.2: Country and Political Regime by Year (continued)

	2008	2009	2010	2011	2012	2013
Latvia	D	D	D	D	D	D
Lebanon	D	D	D	D	D	D
Lesotho	D	D	D	D	D	D
Liberia	D	D	D	D	D	D
Libya	A	A	A	O	O	O
Lithuania	D	D	D	D	D	D
Luxembourg	D	D	D	D	D	D
Madagascar	D	O	O	O	O	O
Malawi	D	D	D	D	D	D
Malaysia	D	D	D	D	D	D
Mali	D	D	D	D	O	O
Mauritania	O	O	O	O	O	O
Mauritius	D	D	D	D	D	D
Mexico	D	D	D	D	D	D
Mongolia	D	D	D	D	D	D
Morocco	A	A	A	O	O	O
Mozambique	O	O	O	O	O	O
Namibia	D	D	D	D	D	D
Nepal	D	D	D	D	D	D
Netherlands	D	D	D	D	D	D
New Zealand	D	D	D	D	D	D
Nicaragua	D	D	D	D	D	D
Niger	D	O	O	D	D	D
Nigeria	O	O	O	O	O	O
Norway	D	D	D	D	D	D
Oman	A	A	A	A	A	A
Pakistan	O	O	D	D	D	D
Panama	D	D	D	D	D	D
Papua New Guinea	O	O	O	O	O	O
Paraguay	D	D	D	D	D	D
Peru	D	D	D	D	D	D
Philippines	D	D	D	D	D	D
Poland	D	D	D	D	D	D
Portugal	D	D	D	D	D	D
Qatar	A	A	A	A	A	A
Republic of Korea	D	D	D	D	D	D
Republic of Moldova	D	D	D	D	D	D
Romania	D	D	D	D	D	D
Russian Federation	O	O	O	O	O	O
Rwanda	O	O	O	O	O	O

Note: The total number of countries is 158. "D"- democracy "A"- autocracy and "O"- other.

Table 3A.2: Country and Political Regime by Year (continued)

	2008	2009	2010	2011	2012	2013
Saudi Arabia	A	A	A	A	A	A
Senegal	D	D	D	D	D	D
Serbia	D	D	D	D	D	D
Sierra Leone	D	D	D	D	D	D
Singapore	O	O	O	O	O	O
Slovakia	D	D	D	D	D	D
Slovenia	D	D	D	D	D	D
Solomon Islands	D	D	D	D	D	D
South Africa	D	D	D	D	D	D
Spain	D	D	D	D	D	D
Sri Lanka	D	D	O	O	O	O
Sudan	O	O	O	O	O	O
Suriname	O	O	O	O	O	O
Swaziland	A	A	A	A	A	A
Sweden	D	D	D	D	D	D
Switzerland	D	D	D	D	D	D
Tajikistan	O	O	O	O	O	O
Thailand	O	O	O	D	D	D
TFY Republic of Macedonia	D	D	D	D	D	D
Timor-Leste	D	D	D	D	D	D
Togo	O	O	O	O	O	O
Trinidad and Tobago	D	D	D	D	D	D
Tunisia	O	O	O	O	O	O
Turkey	D	D	D	D	D	D
Turkmenistan	A	A	A	A	A	A
Uganda	O	O	O	O	O	O
Ukraine	D	D	D	D	D	D
United Arab Emirates	A	A	A	A	A	A
United Kingdom	D	D	D	D	D	D
United Republic of Tanzania	O	O	O	O	O	O
United States of America	D	D	D	D	D	D
Uruguay	D	D	D	D	D	D
Uzbekistan	A	A	A	A	A	A
Venezuela	O	O	O	O	O	O
Viet Nam	A	A	A	A	A	A
Yemen	O	O	O	O	O	O
Zambia	D	D	D	D	D	D
Zimbabwe	O	O	O	O	O	O

Note: The total number of countries is 158. "D"- democracy "A"- autocracy and "O"- other.

Table 3A.3: GTA Database Offender Red Measures - Years 2009 to 2012

2009							
Rank	Victim (V)	V-Regime	Offender (O)	O-Regime	Nb. Red	O-Total	Share
1	France	D	Russia	O	46	65	70.77
2	USA	D	Russia	O	45	65	69.23
3	Ukraine	D	Russia	O	44	65	67.69
4	Germany	D	Russia	O	43	65	66.15
5	China	A	Russia	O	43	65	66.15
6	Poland	D	Russia	O	41	65	63.08
7	Italy	D	Russia	O	40	65	61.54
8	Finland	D	Russia	O	40	65	61.54
9	Netherlands	D	Russia	O	39	65	60.00
10	Sweden	D	Russia	O	37	65	56.92
11	China	A	India	D	37	58	63.79
12	United Kingdom	D	Russia	O	35	65	53.85
13	Republic of Korea	D	Russia	O	35	65	53.85
14	Belgium	D	Russia	O	35	65	53.85
15	Lithuania	D	Russia	O	34	65	52.31
16	Czech Republic	D	Russia	O	33	65	50.77
17	Canada	D	Russia	O	32	65	49.23
18	Japan	D	Russia	O	31	65	47.69
19	Spain	D	Russia	O	31	65	47.69
20	Turkey	D	Russia	O	31	65	47.69

Note: The share is the percentage of total red measures introduced by the offender.

Table 3A.3: GTA Database Offender Red Measures - Years 2009 to 2012 (continued)

2010							
Rank	Victim (V)	V-Regime	Offender (O)	O-Regime	Nb. Red	O-Total	Share
1	China	A	Argentina	D	36	55	65.45
2	China	A	India	D	32	54	59.26
3	France	D	Russia	O	29	54	53.70
4	Ukraine	D	Russia	O	29	54	53.70
5	Germany	D	Russia	O	29	54	53.70
6	Poland	D	Russia	O	28	54	51.85
7	China	A	Russia	O	27	54	50.00
8	USA	D	Russia	O	25	54	46.30
9	Italy	D	Russia	O	25	54	46.30
10	Brazil	D	Argentina	D	24	55	43.64
11	Germany	D	Argentina	D	23	55	41.82
12	Netherlands	D	Russia	O	23	54	42.59
13	Lithuania	D	Russia	O	23	54	42.59
14	USA	D	Argentina	D	22	55	40.00
15	Finland	D	Russia	O	22	54	40.74
16	USA	D	India	D	22	54	40.74
17	Spain	D	Russia	O	22	54	40.74
18	Republic of Korea	D	Russia	O	21	54	38.89
19	Turkey	D	Russia	O	21	54	38.89
20	China	A	USA	D	21	33	63.64

Note: The share is the percentage of total red measures introduced by the offender.

Table 3A.3: GTA Database Offender Red Measures - Years 2009 to 2012 (continued)

2011							
Rank	Victim (V)	V-Regime	Offender (O)	O-Regime	Nb. Red	O-Total	Share
1	China	A	Argentina	D	64	86	74.42
2	USA	D	Argentina	D	47	86	54.65
3	Brazil	D	Argentina	D	44	86	51.16
4	Italy	D	Argentina	D	43	86	50.00
5	France	D	Argentina	D	34	86	39.53
6	Spain	D	Argentina	D	33	86	38.37
7	Germany	D	Argentina	D	31	86	36.05
8	Mexico	D	Argentina	D	30	86	34.88
9	Japan	D	Argentina	D	28	86	32.56
10	Thailand	D	Argentina	D	27	86	31.40
11	United Kingdom	D	Argentina	D	25	86	29.07
12	Republic of Korea	D	Argentina	D	25	86	29.07
13	Chile	D	Argentina	D	23	86	26.74
14	China	A	India	D	23	34	67.65
15	Belgium	D	Argentina	D	22	86	25.58
16	France	D	Belarus	A	21	28	75.00
17	India	D	Argentina	D	20	86	23.26
18	China	A	UK	D	20	31	64.52
19	Ukraine	D	Belarus	A	19	28	67.86
20	Germany	D	Belarus	A	18	28	64.29

Note: The share is the percentage of total red measures introduced by the offender.

Table 3A.3: GTA Database Offender Red Measures - Years 2009 to 2012 (continued)

2012							
Rank	Victim (V)	V-Regime	Offender (O)	O-Regime	Nb. Red	O-Total	Share
1	China	A	India	D	34	64	53.13
2	France	D	India	D	25	64	39.06
3	China	A	Argentina	D	25	48	52.08
4	China	A	Brazil	D	23	33	69.70
5	USA	D	India	D	22	64	34.38
6	Italy	D	India	D	21	64	32.81
7	China	A	Russia	O	21	45	46.67
8	USA	D	Brazil	D	21	33	63.64
9	Germany	D	India	D	20	64	31.25
10	Mexico	D	Brazil	D	19	33	57.58
11	Japan	D	India	D	18	64	28.13
12	France	D	Brazil	D	18	33	54.55
13	Germany	D	Brazil	D	18	33	54.55
14	Italy	D	Brazil	D	18	33	54.55
15	Belgium	D	India	D	17	64	26.56
16	United Arab Emirates	A	India	D	17	64	26.56
17	United Kingdom	D	India	D	17	64	26.56
18	Republic of Korea	D	India	D	17	64	26.56
19	USA	D	Argentina	D	17	48	35.42
20	China	A	USA	D	16	40	40.00

Note: The share is the percentage of total red measures introduced by the offender.

Table 3A.4: Correlations Table for Regressors of the "Export Value" Model for the Years 2010-13

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) Log Export Value	1.00																
(2) Export Value	0.17	1.00															
(3) Log Exporter GDP - LAG1	0.57	0.17	1.00														
(4) Log Partner GDP - LAG1	0.47	0.17	-0.01	1.00													
(5) Log Distance	-0.21	-0.09	-0.02	-0.02	1.00												
(6) Contiguity	0.12	0.14	0.02	0.02	-0.39	1.00											
(7) Common Language	0.03	0.01	-0.06	-0.06	-0.16	0.14	1.00										
(8) Colonial-tie	0.12	0.05	0.08	0.08	-0.07	0.10	0.15	1.00									
(9) Democracy - Autocracy Lag1	0.03	0.01	0.05	0.05	0.02	-0.03	-0.06	-0.01	1.00								
(10) Autocracy - Democracy Lag1	0.03	0.03	0.05	0.05	0.02	-0.03	-0.06	-0.01	-0.07	1.00							
(11) Autocracy - Autocracy Lag1	-0.03	0.01	0.02	0.02	-0.08	0.05	0.00	-0.01	-0.03	-0.03	1.00						
(12) Other Lag1	-0.23	-0.08	-0.18	-0.18	0.00	0.00	0.07	-0.02	-0.29	-0.29	-0.12	1.00					
(13) BIT - Lag1	0.39	0.06	0.28	0.28	-0.25	0.06	-0.02	0.13	0.05	0.05	0.03	-0.19	1.00				
(14) RTA - Lag1	0.27	0.10	0.12	0.12	-0.52	0.25	0.13	0.07	-0.07	-0.07	0.02	-0.11	0.25	1.00			
(15) WTO - Lag1	0.23	0.05	0.12	0.12	0.08	-0.01	0.05	0.02	-0.12	-0.12	-0.11	-0.12	0.06	0.09	1.00		
(16) Log Red (P. to Exp.) Lag1	0.35	0.23	0.25	0.37	-0.08	0.08	-0.04	0.09	0.01	0.04	-0.01	-0.18	0.30	0.13	0.08	1.00	
(17) Log Red (Exp. to P.) Lag1	0.37	0.23	0.37	0.25	-0.08	0.08	-0.04	0.09	0.04	0.01	-0.01	-0.18	0.30	0.13	0.08	0.33	1.00

Notes: The total amount of observations (country pairs) for 4 years is 99,224 (four times 24,806).

Table 3A.5: Correlation Table for Regressors of the "Export Value" Model for the Years 2009-13

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Log Export Value	1.000													
(2) Export Value	0.169	1.000												
(3) Log Exporter GDP - LAG1	0.571	0.166	1.000											
(4) Log Partner GDP - LAG1	0.470	0.172	-0.006	1.000										
(5) Log Distance	-0.215	-0.094	-0.021	-0.021	1.000									
(6) Contiguity	0.119	0.141	0.022	0.022	-0.393	1.000								
(7) Common Language	0.040	0.013	-0.062	-0.062	-0.159	0.138	1.000							
(8) Colonial-tie	0.121	0.047	0.085	0.085	-0.068	0.102	0.152	1.000						
(9) Democracy - Autocracy Lag1	0.026	0.011	0.053	0.045	0.020	-0.026	-0.061	-0.014	1.000					
(10) Autocracy - Democracy Lag1	0.025	0.032	0.045	0.053	0.020	-0.026	-0.061	-0.014	-0.075	1.000				
(11) Autocracy - Autocracy Lag1	-0.023	0.004	0.020	0.020	-0.079	0.051	0.003	-0.013	-0.033	-0.033	1.000			
(12) Other Lag1	-0.231	-0.075	-0.182	-0.182	0.002	0.000	0.071	-0.021	-0.286	-0.286	-0.125	1.000		
(13) BIT - Lag1	0.386	0.063	0.279	0.280	-0.248	0.059	-0.020	0.129	0.045	0.046	0.034	-0.189	1.000	
(14) RTA - Lag1	0.272	0.101	0.115	0.115	-0.522	0.249	0.134	0.070	-0.068	-0.068	0.018	-0.109	0.248	1.000
(15) WTO - Lag1	0.231	0.048	0.119	0.119	0.082	-0.011	0.051	0.018	-0.114	-0.114	-0.110	-0.118	0.058	0.094

Notes: The total amount of observations (country pairs) for 5 years is 124,030 (five times 24,806).

Table 3A.6: Correlation Table for Regressors of the "Export Growth" Model for the Years 2010-13

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Log Export Growth	1.000											
(2) Log Exporter GDP Growth	0.037	1.000										
(3) Log Partner GDP Growth	0.058	-0.005	1.000									
(4) Democracy - Autocracy - Lag1	-0.003	-0.035	0.029	1.000								
(5) Autocracy - Democracy - Lag1	-0.001	0.062	-0.030	-0.064	1.000							
(6) Autocracy - Autocracy - Lag1	0.004	0.029	0.020	-0.021	-0.021	1.000						
(7) Other - Lag1	0.010	0.046	0.048	-0.233	-0.235	-0.077	1.000					
(8) BIT -Lag1	-0.005	-0.046	-0.041	0.051	0.050	0.034	-0.165	1.000				
(9) RTA - Lag1	-0.004	-0.099	-0.087	-0.078	-0.077	0.011	-0.105	0.226	1.000			
(10) WTO - Lag1	0.002	-0.001	0.007	-0.177	-0.164	-0.104	-0.111	0.002	0.083	1.000		
(11) Log Red (P. to Exp.) Lag1	0.000	0.009	-0.047	0.036	0.051	0.008	-0.167	0.257	0.087	0.046	1.000	
(12) Log Red (Exp. to P.) Lag1	0.001	-0.054	0.007	0.053	0.031	0.007	-0.164	0.254	0.086	0.046	0.298	1.000

Notes: The total amount of observations (country pairs) for 4 years is 63,328.

Table 3A.7: Correlation Table for Regressors of the "Export Growth" Model for the Years 2009-13

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Log Export Growth	1.0000									
(2) Log Exporter GDP Growth	0.0507	1.0000								
(3) Log Partner GDP Growth	0.0771	0.0632	1.0000							
(4) Democracy - Autocracy - Lag1	-0.0019	-0.0534	0.0664	1.0000						
(5) Autocracy - Democracy - Lag1	-0.0053	0.0955	-0.0478	-0.0659	1.0000					
(6) Autocracy - Autocracy - Lag1	0.0001	0.0370	0.0295	-0.0216	-0.0217	1.0000				
(7) Other - Lag1	0.0165	0.0714	0.0718	-0.2344	-0.2360	-0.0773	1.0000			
(8) BIT -Lag1	-0.0108	-0.0562	-0.0546	0.0483	0.0475	0.0334	-0.1627	1.0000		
(9) RTA - Lag1	-0.0023	-0.0874	-0.0815	-0.0764	-0.0757	0.0128	-0.1058	0.2272	1.0000	
(10) WTO - Lag1	0.0040	-0.0291	-0.0223	-0.1736	-0.1588	-0.1046	-0.1141	0.0037	0.0842	1.0000

Notes: The total amount of observations (country pairs) for 5 years is 79,160.

Table 3A.8: (Pooled) Regression - Log Export Value - Years 2009/2010 to 2013 - OLS

	M3&2009	M1	M2	M3	M4
Log Exporter GDP – LAG1	1.7653***	1.9032***	1.8760***	1.7754***	1.7640***
	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)
Log Partner GDP – LAG1	1.4340***	1.5673***	1.5400***	1.4389***	1.4286***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Log Distance	-1.4273***	-1.5627***	-1.5872***	-1.3745***	-1.3713***
	(0.036)	(0.034)	(0.034)	(0.038)	(0.038)
Contiguity Dummy	0.8714***	0.8800***	0.8875***	0.9264***	0.8897***
	(0.203)	(0.222)	(0.220)	(0.207)	(0.207)
Common Language Dummy	1.3854***	1.4703***	1.4517***	1.2843***	1.2887***
	(0.073)	(0.079)	(0.077)	(0.075)	(0.075)
Colonial-tie Dummy	0.3192**	0.6595***	0.5277***	0.3136**	0.2906*
	(0.156)	(0.152)	(0.157)	(0.158)	(0.159)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*					
Democracy - Autocracy	-0.5121***		-1.1960***	-0.6220***	-0.6139***
	(0.085)		(0.088)	(0.090)	(0.090)
Autocracy - Democracy	-0.4569***		-1.1128***	-0.5433***	-0.5339***
	(0.087)		(0.096)	(0.096)	(0.096)
Autocracy - Autocracy	-1.3059***		-3.1148***	-2.3763***	-2.3546***
	(0.290)		(0.323)	(0.315)	(0.315)
Other	-0.6133***		-1.0533***	-0.6903***	-0.6812***
	(0.041)		(0.045)	(0.045)	(0.045)
International Relations with LAG1					
BIT Dummy	1.0706***			1.1485***	1.1161***
	(0.050)			(0.053)	(0.053)
RTA Dummy	0.6656***			0.7591***	0.7643***
	(0.056)			(0.065)	(0.065)
WTO Dummy	1.6250***			1.6001***	1.6016***
	(0.058)			(0.060)	(0.060)
GTA Policy Measures with LAG1					
Log Red Measures					0.0854***
(Partner to Exporter)					(0.018)
Log Red Measures					0.1289***
(Exporter to Partner)					(0.016)
Constant	-54.3711***	-58.7925***	-56.4994***	-55.1431***	-54.6802***
	(0.477)	(0.489)	(0.496)	(0.495)	(0.502)
Observations	124,030	99,224	99,224	99,224	99,224
R^2	0.6151	0.5885	0.5982	0.6120	0.6121

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3A.9: Regression - Export Value - Year 2009 - PPML

	Model		
	M1	M2	M3
Log Exporter GDP - LAG1	0.7742***	0.8116***	0.8207***
	(0.018)	(0.018)	(0.017)
Log Partner GDP - LAG1	0.8005***	0.8246***	0.8360***
	(0.025)	(0.020)	(0.019)
Log Distance	-0.5160***	-0.5931***	-0.4716***
	(0.037)	(0.035)	(0.044)
Contiguity Dummy	0.6146***	0.5990***	0.5887***
	(0.121)	(0.128)	(0.107)
Common Language Dummy	0.1146	0.1835*	0.1371
	(0.100)	(0.105)	(0.099)
Colonial-tie Dummy	-0.1156	-0.0201	0.0843
	(0.120)	(0.104)	(0.093)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*			
Democracy - Autocracy		0.5176***	0.7060***
		(0.113)	(0.112)
Autocracy - Democracy		0.9559***	1.1451***
		(0.133)	(0.147)
Autocracy - Autocracy		0.7241***	0.9366***
		(0.162)	(0.169)
Other		0.4948***	0.8034***
		(0.071)	(0.082)
International Relations with LAG1			
BIT Dummy			0.1283**
			(0.063)
RTA Dummy			0.5485***
			(0.084)
WTO - Membership Dummy			0.4392***
			(0.072)
Constant	-16.8253***	-18.1548***	-20.4454***
	(1.134)	(0.949)	(0.981)
Observations	24,806	24,806	24,806
R^2	0.655	0.736	0.760

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3A.10: Regression Results - Export Value - Year 2010 - PPML

	Model			
	M1	M2	M3	M4
Log Exporter GDP - LAG1	0.7735***	0.8093***	0.8199***	0.7258***
	(0.019)	(0.018)	(0.016)	(0.019)
Log Partner GDP - LAG1	0.8142***	0.8394***	0.8523***	0.7652***
	(0.025)	(0.020)	(0.019)	(0.020)
Log Distance	-0.4939***	-0.5754***	-0.4541***	-0.4492***
	(0.038)	(0.037)	(0.047)	(0.046)
Contiguity Dummy	0.6550***	0.6404***	0.6284***	0.4972***
	(0.130)	(0.139)	(0.117)	(0.118)
Common Language Dummy	0.0733	0.1498	0.1072	0.0879
	(0.104)	(0.108)	(0.101)	(0.100)
Colonial-tie Dummy	-0.1500	-0.0390	0.0612	0.1052
	(0.131)	(0.113)	(0.100)	(0.098)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*				
Democracy - Autocracy		0.5449***	0.7140***	0.6317***
		(0.125)	(0.122)	(0.125)
Autocracy - Democracy		0.9753***	1.1486***	1.0745***
		(0.122)	(0.136)	(0.115)
Autocracy - Autocracy		0.7754***	0.9736***	1.0030***
		(0.167)	(0.175)	(0.184)
Other		0.5343***	0.8174***	0.7560***
		(0.073)	(0.084)	(0.077)
International Relations with LAG1				
BIT Dummy			0.1492**	0.0172
			(0.064)	(0.067)
RTA Dummy			0.5555***	0.6016***
			(0.088)	(0.087)
WTO - Membership Dummy			0.4091***	0.5018***
			(0.074)	(0.077)
GTA Policy Measure with LAG1				
Log Red Measures (P. to Exp.)				0.1780***
				(0.039)
Log Red Measures (Exp. to P.)				0.1751***
				(0.043)
Constant	-17.1346***	-18.4308***	-20.7886***	-16.3123***
	(1.151)	(0.906)	(0.962)	(0.942)
Observations	24,806	24,806	24,806	24,806
R^2	0.644	0.737	0.760	0.778

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3A.11: Regression Results - Export Value - Year 2011 - PPML

	Model			
	M1	M2	M3	M4
Log Exporter GDP - LAG1	0.7602***	0.7967***	0.8085***	0.7675***
	(0.018)	(0.016)	(0.015)	(0.016)
Log Partner GDP - LAG1	0.8103***	0.8382***	0.8527***	0.8153***
	(0.023)	(0.018)	(0.018)	(0.018)
Log Distance	-0.4906***	-0.5745***	-0.4499***	-0.4567***
	(0.036)	(0.035)	(0.044)	(0.043)
Contiguity Dummy	0.6747***	0.6506***	0.6412***	0.5539***
	(0.125)	(0.133)	(0.113)	(0.110)
Common Language Dummy	0.0607	0.1502	0.1017	0.0657
	(0.103)	(0.106)	(0.099)	(0.101)
Colonial-tie Dummy	-0.1223	-0.0144	0.0911	0.1276
	(0.129)	(0.112)	(0.099)	(0.101)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*				
Democracy - Autocracy		0.5348***	0.7088***	0.6397***
		(0.122)	(0.119)	(0.129)
Autocracy - Democracy		0.9634***	1.1448***	1.0789***
		(0.107)	(0.117)	(0.089)
Autocracy - Autocracy		0.8391***	1.0495***	1.0886***
		(0.181)	(0.187)	(0.189)
Other		0.5902***	0.8793***	0.8236***
		(0.069)	(0.074)	(0.069)
International Relations with LAG1				
BIT Dummy			0.1462**	0.0547
			(0.059)	(0.063)
RTA Dummy			0.5779***	0.6115***
			(0.080)	(0.080)
WTO - Membership Dummy			0.4143***	0.4690***
			(0.072)	(0.073)
GTA Policy Measure with LAG1				
Log Red Measures (P. to Exp.)				0.1167***
				(0.034)
Log Red Measures (Exp. to P.)				0.1168***
				(0.040)
Constant	-16.5679***	-17.9518***	-20.4375***	-18.4179***
	(1.047)	(0.808)	(0.859)	(0.824)
Observations	24,806	24,806	24,806	24,806
R^2	0.655	0.744	0.768	0.782

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3A.12: Regression Results - Export Value - Year 2012 - PPML

	Model			
	M1	M2	M3	M4
Log Exporter GDP - LAG1	0.7632***	0.7882***	0.7991***	0.7870***
	(0.018)	(0.015)	(0.014)	(0.014)
Log Partner GDP - LAG1	0.8129***	0.8329***	0.8466***	0.8368***
	(0.024)	(0.018)	(0.018)	(0.018)
Log Distance	-0.4687***	-0.5480***	-0.4169***	-0.4204***
	(0.036)	(0.036)	(0.045)	(0.046)
Contiguity Dummy	0.7008***	0.6752***	0.6541***	0.6377***
	(0.129)	(0.141)	(0.118)	(0.122)
Common Language Dummy	0.0436	0.1431	0.0933	0.0822
	(0.099)	(0.102)	(0.094)	(0.095)
Colonial-tie Dummy	-0.1101	0.0118	0.1233	0.1183
	(0.126)	(0.108)	(0.096)	(0.098)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*				
Democracy - Autocracy		0.5736***	0.7583***	0.7374***
		(0.118)	(0.115)	(0.112)
Autocracy - Democracy		0.9791***	1.1722***	1.1531***
		(0.110)	(0.117)	(0.105)
Autocracy - Autocracy		0.8630***	1.0663***	1.0727***
		(0.179)	(0.182)	(0.184)
Other		0.4899***	0.7550***	0.7468***
		(0.067)	(0.075)	(0.071)
International Relations with LAG1				
BIT Dummy			0.1044*	0.0787
			(0.060)	(0.069)
RTA Dummy			0.6019***	0.6093***
			(0.082)	(0.083)
WTO - Membership Dummy			0.3089***	0.3175***
			(0.073)	(0.074)
GTA Policy Measure with LAG1				
Log Red Measures (P. to Exp.)				0.0379
				(0.035)
Log Red Measures (Exp. to P.)				0.0164
				(0.036)
Constant	-16.9426***	-17.8210***	-20.2075***	-19.6104***
	(1.087)	(0.823)	(0.870)	(0.875)
Observations	24,806	24,806	24,806	24,806
R^2	0.655	0.747	0.773	0.775

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3A.13: Regression Results - Export Value - Year 2013 - PPML

	Model			
	M1	M2	M3	M4
Log Exporter GDP - LAG1	0.7707***	0.7898***	0.7892***	0.7346***
	(0.018)	(0.016)	(0.015)	(0.015)
Log Partner GDP - LAG1	0.8090***	0.8247***	0.8279***	0.7741***
	(0.024)	(0.019)	(0.018)	(0.018)
Log Distance	-0.4854***	-0.5613***	-0.4367***	-0.4439***
	(0.037)	(0.037)	(0.042)	(0.041)
Contiguity Dummy	0.7060***	0.6809***	0.6410***	0.5402***
	(0.128)	(0.141)	(0.120)	(0.117)
Common Language Dummy	0.0106	0.1106	0.0880	0.1449*
	(0.100)	(0.103)	(0.093)	(0.084)
Colonial-tie Dummy	-0.1322	-0.0046	0.1380	0.1326*
	(0.121)	(0.103)	(0.086)	(0.078)
Political Regime with LAG 1 - *Reference: Democracy - Democracy (Exporter(E)-Partner(P))*				
Democracy - Autocracy		0.5948***	0.8499***	0.7819***
		(0.120)	(0.115)	(0.115)
Autocracy - Democracy		0.9437***	1.2069***	1.1550***
		(0.115)	(0.125)	(0.106)
Autocracy - Autocracy		0.9156***	1.1710***	1.2075***
		(0.176)	(0.180)	(0.191)
Other		0.4126***	0.6443***	0.5810***
		(0.067)	(0.073)	(0.063)
International Relations with LAG1				
BIT Dummy			0.0872	0.0259
			(0.062)	(0.061)
RTA Dummy			0.6302***	0.6859***
			(0.074)	(0.075)
WTO - Membership Dummy			0.5128***	0.4595***
			(0.085)	(0.084)
GTA Policy Measures with LAG1				
Log Red Measures (P. to Exp.)				0.1112***
				(0.034)
Log Red Measures (Exp. to P.)				0.1408***
				(0.036)
Constant	-16.9252***	-17.5418***	-19.5034***	-16.6052***
	(1.105)	(0.842)	(0.874)	(0.786)
Observations	24,806	24,806	24,806	24,806
R^2	0.655	0.742	0.769	0.792

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Conclusion

The objective of this dissertation was to study the way in which the global systemic crisis has affected trade policy making and trade flows around the world.

The objective of the *First Chapter* was to describe the key features of the Russian commercial policy during the recent recession, which coincided with the announced modernization in 2008-14. The years 2009-10 demonstrated that dependency on oil money does not move modernization very far forward and other systemic solutions are required. What one can deduce is that the trade policy of the Russian crisis and the modernization policies (2009-13) described above were emergency pills to reduce the pain in the economy, but they did not treat the patient. The new crisis in 2014-15 shows that more "soft" industrial policy tools are required to provide the systemic treatment of the economy. Therefore, instead of direct trade policy measures, such as tariffs, export subsidies, and others, the Russian Government should focus on the solutions to the particular problems impeding business development, private investment, and technology adaptation. Plausible solutions are likely to require more transparency, government accountability, efficient anti-corruption policies, real separation of powers, an independent judiciary, and intensification of political participation by citizens. Without those changes the benefits of joining the WTO will not be realized and the effectiveness of the modernization (industrial) policy will be seriously questioned.

In the *Second Chapter* the estimation of the determinants of trade policy making was closely guided by the theoretical model presented by Grossman and Helpman (1994). There were a couple of benefits to following this path. First, it allowed the empirical examination of the existing model of trade policy making in settings other than Western democratic ones and in shock conditions, such as the global economic crisis. Second, it allowed the estimation of the structural parameter "a" in dynamics (2001, 2005, 2009, and 2010) over the same political leadership, which can contain interesting information about government priorities over time and particularly in a crisis. The welfare-mindedness of the Russian Government during the crisis is estimated to have

been smaller than that in times of economic stability. To rephrase this statement, the weight that the Government placed on contributions from lobbyists increased during the crisis relative to times of economic stability. This might be driven by intensified lobbying activities by industries or firms to gain state support in times of financial difficulty and falling demand. One could argue that this trend (increasing weight on lobbyists' contributions in the crisis relative to times of economic stability) could also be found among other countries if it was possible to transfer the Global Trade Alert data on anti-crisis trade policies to import tariff equivalents and test the PFS model across countries during the global crisis.

To the best of our knowledge, *Chapter Three* is the first attempt to assess the role of the political regime during the great trade collapse and global recession (2009-13) using the bilateral gravity approach and the Poisson pseudo-maximum likelihood (PPML) method. Using the standard gravity approach and the theoretical predictions of Mansfield et al. (2000), we estimated the effect of being a democratic pair of countries on (goods) export flows, controlling for international institutions as well as for the flow of bilateral protectionism during the period 2009-13 for 158 countries. Taking the first difference of logs from our gravity model we constructed the export growth model to check whether the democratic dyads had a smaller bilateral trade collapse in 2008-9 and a faster trade recovery in 2009-10 due to the institutional quality and the quality of the anti-crisis management overall.

We found that our results do not support the predictions of the model developed by Mansfield et al. (2000). On the contrary, we found that two democratic countries traded less than all the other combinations of country pairs in 2009-13, and we suggested several reasons why this could be the case: the econometric model specification (PPML vs. biased OLS); the data quality and the amount of countries (158 in total and around 90 democracies in the sample); the "China" factor; new trade patterns around the world, such as trade in services, world supply chains, and outsourcing; and the political economy of commercial policy theory adjusted to the crisis, during which, because of the divided polity and multiple actors, it was more cumbersome for two democracies to react on time to the changing economic circumstances. We also did not find that the democratic dyads had a smaller bilateral trade collapse in 2008-9 or a faster trade recovery in 2009-10.

In further research, one could run the gravity model presented in this chapter using the PPML method for 1960-2014 data to determine whether those differences in trade patterns across the years, discussed above, are indeed taking place. Another research

question concerns whether there were any systemic differences in the patterns of protectionism among different political regimes or political regime groups during 2009-14.

The final thoughts that I would like to share are my personal understanding of the global crisis (from 2007 onwards) and its role in world development. For me the global financial crisis was not just a crisis. It was a systemic crisis, which on a deep level is a crisis of values, attitudes, leadership, and trust. It was a crisis of old consciousness. If we do not want to continue to swing from one economic (and ecological) crisis to another, which is what is taking place around the world nowadays, we have to change our mentality, values, and attitude towards each other and to Mother-Earth. This requires large amounts of cooperation, trust, tolerance, discipline, and self-responsibility.

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Curriculum Vitae

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