Vol. 8 No. 1, 2022
Baltic Journal of Economic Studies
DOI: https://doi.org/10.30525/2256-0742/2022-8-1-1-8

FREE TRADE AGREEMENT (FTA) WITH CHINA AND INTERACTION BETWEEN EXPORTS AND IMPORTS

Helga Kristjánsdóttir[1], Sigurður Guðjónsson[2], Guðmundur Kristján Óskarsson[3]

Abstract. The world trade system appears to gravitate toward trade blocks. While the European Union (EU) is by far the largest trade block in Europe, the subject of this research is focused on another European block, the European Free Trade Association (EFTA), with the member states of Iceland, Liechtenstein, Norway, and Switzerland. Unlike the EU, the EFTA countries can enter into Free Trade Agreements (FTAs) individually, with another country, whenever they choose. The world's largest increasing trading house over the last two decades is China, but it has not yet signed an FTA with the EU. However, China has a bilateral agreement with both Iceland and Switzerland. The methodology of this research involves using the STATA program for statistical regression estimation of simultaneous equation system since it estimates the interaction between the trade going between the countries. This allows for considering substitution or complementary effects between the goods flowing back and forth between the countries. The methodology is based on the means of the gravity model. This research aims to answer the following question: is it beneficial for small countries such as Iceland and Switzerland to have a bilateral agreement with China? This research focuses on estimating trade flows, in US dollars, between China and Iceland on the one hand and between China and Switzerland on the other. Results from regression analysis indicate that when accounting for the FTAs, import to Iceland from China positively affects exports from Iceland to China, but not the other way around. However, estimates for trade between Switzerland and China show the reverse of this to be true. When presenting and analyzing literature and economic studies in the field, selection data and presenting the three-stage regression result, accounting for the Free Trade Agreements with China, our conclusion is the following: The trade relation of China with the two small European countries of Iceland and Switzerland has developed such that in 2014 the Free Trade Agreements between China and Iceland, and China and Switzerland came into effect. A combination of the three-stage least-squares regression, as well as the gravity model, allowing for accountancy of FTAs is applied. We conclude that when accounting for the FTAs over the short period from 2011 through 2018, import to Iceland from China has stimulated exports from Iceland to China, but not the other way around. However, the estimates for Switzerland are reverse to the estimates received for Iceland.

Key words: China, exports, Free Trade Agreements FTAs, international trade, European Free Trade Association EFTA, trade, gravity model.

JEL Classifications: F14, F23, M14, M21

1. Introduction

In the last decades, we have seen the world trade system gravitate toward trade blocs, with the European Union (EU) being the flagship of Europe. EU does not have Free Trade Agreement (FTA) with China, however by the end of the year 2020, they entered into a Comprehensive Agreement on Investment, excluding trade issues, under the World Trade Organization (WTO) law (Global Risk Insights, 2021). Therefore, it is particularly interesting to analyze the impact of the European countries in the European Free Trade Association (EFTA) on the FTA with China. We look at the countries of the smaller European trade bloc. All the EFTA countries have individually made Free Trade Agreements with China, which is the subject of this research. EFTA member countries are Iceland,

Corresponding author:
[1] University of Akureyri, Iceland
E-mail: helga@unak.is
ORCID: https://orcid.org/0000-0002-8857-8063
[2] University of Iceland, Iceland
E-mail: siggig@hi.is
ORCID: https://orcid.org/0000-0001-8897-3699
[3] University of Akureyri, Iceland
E-mail: gko@unak.is
ORCID: https://orcid.org/0000-0001-5651-0585

Liechtenstein, Norway, and Switzerland. Unlike the EU, the EFTA countries do not have common tariffs on products imported from nonmembers (Europe, 2021; European Free Trade Association, 2021; Óskarsson & Kristjánsdóttir, 2021; Kristjánsdóttir & Óskarsdóttir, 2021). Therefore, individual EFTA countries can enter FTA. The EFTA countries of Iceland and Switzerland were the first European countries to enter into FTA with China in 2014.

Does it pay off for small countries like Iceland and Switzerland to have a bilateral agreement with a large country like China? This current research seeks to answer this question and analyze how international trade is affected by FTAs. The focus is directed towards the FTA between Iceland and China, effective from July 1st, 2014, and the FTA between China and Switzerland, effective from July 1st, 2014. Countries have gained an advantage throughout history by entering international trade (Bergstrand, 1985; Markusen, 2004). When considering historical development, it appears that having similar culture has helped when over-coming geographical distances. From ancient history to modern times, both through recession (Hjálmarsdóttir & Kristjánsdóttir, 2022) and growth, trading involved travelling, with traders often needing to travel long distances to engage in international trade, in association with increasing returns and imperfect competition (Helpman & Krugman, 1989).

Baier & Bergstrand (2007) mention that a "gravity model has been a workhorse for cross-country empirical analyses" determining the impact of FTAs on international trade flows, while Kono (2007) questions when trade blocs block trade. Nevertheless, the gravity model has proven extensively over the years (Anderson, 1979; McCallum, 1995; Anderson & Wincoop, 2003; Helpman, Melitz & Rubinstein, 2008). Empirical results have shown that at some point free trade has a relatively small impact on the quantity of trade between countries (Rose, 2004), however, looking closer at the matter, FTAs have indeed resulted in more trade between countries (Bagwell & Staiger, 2005; Subramanian & Wei, 2007; Eicher & Henn 2011; Handley 2014). With more liberalization thorough out the world, Asia has been a noteworthy case of increasing free trade. Considerable literature is available on the subject. Kien & Hashimoto (2005) sought to examine the Asian Free Trade Area (AFTA) using two-way trade flows by the gravity model, finding that AFTA resulted in trade creation between the member countries. Elliot & Ikemoto (2004) found that Asian countries increased trade with countries outside Asia after engaging in a FTA. Furthermore, Frankel Stein & Wei (1995) found free trade agreements between Asian countries to increase trade.

After China joined WTO in 2001, its trade with the outside world has increased dramatically, with the other Asian countries (Kein & Hashimnoto, 2005), the US (Handley 2014) and Europe (Subramanian & Wei, 2007). However, FTA were not made between China and European countries until Switzerland and Iceland in 2014. This current research seeks to add to the existing literature by analyzing the trade pattern between Iceland and China, on the one hand, and Switzerland and China, on the other hand, in an econometric setting, measuring the impact of kilometer distance and culture distance, together with the effects of economic size, population size and most importantly, the FTAs membership.

Previous results obtained by (Kristjánsdóttir et al., 2022) with similar data, sought to answer the following question: Is it beneficial for the EFTA trade bloc to have Free Trade Agreement with China? Results are positive for exports from China to EFTA but not for exports from EFTA to China. Therefore, it is not possible to conclude that the Free Trade Agreement between the EFTA countries and China will pay off for the European countries – for the time analyzed. Moreover, individual countries within the EFTA have FTAs with China. This current research provides numerical presentation and econometric analysis of the trading effects on individual EFTA countries that entered a FTAs with China in 2014. Macro-economic data for both exports and imports are analyzed. It is the first time the macroeconomic data has been applied like this.

2. Theoretical background

This study is placed within the research on international trade, based on the gravity model, which has frequently been used to predict the effects of FTA on trade flow. The gravity model explains well how exports between countries is subject to their size in gross domestic product (GDP), and wealth in GDP per person, population size, and geographical distance and decreases with less transaction cost which proxies are e.g., distance, and similar culture and languages, and FTAs can also be included (Baldwin, 1994; Feenstra, 1998; Anderson & van Wincoop, 2003).

The use of the gravity model in the econometric study was started by the Noble laureate Jan Tinbergen (1962) (the model originally based on Newton's Law of Universal Gravitation in physics). Tinbergen used the gravity model in research on international trade flow, estimating the effect of the FTA on trade. With Pöyhönen (1963), continuing work to analyze international trade flow, and other researchers followed like Bergstrand (1989), Deardroff (1995), and Helpman et al. (2008). While the gravity model has been extensively used, an attempt at its theoretical explanation continued with Anderson (1979). The model appears to work well (Deardorff, 1984; Bergstrand, 1989; Filippini & Molini, 2003).

Although the gravity model has received criticism, the model has been established further with improvements and usefulness in various circumstances, with increased commerce between nations at the end of the twentieth century. McCallum (1995) firmly refuted this common belief, where he showed with the gravity model that borders did indeed matter. He did his research on interprovincial trade within Canada and international trade between USA and Canada. While Canada and USA are very similar in many ways, share the same language, have similar cultures and interrelated histories, the border did have a profound effect on the trade within Canada and between Canada and USA (McCallum, 1995). In the following years, when international trade increased between countries, McCallum's findings encouraged the gravity model's usage.

Minded of McCallum's findings, Anderson & Wincoop (2003) argued that the interprovincial trade within Canada and international trade between USA and Canada were considerably less than McCallum (1995) found. However, the effect was there, nevertheless. More importantly, Anderson & Wincoop (2003) developed the gravity model further, so it could have been used in other circumstances than just for a subset of countries or certain industries. Further improvements were made to the gravity model. For example, Helpman et al. (2008) improved Anderson & Wincoop (2003) findings when they added heterogeneity and fixed trade cost to the gravity model. The research by Helpman et al. (2008) was like what Melitz & Ottaviano (2008) found when they developed a monopolistically competitive trade model with heterogeneity.

The usage of the gravity model is therefore gaining strength with time. Used extensively over the years, its theoretical foundation has been improved over time with research such as by Anderson, 1979; McCallum, 1995; Anderson & Wincoop, 2003 and Helpman et al. 2008. The empirical literature where the gravity model is used is rich. Although the literature where the gravity model is used is substantial, the empirical results from research on the matter vary in terms of whether FTA results in more trade between countries. Rose (2004), for example, examined countries that joined General Agreements of Tariffs and Trade (GATT), later WTO and found little difference in trade patterns between those countries and those that did not join these organizations. The research contained a large portion of countries of the world, or 175 and spanned 50 years (Rose, 2004).

Later research shows that other factors such as WTO can lead to more trade between countries. The issue must be examined in more detail. Bagwell & Staiger (2005), for example, did point out that there was indeed an increase in trade between countries if they joined GATT/WTO, but it depended on issues like what the country does with its membership, with what countries it negotiates, and finally, which products the countries agree to trade freely. Subramanian & Wei (2007) found trades between countries to depend on three issues. First, those developed countries that participated more actively than developing countries in free trade negotiations experienced an increase in trading. Secondly, bilateral trade was greater among the trading countries when both sides undertook liberalization than when only one did. Last, industries that did not remove barriers, such as tariffs and quotas, did not experience trade increases (Subramanian & Wei, 2007). Further research is presented by Eicher & Henn (2011) and Handley (2014), who found that trade of goods and services do usually increase between countries when they are engaged in a free trade agreement or members of organizations that emphasize free trade, such as WTO. The result can depend on other underlying issues. For example, Eicher & Henn (2011) found to trade increased between countries if they were engaged in regional trade and had strong market power.

The research on free trade between countries undertaken in the latter half of the twentieth century was mainly focused on free-market economies in the western world. At the turn of the millennium, the former Soviet Union countries were already free-market economies, and China had become increasingly focused on international free trade. China joined WTO in 2001 after a long and careful negotiation process (Subramanian & Wei, 2007), and trade between China and Europe began to increase. However, free trade agreements between China and western countries did not take place right away. Rather, FTAs were made between China and other Asian countries (Kien & Hashimoto, 2005). Shortly after China joined WTO, it made further agreements with countries in Asia.

China saw a dramatic increase in both imports and export after it joined WTO in 2001, and in the first decade of this century, the total value of exports and imports increased by more than 600% (WTO, 2019). While international trade between China and other countries decreased sharply during the recession of 2008 and 2009 (Lai & Li, 2013) the trade increase again shortly thereafter and has continued to do so ever since (WTO, 2019). The Chinese entrance into WTO in 2001 led to a large increase in the export of goods to the US.

The effect of increasing trade between these gigantic two countries has shaped the current political agenda. A rift is currently taking place (Lawrence, 2018; Lu, 2018; Yu, 2018), and such is the impact that globalization itself is being reshaped (Bao & Wang, 2019).

The free trade China has experienced since 2001 has indeed increased, not just with the US but also with the other large trading partners in the world, such as other Asian countries and notably Europe (WTO,

2019). However, China has been careful when it comes to assigning free trade agreements with other countries, particularly the large and established developed economies such as the countries that constitute the European Union. Increase in free trade has had a large impact on China and its recent development, improving the living standards of the Chinese people, both in terms of foreign trade and in terms of more overall economic growth. It is therefore noteworthy that China doesn't seem to put emphasis on further FTAs, China has for example not agreed upon FTAs with the European Union.

The careful and slow emphasis China has on FTA with European countries maybe because of distrust towards the EU as an entity. Therefore, China has rather focused on non-EU countries such as Switzerland and Iceland (Lanteigne, 2010). By focusing on European countries that are not part of the EU, China can create a test a small market zone and possibly enter the EU market "from the back door" since countries like Iceland are associated with the EU through the EES contract (Lanteigne, 2010). China made an FTA with Iceland in 2014 and with Switzerland in 2014. In line with previous research, one could potentially expect the FTAs to result in increased imports and export. Indeed, many research using the gravity model as their workhorse support that FTA between countries has increased both import and export Aitken (1973). Baier & Bergstrand (2007) found that FTA doubled two countries bilateral trade on average after ten years. Therefore, in line with previous literature, the same could hold for Iceland and China, as well as Switzerland and China after FTA between the countries came into force in 2014.

3. Data

Variable data is obtained from UN Comtrade Database (2019) and the World Bank (2019).

4. Model setup and variables

The model setup is somewhat based on previous research in relation to international trade and investment, including among other variables the conventional variables of the gravity model, considering remoteness (Kristjánsdóttir, 2013, 2017, 2019a, 2019b, 2021; Kristjánsdóttir et al. 2017, 2020; Kristjánsdóttir & Karlsdóttir, 2020; Kristjánsdóttir & Kristjánsdóttir, 2021; Kristjánsdóttir & Óskarsdóttir, 2021). In Equation (1) we present the Bergstrand (1985) empirical specification of the gravity model. The dependent variable PX accounts for exports from country i to j. The explanatory variable Yi accounts for the GDP in country i, and Yj accounts for the GDP in country j. The A variable in the model is a dummy variable, taking a value of 0 or 1. Finally, u is the error term of the equation.

$$PX_{ij} = \beta_0 (\mathrm{Y}_i)^{\beta_1} (\mathrm{Y}_j)^{\beta_2} (\mathrm{D}_{ij})^{\beta_3} (\mathrm{A}_{ij})^{\beta_4} u_{ij} \quad (1)$$

The equation can also be written as Equation (2), with the dependent variable exports written out as EXP, from country i to j, running over time t.

$$EXP_{ij,t} = e^{\gamma_0} (\mathrm{Y}_{i,t})^{\gamma_1} (\mathrm{Y}_{j,t})^{\gamma_2} (\mathrm{D}_{ij})^{\gamma_3} (\mathrm{A}_{ij})^{\gamma_4} e^{\zeta ij,t} \quad (2)$$

Then we transform the equation to a log-linear form and estimate the gravity equation in a log linearity format, with GDP inserted for Y, in Equation (3):

$$ln(EXP_{ij,t}) = \omega_0 + \omega_1 ln(\mathrm{GDP}_{i,t}) + \xi_{ij,t} \quad (3)$$

Table 1
Variables in the model applied

$\mathrm{EXP\_Iceland}_{ij,t}$	Exports from country (i) to country (j), over time (t). Current values (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/)
$\mathrm{EXP\_China}_{ij,t}$	Exports from country (i) to country (j), over time (t). Current values (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/)
$\mathrm{EXP\_Switzerland}_{ij,t}$	Exports from country (i) to country (j), over time (t). Current values (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/)
$\mathrm{IMP\_Iceland}_{ji,t}$	Imports from country (j) to country (i), over time (t).Trade Value (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/) current values.
$\mathrm{IMP\_China}_{ji,t}$	Imports from country (j) to country (i), over time (t).Trade Value (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/) current values.
$\mathrm{IMP\_Switzerland}_{ji,t}$	Imports from country (j) to country (i), over time (t).Trade Value (US$), UN Comtrade Database (2019) (https://comtrade.un.org/data/) current values.
$\mathrm{GDP}_{i,t}$	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current US dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. An alternative conversion factor is used for a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart
$\mathrm{FTA}_{ij,t}$	FTA (Free trade agreement) binary dummy variable takes the value of one 1, if the countries trade agreement is in place and the value of zero 0 otherwise.

The variable FTA is generally presented as a binary variable, taking the value of one 1, if the countries trade agreement is in place, and the value of zero 0 otherwise. Our version, however, accounts for the regional trade agreement status over time t. We expect there to be a positive coefficient for the FTA variable, indicating that FTAs tend to generate more trade among the FTA members. This is presented in Equation (4) with insertion of FTA as the dummy variable taking a value of 0 or 1:

$$ln(EXP_{ij,t}) = \omega_0 + \omega_1 ln(\mathrm{GDP}_{i,t}) + \omega_2\, \mathrm{FTA}_{ij,t} + \xi_{ij,t} \quad (4)$$

The simultaneous equation system, starting with Equation (5.1), allows for simultaneous estimation. Exports of goods from Iceland to China, and from China to Iceland are estimated simultaneously. The statistical program STATA allows for the use of the command reg3, allowing for three-stage estimation for the systems of simultaneous equations. A similar approach is applied by Kristjánsdóttir (2019a) when asking the question, "Does investment replace aid as countries become more developed?" using a simultaneous equation system.

The STATA program allows for the estimation of a system of structural equations, where some equations contain endogenous variables among the explanatory variables. First, Equation (5.1) estimates exports from Iceland to China as a function of exports from China to Iceland, GDP, population, distance, and regional trade agreement effects. Secondly, Equation (5.2) exports from China to Iceland are estimated as a function of exports from Iceland to China, GDP, population, distance, and regional trade agreement effects.

$$ln(EXP\_Iceland_{ij,t}) = \omega_0 + \omega_1 ln(EXP\_China_{i,t}) + \\ + \omega_2 ln(\mathrm{GDP}_{i,t}) + \omega_3\, \mathrm{RTA}_{ij,t} + \xi_{ij,t} \quad (5.1)$$

Simultaneous estimation with Equation (5.2)

$$ln(EXP\_China_{ij,t}) = \omega_4 + \omega_5 ln(EXP\_Iceland_{ij,t}) + \\ + \omega_6 ln(\mathrm{GDP}_{i,t}) + \omega_7\, \mathrm{RTA}_{ij,t} + \xi_{ij,t} \quad (5.2)$$

The variables used in the research are defined, and the data set in this current research runs from the year 2011 through 2018, with data obtained from the World Bank (2019).

5. Regression results

Iceland-China and Switzerland-China are estimated separately, and the strength of the relationship between an independent and dependent variable, presented by R-square, is 0.92 and 0.86. After running regressions listed in the previous chapter, the results are as follow. The GDP effects are significantly negative for exports from Iceland to China, meaning that the economic size of China does not increase the flow of exports from Iceland to China. Other GDP effects are not significant. Previous results (Kristjánsdóttir et al., 2022) show that FTA only improves the flow of good from China to Iceland, not the flow of goods from Iceland to China. The regression results in this paper show that when accounting for the FTAs, iimport to Iceland from China (LN_ISL_IMP_CHN) has significant positive effect on exports from Iceland to China, but not the other way around. However, estimates for Switzerland are reverse to estimates for Iceland, since import to Switzerland from China does not have significantly positive effects on export from Switzerland to China.

6. Summary and conclusions

This paper seeks to evaluate the potential gains or losses for Iceland and Switzerland when having Free Trade Agreement with China These two countries are small developed and relatively high-income European countries, who are not members of the EU, and who separately entered FTAs with China in 2014. For this purpose, we estimate merchandise data obtained from the United Nations Comtrade Database, accounting for the time 2011–2018 of commercial trade. The unique feature of the research is that it estimated two equations simultaneously in an equation system. This is referred to as a simultaneous equation system, and the variables estimated are exports and imports, from and to China, GDP, population, distance, and regional trade agreement effects. Data applied in this current research include data from UN Comtrade Database and the World Bank. The research regression is performed by estimating data on export and import flows. The research method involves a gravity model approach since it allows for the inclusion of economic size and the distance between countries, thus accounting for economic geography. This is particularly useful when comparing the trade results for Switzerland and Iceland with China since it allows for a more neutral comparison. The gravity model also allows for accountancy of FTAs.

Earlier results by (Kristjánsdóttir et al., 2022) indicate that both the small European economies of Switzerland and Iceland are similarly affected by trade with China. When entering into Free Trade Agreement in 2014, the small economies were hoping to boost their exports to China's large economy. This, however, was not the case. The result was the flow of goods from China into the small economies increased. The flow of goods from these small economies to China decreased. Therefore, the conclusion was that FTA with China have not proved beneficial for these small economies.

When accounting for the FTAs with China, we find export from Iceland to China to be dependent on imports from China. However, imports to Iceland from China are not dependent on export to China. Also, we find export from Switzerland to China not to be

Table 2
Three-stage least-squares regression Iceland-China

Three-stage least-squares regression						
Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
LN_ISL_EXP_CHN	8	3	.110859	0.9208	80.88	0.0000
LN_ISL_IMP_CHN	8	3	.309494	-0.7736	3.95	0.2666

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LN_ISL_EXP_CHN						
LN_ISL_IMP_CHN	1.932324	.6776355	2.85	0.004	.6041829	3.260465
LN_gdp_CHN	-2.06851	1.006513	-2.06	0.040	-4.04124	-.0957807
FTA_ISL	.6092274	.1401674	4.35	0.000	.3345043	.8839504
_cons	41.39452	18.52896	2.23	0.025	5.078423	77.71062
LN_ISL_IMP_CHN						
LN_ISL_EXP_CHN	-1.370503	2.770461	-0.49	0.621	-6.800506	4.0595
LN_gdp_ISL	2.357592	2.734657	0.86	0.389	-3.002236	7.717421
FTA_CHN	.4427797	1.030283	0.43	0.667	-1.576539	2.462098
_cons	-11.29369	23.40345	-0.48	0.629	-57.16361	34.57623
Endogenous variables: LN_ISL_EXP_CHN LN_ISL_IMP_CHN Exogenous variables: LN_gdp_CHN FTA_ISL LN_gdp_ISL FTA_CHN						

Table 3
Three-stage least-squares regression Switzerland-China

Three-stage least-squares regression						
Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
LN_CHE_EXP~N	8	3	.1508688	0.8563	47.62	0.0000
LN_CHE_IMP~N	8	3	.1481301	0.5024	15.35	0.0015

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LN_CHE_EXP_CHN						
LN_CHE_IMP_CHN	-.2620265	.8856638	-0.30	0.767	-1.997896	1.473843
LN_gdp_CHN	2.621751	1.5341	1.71	0.087	-.3850289	5.628532
FTA_CHE	-.0709073	.268255	-0.26	0.792	-.5966775	.4548629
_cons	-48.78763	27.58243	-1.77	0.077	-102.8482	5.272934
LN_CHE_IMP_CHN						
LN_CHE_EXP_CHN	.9046656	.2786634	3.25	0.001	.3584954	1.450836
LN_gdp_CHE	-4.433025	3.239017	-1.37	0.171	-10.78138	1.91533
FTA_CHN	-.3782944	.2216591	-1.71	0.088	-.8127383	.0561495
_cons	122.8073	85.22708	1.44	0.150	-44.23471	289.8493
Endogenous variables: LN_CHE_EXP_CHN LN_CHE_IMP_CHN Exogenous variables: LN_gdp_CHN FTA_CHE LN_gdp_CHE						

dependent on import from China. However, imports to Switzerland from China to be dependent on export to China. All in all, when we summarize the results, we find that when accounting for the FTAs, import to Iceland from China has stimulated exports from Iceland to China, but not the other way around. However, the estimates for Switzerland are reverse to the estimates received for Iceland.

References:

Aitken, N. D. (1973). The effect of the EEC and EFTA on European trade: a temporal cross-section analysis. *American Economic Review,* 63(5), 881–892.

Anderson, J. E. (1979). A Theoretical Foundation for the Gravity Equation. *The American Economic Review*, 69(1), 106–116.

Anderson, J. E., & Eric van Wincoop (2003). Gravity with Gravitas: A Solution to the Border Puzzle. *The American Economic Review,* 93(1), 170–192.

Bagwell, K., & Staiger, R. W. (2005). Erratum to Multilateral trade negotiations, bilateral opportunism and the rules of GATT/WTO. *Journal of International Economics,* 67(2), 268–294.

Baier, S. L., & Bergstrand, J.H. (2007). Do free trade agreements actually increase members' international trade? *Journal of International Economics*, 71(1), 72–95.

Baldwin, R. E. (1994). *Towards an Integrated Europe*. London: Centre for Economic Policy Research.

Baldwin, R. E. (2006). Spaghetti Bowls as Building Blocs on the Path to Global Free Trade. *The World Economy,* 29(11), 1451–1518. DOI: https://doi.org/10.1111/j.1467-9701.2006.00852.x

Bao, X., & Wang, X. (2019). The Evolution and Reshaping of Globalization: A Perspective Based on the Development of Regional Trade Agreements. *China & World Economy,* 27(1), 51–71. DOI: https://doi.org/10.1111/cwe.12267

Bergstrand, J. H. (1985). The Gravity Equation in International Trade: Some microeconomic Foundations and Empirical Evidence. *The Review of Economics and Statistics*, 67(3), 474–481. DOI: https://doi.org/10.2307/1925976

Bergstrand, J. H. (1989). The generalized gravity equation, monopolistic competition, and the factor-proportions theory in international trade. *The Review of Economics and Statistics*, 71(1), 143–153. DOI: https://doi.org/10.2307/1928061

Deardorff, A. V. (1984). Chapter 10 Testing trade theories and predicting trade flows. In *Handbook of international economics,* 1, 467–517. Elsevier. DOI: https://doi.org/10.1016/S1573-4404(84)01013-3

Deardorff, A. V. (1995). Determinants of Bilateral Trade: Does Gravity Work in a Neoclassical World? *National Bureau of Economic Research Working Paper Series,* no. 5377. DOI: https://doi.org/10.3386/w5377

Eicher, T. S., & Henn, C. (2011). In search of WTO trade effects: Preferential trade agreements promote trade strongly, but unevenly. *Journal of International Economics,* 83(2), 137–153.

Elliott, R. J. R., & Ikemoto, K. (2004). AFTA and the Asian Crisis: Help or Hindrance to ASEAN Intra-Regional Trade. *Asian Economic Journal,* 18(1), 1–23. DOI: https://doi.org/10.1111/j.1467-8381.2004.00179.x

Europe (2021). Retrieved January 20, 2021, from https://europa.eu/

European Free Trade Association (2021). Retrieved January 20, 2021, from www.efta.int

Feenstra, R. C. (1998). Integration of Trade and Disintegration of Production in the Global Economy. *Journal of Economic Perspectives,* 12(4), 31–50.

Filippini, C., & Molini, V. (2003). The determinants of East Asian trade flows: a gravity equation approach. *Journal of Asian Economics*, 14(5), 695–711. DOI: https://doi.org/10.1016/j.asieco.2003.10.001

Frankel, J., Stein, E., & Wei, S. (1995). Trading blocs and the Americas: The natural, the unnatural, and the super-natural. *Journal of Development Economics*, 47(1), 61–95. DOI: https://doi.org/10.1016/0304-3878(95)00005-4

Global Risk Insights (2021). Retrieved January 20, 2021, from https://globalriskinsights.com/2021/09/the-eu-china-comprehensive-agreement-on-investments-cai-a-piece-of-the-puzzle/

Handley, K. (2014). Exporting under trade policy uncertainty: Theory and evidence. *Journal of International Economics*, 94(1), 50–66.

Helpman, E., & Krugman, P. (1989). *Market Structure and Foreign Trade. Increasing Returns, Imperfect Competition, and the International Economy*. MIT Press, Cambridge Mass.

Helpman, E., Melitz, M., & Rubinstein, Y. (2008). Estimating trade flows: Trading partners and trading volumes. *The Quarterly Journal of Economics*, 123(2), 441–487. DOI: https://doi.org/10.1162/qjec.2008.123.2.441

Hjálmarsdóttir, H.B. and Kristjánsdóttir, H. (2022). Island tourism and COVID-19: Butler's Tourism Area Life Cycle, Culture and SWOT analysis. *Journal of Risk and Financial Management.*

Kien, N. T., & Hashimoto, Y. (2005). Economic analysis of ASEAN free trade area; By a country panel data. *Discussion Papers in Economics and Business* 05-12, Osaka University, Graduate School of Economics.

Kono, D. Y. (2007). When Do Trade Blocs Block Trade? *International Studies Quarterly*. 51(1), 165–181. DOI: https://doi.org/10.1111/j.1468-2478.2007.00444.x

Kristjánsdóttir, H. (2013). Foreign direct investment in a small open economy. *Applied Economics Letters*, 20(15), 1423–1425. DOI: https://doi.org/10.1080/13504851.2013.815306

Kristjánsdóttir, H. (2017). Country Competitiveness: An Empirical Study. Baltic Region. 9(2): 31–44. DOI: https://doi.org/10.5922/2079-8555-2017-2-3

Kristjánsdóttir, H. (2019a). Does investment replace aid as countries become more developed? *Baltic Journal of Economic Studies*, 5(2), 256–261. DOI: https://doi.org/10.30525/2256-0742/2019-5-2-256-261

Kristjánsdóttir, H. (2019b). Tourism in a Remote Nordic Region: VAT, Internet, Oil, English, Distance, Hofstede, and Christianity. *Cogent Social Sciences,* 5(1), 1709346. DOI: https://doi.org/10.1080/23311886.2019.1709346

Kristjánsdóttir, H. (2021). Tax on tourism in Europe: Does higher value-added tax (VAT) impact tourism demand in Europe? *Current Issues in Tourism*, 24(6), 738–741. DOI: https://doi.org/10.1080/13683500.2020.1734550

Kristjánsdóttir, H., Guðlaugsson, Þ. Ö., Guðmundsdóttir, S., & Aðalsteinsson, G. D. (2017). Hofstede National Culture and International Trade. *Applied Economics*, 49(57), 5792–5801. DOI: https://doi.org/10.1080/00036846.2017.1343446

Kristjánsdóttir, H., Guðlaugsson, Þ. Ö., Guðmundsdóttir, S., & Aðalsteinsson, G. D. (2020). Cultural and geographical distance: Effects on UK exports. *Applied Economics Letters,* 27(4), 275–279. DOI: https://doi.org/10.1080/13504851.2019.1613495

Kristjánsdóttir, H., & Karlsdóttir, F.B. (2020). UK Foreign Direct Investment in the OECD, Culture and Geography. *Baltic Journal of Economic Studies.* 6(5), 8–14. DOI: https://doi.org/10.30525/256-0742/2020-6-5-8-14

Kristjánsdóttir, H., & Kristjánsdóttir, S. (2021). CarbFix and SulFix in geothermal production, and the Blue Lagoon in Iceland. *Baltic Journal of Economic Studies,* 7(1), 1–9. DOI: https://doi.org/10.30525/2256-0742/2021-7-1-1-9

Kristjánsdóttir, H., & Óskarsdóttir, S. (2021). European FDI in Ireland and Iceland: Before and after the Financial Crisis. *Journal of Risk and Financial Management,* 14(1), 23. DOI: https://doi.org/10.3390/jrfm14010023

Kristjánsdóttir, H., Óskarsson G. K., Heiðarsson J. Þ., & Guðjónsson, S. (2022). International Trade between the EFTA Trade Bloc and China. In Dygas R. (ed.), *Asian Trade and Investment in Europe*. Routledge Taylor & Francis, Oxfordshire, England.

Lai, P., & Li, Q. (2013). Development in China's Foreign Trade: 2003–2012. *China* & *World Economy,* 21(6), 58–78. DOI: https://doi.org/10.1111/j.1749-124X.2013.12046.x

Lanteigne, M. (2010). Northern Exposure: Cross-Regionalism and the China-Iceland Preferential Trade Negotiations. *The China Quarterly*, 202, 362–380. DOI: https://doi.org/10.1017/S0305741010000287

Lawrence, R. Z. (2018). Can the Trading System Survive US–China Trade Friction? *China* & *World Economy,* 26(5), 62–82. DOI: https://doi.org/10.1111/CWE.12256

Lu, F. (2018). China–US Trade Disputes in 2018: An Overview. *China* & *World Economy,* 26(5), 83–103. DOI: https://doi.org/10.1111/cwe.12257

Markusen, J. R. (2004). *Multinational Firms and the Theory of International Trade*. MIT Press, Cambridge, Mass.

McCallum, J. (1995). National Borders Matters: Canada-U.S. Regional Trade Patterns. *The American Economic Review,* 85(3), 615–623.

Melitz, M. J. & Ottaviano, G. I. P. (2008). Market Size, Trade, and Productivity. *Review of Economic Studies,* 75(1), 295–316. DOI: https://doi.org/10.1111/j.1467-937X.2007.00463.x

Óskarsson, G. K., & Kristjánsdóttir, H. (2021). EU Country and EFTA Country Export Differences. *Journal of Risk and Financial Management,* 14(4), 147. DOI: https://doi.org/10.3390/jrfm14040147

Pöyhönen, P. (1963). A tentative model for the volume of trade between countries. *Weltwirtschaftliches Archiv*, 90, 93–99.

Rose, A. (2004). Do We Really Know That the WTO Increases Trade? *American Economic Review,* 94(1), 98–114.

Subramanian, A., & Wei, S-J. (2007). The WTO Promotes Trade, Strongly but Unevenly. *Journal of International Economics*, 72(1), 151–175. DOI: https://doi.org/10.1016/j.jinteco.2006.07.007

Tinbergen, J. (1962). *Shaping the World Economy*. New York: The Twentieth Century Fund. UN Comtrade Database. (2019). Data. Available at: https://comtrade.un.org/data/

World Bank (2019). Data. Available at: www.worldbank.org

WTO (World Trade Organization) (2015). *International Trade Statistics 2000–2015*. Retrieved September 14. 2019, from https://www.wto.org/english/res_e/statis_e/its_e.htm

Yu, Y. (2018). A Trade War That is Unwarranted. *China* & *World Economy,* 26(5), 38–61. DOI: https://doi.org/10.1111/cwe.12255