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Claremont McKenna College

The Effect of Free Trade Agreements on Innovation: Evidence from US Bilateral Free Trade Agreements with Australia, Chile, Singapore, and South Korea

Submitted to
Professor William Lincoln

By
Cameron Stevens

For
Senior Thesis
Spring 2023
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Abstract

This paper combines two datasets to identify the effect of joining a bilateral Free Trade Agreement with the United States on innovation in four select countries: Australia, Chile, Singapore, and South Korea. Using an probability concordance developed by Lybbert and Zolas (2014), I map the number of patents recorded by the World Intellectual Property Organization (WIPO) into four digit North-American-Industry-Classification-System (NAICS) codes, which are then combined with industry level trade data from the US International Trade Committee (USITC). Using a difference-in-differences regression model, I estimate that joining an FTA increases the number of annual patent filings by 44 in a given NAICS industry sector. After isolating the effects to innovation due to an industry's exports and imports, I find that the gains in patent filings from joining an FTA are highly dependent on the level of trade with the US. I conclude that FTAs lead to a reallocation of innovation away from sectors with low trade volume and into sectors with high trade volume, but overall the innovation gains are positive. Additionally, I identify directions for new potential research based on my findings.

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I would like to begin by first preemptively thanking my mom for reading this thesis, even though I'm not sure she will find it very interesting. I would also like to preemptively apologize to my dad, in case he does read this, for assuming only Mom would. I want to thank both of them for being amazing parents, always believing in me, and encouraging me whenever I doubted myself. I also want to thank my brother, Grant, who I look down to literally (don't forget I'm still taller than you), but look up to in every other way.

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- Cam

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Introduction

During the second half of the 20th century, international trade grew at an unprecedented rate. The share of world GDP attributable to international trade grew from 24 percent in 1960 to 61 percent by 2008. Since then, international trade flows have decreased, in part due to persistent disruptions from the Great Financial Crisis, as well as increased political skepticism towards trade liberalization among developed economies like the United States and United Kingdom (Shu & Steinwender 2018). The COVID-19 pandemic further exacerbated these trends; world merchandise trade decreased by 7.4 percent from 2019 to 2020 (Liu, Ornelas, & Shi 2022). For many economists, the decline in global commerce is seen as a negative development. After all, the idea that trade leads to mutually beneficial gains has been recognised since Ricardo (1817) and continues to retain strong empirical support. Still, recent developments have alerted economists, policymakers, and the general public to the distributional consequences and transitory costs involved in engagement with the global market.

A crucial question for trade policy centers on the relationship between trade liberalization and economic development. A simple Ricardian model would predict that a country gains from trade by specializing in the industry it enjoys a comparative advantage in with respect to productivity. However, a country's productivity, and therefore its comparative advantage, is not static. The incentives and competitive pressures imposed on local firms impacts their decision to invest in productivity-improving technologies. At the same time, increased exposure to global markets may provide new insight and opportunities to innovate, perhaps shifting a country's comparative advantage to a new sector.

New empirical techniques and micro-level data provide opportunities to examine the effects of trade liberalization by industry and country. This paper utilizes patent filings from the World Intellectual Property Organization (WIPO) and bilateral trade flows from the United States International Trade Committee (USITC) to identify the effects of trade liberalization on innovation. Specifically, I examine the impact of a rapid decrease in trade barriers from the perspective of a smaller economy opening up to a larger economy—the United States, in this case. I consider four countries that signed a bilateral Free Trade Agreement with the United States in the early 2000s: Australia, Chile, Singapore, and South Korea.

The findings of this paper provide strong evidence that trade liberalization indeed impacts innovation. Free Trade Agreements increase annual patent filings per industry by an average of 44, but further analysis reveals that the distribution of innovation gains depends on the level of exports and imports in a given industry. Both exports and imports are associated with a higher number of patent filings after the passage of a Free Trade Agreement. After accounting for the effects of exports and imports, Free Trade Agreements have a negative impact on annual patent filings per industry, but the majority of industries conduct enough trade such that the export and import effects outweigh the negative FTA effect.

In the sections that follow, I begin by providing background information on the four Free Trade Agreements studied: the US-Chile FTA, the US-Singapore FTA, the US-Australia FTA, and the US-Korea FTA. The next section reviews the current understanding of trade and innovation based on the prominent literature, and then provides information on the data sources used for analysis. I then provide an overview of the empirical methods before presenting the results. I conclude with a discussion of the findings and opportunities for future research.

Background

Free Trade Agreements, or Free Trade Areas, (FTAs) are a contract under which two or more countries agree to eliminate tariff and nontariff barriers on trade in goods and services among themselves. The United States has a long history of engaging in FTAs with a range of developing and developed countries. The United States signed one of the earliest modern bilateral FTAs with Israel in 1985, and signed the biggest FTA to-date not soon after in 1991 with Canada and Mexico — the North American Free Trade Agreement (NAFTA) (Cooper 2014). Free Trade Agreements were a key fixture of American trade policy throughout the Bush Sr administration., Clinton, Bush Jr., and Obama administrations.

Chile and the United States first hinted at a potential free trade agreement in 1992 when President George H. W. Bush and Chilean President Patricio Aylwin expressed a mutual “desire to pursue free-trade negotiations as quickly as that is feasible.” (Greenhouse 1992). Initially, it appeared as though Chile would become a new member of NAFTA after President Clinton secured support from both Canada and Mexico. However, political tensions between the Clinton Administration and the US Congress stalled the fast-track negotiation process, leading Mexico and Canada to negotiate independent, bilateral FTAs with Chile. (*The New York Times* 1997). It was not until August, 2002, under the Bush Administration, when official trade negotiations began between the two countries. After several rounds of discussion from trade representatives, President Bush signed the US-Chile Free Trade Agreement on June 6, 2003, although it would not take effect until January 1, 2004. The treaty eliminated 90% of US export tariffs and 95% of US import tariffs between the two countries. Further provisions guaranteed strong intellectual property rights for US firms.

The United States–Singapore Free Trade Agreement followed a similar timeline. The two countries first announced their intention to negotiate a FTA in November, 2000. A lengthy negotiation process delayed the signing of the treaty until May, 2003 and went into effect in January, 2004 (Organization of American States 2023). The US Singapore FTA eliminated tariffs on goods and services between the two countries, however at the time, the average tariff imposed on US exports by Singapore was only 0.6% (Congressional Research Service 2004). The substantive changes caused by the US-Singapore FTA were not lower tariff rates, but rather easier access to financial markets for foreign investors, stronger international property rights, and requirements to share business information. The FTA also imposed new standards regarding the growing digital sectors, setting a precedent for non-discriminatory treatment of products delivered electronically in future international FTAs (ibid).

Like the United States, Australia has a history of engaging in FTAs with its regional trading partners, however Australian politicians were wary of engaging in an FTA with the United States, given that its economy was drastically smaller than the USA's. In early 2001, pro-trade Australian Prime Minister John Howard signaled his interest in pursuing a bilateral FTA with President Bush. After six rounds of negotiations, the text was signed into law by President Bush in August, 2004, and went into effect on January 1, 2005. The US-Australia FTA reduced tariffs on US imports in manufacturing and textile industries. The United States in turn lowered tariffs on Australian agricultural products, however Australian critics argued that the US did not liberalize its trade barriers to a comparable degree, and that disputes over intellectual property resulted in favorable terms for US pharmaceutical companies by undermining Australia's ability to negotiate prices for its national healthcare program (Bailey 2007).

South Korea is the largest US trading partner of the FTAs discussed in this paper. South Korea represents the 7th largest market for US markets, and is the 6th largest supplier of US imports as of 2019 (US Trade Representative). Of the four FTAs in this paper, the Korea-US FTA took the longest to negotiate and implement. In 2006, President Bush first engaged in negotiations with South Korea and signed a final version of the treaty in June 2007. Soon after, the ratification process stalled as Bush's fast-track negotiation power expired and the Democrat-controlled Congress refused to renew it over concerns for US automobile and beef industries. Nearly three years later, President Obama revived the Korea-US FTA and renegotiated the treaty and announced a deal had been reached with South Korean President Lee Myung-bak in December, 2010. In March 2012, the long awaited agreement finally entered into force.

Free Trade Agreements were, and still are, a widely used policy tool, both by the US and other nations. The United States alone signed FTAs with over 15 countries between 1990 and 2010. Although many FTAs are modeled off of prior agreements, there is no required structure or overarching authority for FTAs. Bilateral FTAs in particular, as the product of extensive negotiations between two partners, reflect the idiosyncratic concerns and preferences of political and economic stakeholders. Lengthy articles of the US-Singapore FTA, for example, focus on the treatment of chewing gum as an imported commodity, which is banned in Singapore due to hygienic fears about litter, but was also a "sticking" point for US gum producers such as MARS and Wrigley. The solution? US and Singapore trade representatives agreed that US gum products could be imported duty-free for therapeutic and medicinal use, but not for recreational consumption (Organization of American States 2023).

The broader point is this: Free Trade Agreements ease barriers to trade through a myriad of idiosyncratic, esoteric, and interconnected provisions. Outside observers tend to overestimate the role of tariff reductions in FTAs, while overlooking changes in intellectual property rights, easing of foreign investment barriers, business information transparency, harmonization of tax treatments, cross-partner regulatory practices, and more. Quantifying the effects of FTAs and isolating them to a specific source is difficult. Indeed, many provisions of FTAs confound each other, making the total effect of an FTA greater, or simply different, than the sum of its parts. In light of this reality, the empirical analysis that follows treats FTAs as the primary unit of analysis. Tariffs certainly impact free trade, and are a component of an FTAs impact, but FTAs are worthy of analysis in their own right.

Policymakers have long recognized the welfare-enhancing effects of international trade, but recent attention has shifted towards more novel channels, such as innovation. The Organization for Economic Cooperation and Development (OECD) outlined the importance of trade for economic growth as part of their 2010 Innovation Strategy. OECD identifies three channels by which trade can affect innovation: 1) technology diffusion, 2) intensifying competition, 3) learning through export markets. The veracity and magnitude of these channels' relationship to innovation will be discussed in the next section, but the empirical realities notwithstanding, trade experts and policymakers increasingly view trade as linked to innovation.

Literature Review

Innovation is a fundamental driver of economic growth and prosperity. New technologies lead firms and individuals to be more productive, raising the frontier for possible consumption. How technological improvements arise is a crucial question for policymakers and an equally difficult one for economists. Technology is distinct in that it is neither a conventional good or a public good; it is a nonrival and partially excludable good that depends on the investment decisions of individual firms and agents (Romer 1990). In the field of international economics, technology and productivity are important inputs for trade models. A simple Ricardian model predicts that countries will specialize and export goods and services in sectors where they have a comparative advantage in, or a relative advantage in productivity compared to their potential trading partners (Ricardo 1817). Recognizing that technological efficiency, and therefore productivity, depends on firms' incentives to invest in innovation, means that trade may lead to an endogenous change in technological growth.

Shu and Steinwender (2019) consider the effects of trade liberalization on incentives for domestic firms to innovate. They categorize shocks to a firm's innovation decision based on two criteria: 1) the target market of the firm, which is where a firm sells its final product or service, and 2) the input market of the firm, which is where a firm buys its intermediary inputs for production. Trade liberalization allows foreign firms to sell in the domestic final market, which increases the competition domestic firms face to sell their products. Schumpeter (1942) predicts that increased competition reduces firms' incentives to innovate, as they are less likely to capture economic rents by providing a better product or service. On the other hand, Arrow (1962) suggests that competition may increase firms' incentives to innovate by eliminating the

“unearned” economic rents – that is, rents captured by firms that are not the result of better quality products. According to Arrow (1962), companies innovate to escape the competitive pressures, while Schumpeter (1942) argues that competition forecloses the opportunity for firms to gain from innovation. Bombardini, Li, and Wang (2017) use a model to estimate the effect of increased import competition on a firm's decision to invest in innovation; they find that the Arrow (1962) effect dominates for more productive firms who are more likely to escape competition, while the Schumpeter (1942) effect dominates for less productive firms. Aghion et al. (2005) shows that the introduction of import competition in the UK led to increased innovation among industries that were not very competitive because domestic firms shared close technological levels and therefore had similar chances of escaping competition through innovation, and also led innovation to decrease among highly competitive industries where differences in firm level productivity were already high.

While trade liberalization may increase competition for domestic firms, it also offers them access to new foreign markets for exports. The increase in market size increases the potential profits a firm could capture by innovating, incentivizing firms to invest in new technologies (Shu and Steinwender 2019). That said, this effect is mitigated if firms cannot access foreign markets due to barriers from fixed and variable costs involved in exporting. Melitz (2003) models trade flows with heterogeneous productivity in firms and shows that only firms with sufficiently high levels of productivity will take advantage of new export markets, while increased import competition affects all firms, regardless of whether they export.

Exports may spur innovation by unintentionally sharing knowledge between foreign and domestic markets. Notably, in this mechanism, the effect of exports on innovation occurs after the decision to export has already been made by a firm. Empirical evidence suggests that the

“learning-by-exporting” effect is strongest for firms from developing countries that export into markets in developed countries (Atkin, Khandelwal, and Osman 2017).

Economists differentiate between two different types of innovation measures: inputs, or innovation intensity, which focuses the amount of resources — time, effort, money — used for the purposes of innovation, and innovation outputs, which focuses on measurable gains in productivity or new designs of goods and services. Cai, Li, and Santacreu (2022) utilize both measures — patent filings for innovation output and R&D expenditures for innovation intensity — to create a unified framework for modeling innovation spillovers from trade by industry and country. They find that trade liberalization leads to a reallocation of R&D investment into sectors where a country has a comparative advantage in. Furthermore, developed countries are better able to capture knowledge spillovers from trade and enjoy greater relative welfare gains compared to developing countries. This paper draws inspiration from the analysis done in Cai, Li, and Santacreu (2022) and provides an empirical framework for isolating the effects of FTAs on innovation output, specifically patent filings, by industry and country.

The results found in this paper provide further support for Cai, Li, and Santacreu (2022): patent filings increase in export extensive sectors and decline in other sectors, though the overall effect is positive on innovation. At the same time, this paper also finds a strong positive relationship between imports and innovation, which may suggest that knowledge spillovers can also come from imports in addition to exports.

Data

For the empirical analysis, I create a panel data set that includes the number of patent filings by country-of-origin, US exports by country (imports from US for each country), and US imports by country (exports to US from each country) for the years 1998-2020, broken down by four-digit North American Industry Classification System (NAICS) codes. The panel data set is a combination of two publicly available data sets. The trade data is downloaded from the US International Trade Commission's (USITC) Dataweb portal, and the patent data is downloaded from the World Intellectual Property Organization's (WIPO) Statistics Data Center.

Patent data is considered a useful proxy for technological innovation. When a firm or individual develops a new technology, submitting a patent entitles them to financial and legal ownership over their invention. Although for much of history patents were mainly a feature of the US legal system, the increase in international trade, as well as the establishment of international bodies that oversee trade protections like the WTO and WIPO, have bolstered patent applications from around the world. Although patent filings are publicly available and easy to access, their use in economic analysis has been hampered by the difficulty in mapping patent data to economic activity measures.

Patents are categorized according to the International Patenting Classification (IPC) system, first established in 1971. IPC codes are a set of alphabetical and numerical characters, which categorize patents into subgroups represented by the position and value of each character. IPC codes are classified based on the technical features of each patent application, with the intent to help patent examiners differentiate the novelty of a new application from existing patents. Since goods and services in different sectors may use the same technical features (e.g., an

electronic control device may be used in both washing machines and satellites), mapping patent data to economic data poses a challenge (Lybbert and Zolas 2014).

Lybbert and Zolas (2014) provide a novel solution by mining application descriptions and processing the keywords into an ‘Algorithmic Links with Probabilities’ (ALP) model, which compares the keywords of the patent description for IPC groups and maps matches to industry descriptions for NAICS codes. The resulting ALP concordance provides a weighted probability for the relationship between any four character IPC Code and the relevant four digit NAICS industry codes. I use the ALP concordance to estimate the number of patent filings by each NAICS Code in the USITC trade data.

Table 1 provides summary statistics of the panel data broken down by country for the years 1998, 2008, and 2018. Exports and imports are recorded as the total US-dollar value of all traded goods. Patents are recorded as a count based on the ALP concordance estimates, which is why they may not be whole numbers. Table 1 shows that innovation levels differ between the four sample countries; Chile records the least number of patents per industry on average for each selected year, while Australia recorded the highest average number of patents per industry in 1998 and South Korea recorded the highest average in 2008 and 2018.

Table 1: Summary Statistics by Country for Select Years

| Country | Year | Variable | Mean | Median | Max | Min |
|-------------|------|----------|-------------|-------------|----------------|-----|
| Australia | 1998 | Patents | 10.37 | 5.05 | 72.40 | 0 |
| | | Exports | 49,375,283 | 9,883,478 | 658,015,658 | 0 |
| | | Imports | 109,443,566 | 20,259,528 | 1,033,074,843 | 0 |
| | 2008 | Patents | 26.48 | 9.92 | 274.90 | 0 |
| | | Exports | 97,086,257 | 12,758,250 | 1,253,823,111 | 0 |
| | | Imports | 206,025,459 | 36,809,482 | 2,910,044,120 | 0 |
| | 2018 | Patents | 24.64 | 9.00 | 256.1 | 0 |
| | | Exports | 92,281,208 | 13,042,790 | 2,233,249,880 | 0 |
| | | Imports | 232,406,371 | 67,007,680 | 2,349,390,555 | 0 |
| Chile | 1998 | Patents | 0.02 | 0 | 0.85 | 0 |
| | | Exports | 22,503,522 | 593,192 | 430,022,675 | 0 |
| | | Imports | 36,561,691 | 8,854,401 | 473,983,507 | 0 |
| | 2008 | Patents | 0.18 | 0 | 2.15 | 0 |
| | | Exports | 75,128,369 | 2,361,639 | 3,267,399,474 | 0 |
| | | Imports | 11,949,959 | 15,075,616 | 3,525,590,718 | 0 |
| | 2018 | Patents | 2.26 | 0.83 | 19.19 | 0 |
| | | Exports | 104,403,815 | 1,594,058 | 3,528,489,429 | 0 |
| | | Imports | 140,482,412 | 25,526,951 | 4,072,729,951 | 0 |
| Singapore | 1998 | Patents | 0.83 | 0.13 | 11.63 | 0 |
| | | Exports | 168,416,380 | 3,302,242 | 10,604,373,703 | 0 |
| | | Imports | 143,793,384 | 17,582,771 | 3,668,484,933 | 0 |
| | 2008 | Patents | 6.03 | 1.64 | 86.55 | 0 |
| | | Exports | 145,728,532 | 4,414,238 | 2,957,333,529 | 0 |
| | | Imports | 264,309,514 | 23,671,536 | 4,814,075,135 | 0 |
| | 2018 | Patents | 11.11 | 2.57 | 156.16 | 0 |
| | | Exports | 243,300,594 | 3,068,511 | 7,159,463,968 | 0 |
| | | Imports | 301,748,555 | 37,406,014 | 6,121,096,973 | 0 |
| South Korea | 1998 | Patents | 3.88 | 1.05 | 35.41 | 0 |
| | | Exports | 219,600,562 | 28,225,633 | 6,989,281,380 | 0 |
| | | Imports | 151,727,254 | 31,045,052 | 3,702,760,788 | 0 |
| | 2008 | Patents | 55.82 | 18.41 | 787.42 | 0 |
| | | Exports | 441,064,285 | 56,251,409 | 9,630,701,628 | 0 |
| | | Imports | 319,333,494 | 84,749,129 | 3,552,627,164 | 0 |
| | 2018 | Patents | 194.32 | 83.45 | 1897.98 | 0 |
| | | Exports | 681,090,550 | 98,774,729 | 13,823,191,936 | 0 |
| | | Imports | 516,681,593 | 117,349,192 | 8,600,500,051 | 0 |

Empirical Methodology

In my analysis I create a fixed-effects, difference-in-differences (DD) regression framework to estimate the effect of implementing an FTA with the United States on the number of patents filed by each industry and country. I control for the natural log of exports and natural log of imports to and from the US for each year. Additionally, I generate a vector of calendar-year, country, and industry code fixed effects. In total there are 109 NAICS Codes in the data set, four countries (Chile, Australia, Singapore, and South Korea), and 22 years. I treat FTA as a binary variable to indicate whether the year is before or after the FTA has been signed with the United States. This variable treats the FTA as an identical treatment for each country, even though the FTA is different for each country. This is because although the specifics of each FTA vary, all represent a shock to trade liberalization by reducing barriers to trade with the United States.

In total, the base regression includes 134 independent variables and one dependent variable. The base form is expressed as:

$$P_{cti} = \beta_0 + \beta_1 FTA_{cti} + \gamma_c C + \theta_t Y + \delta_i I + \epsilon_{cti}$$

Where P_{cti} represents the patents filed for specific country-industry group in a calendar year, β_1 represents the effect of joining the FTA on a country's annual patent filings per industry, γ_c is a vector of country specific fixed effects (excluding South Korea), θ_t is a vector of calendar year fixed effects, δ_i is a vector of NAICS Code fixed effects, and ϵ_{cti} is the residual term.

After the base regression, I add the natural log of exports and the natural log of imports to estimate the effect of trade on innovation. Again, country, industry, and calendar-year fixed effects are included. Regression 2 is expressed as:

$$P_{cti} = \beta_0 + \beta_1 FTA_{cti} + \beta_2 \ln(exports_{cti}) + \beta_3 \ln(imports_{cti}) + \gamma_c C + \theta_t Y + \delta_i I + \epsilon_{cti}$$

$\beta_2/100$ and $\beta_3/100$ represent the effect of a 1% change in exports or imports on the number of patents filed annually in an industry.

Finally, I create a third regression by interacting FTA with exports and imports, which will reveal how free trade agreements can augment the effect of trade on innovation. The general form of Regression 3 is:

$$P_{cti} = \beta_0 + \beta_1 FTA_{cti} + \beta_2 \ln(exports_{cti}) + \beta_3 \ln(imports_{cti}) +$$

$$\beta_4 [FTA_{cti} \times \ln(exports_{cti})] + \beta_5 [FTA_{cti} \times \ln(imports_{cti})] + \gamma_c C + \theta_t Y + \delta_i I + \epsilon_{cti}$$

$\beta_4/100$ and $\beta_5/100$ represent the additional effect of 1% change in exports or imports on the number of patents filed annually due to the implementation of a Free Trade Agreement.

Results

The estimates of key variables from the three regressions are shown in Table 2 below.

Full results of each regression can be found in the appendix.

Table 2: Regression Results

| Variable | Base Reg. | Reg 2 | Reg 3 |
|-------------------|--------------------|--------------------|---------------------|
| FTA | 43.94*** (4.56) | 43.88*** (4.54) | -29.49** (10.22) |
| ln(exports) | x | 2.26*** (0.30) | 0.24 (0.43) |
| ln(imports) | x | -3.01*** (0.51) | -4.33*** (0.64) |
| FTA x ln(exports) | x | x | 2.97*** (0.46) |
| FTA x ln(imports) | x | x | 1.59** (0.61) |
| Intercept | 76.51*** | 95.62*** | 152.07*** |
| Australia | -82.58*** | -82.86*** | -83.79*** |
| Chile | -105.00*** | -101.99*** | -102.87*** |
| Singapore | -98.85*** | -96.58*** | -97.43*** |
| R-squared | 0.304 | 0.314 | 0.320 |
| Adjusted R-sq. | 0.300 | 0.305 | 0.311 |
| F-stat. | 33.07 | 33.35 | 33.97 |

*Significance codes: $p < 0.001 = ***$, $p < 0.01 = **$, $p < 0.05 = *$*

The base regression shows that after controlling for country, industry, and calendar-year fixed effects, entering into an FTA with the United States increases the number of patents filed annually per industry by 44. Regression 2 incorporates the effects of exports and imports on trade; a 1% increase in exports is associated with a 0.02 increase in annual patent filings while a 1% increase in imports is associated with a 0.03 decrease in annual patent filings. The effect of FTA in Regression 2 decreases by 1 compared to the base regression: joining a US-FTA is associated with an increase of 44 annual patents per industry. The country specific fixed-effects

are all negative and significant, indicating that South Korea, which was exempted to prevent multicollinearity, has the highest level of innovation in terms of patent filings.

Regression 3 exposes more nuance to the effect of FTAs by interacting the FTA variable with logged exports and imports. This change causes significant deviations from the estimates recorded in the base regression and Regression 1. First, the FTA estimate by itself becomes negative, indicating that signing a FTA reduces the number of patent filings by 29.5 for a given industry sector. However, the FTA also changes the effect of exports and imports on innovation: a one unit increase in log exports increases the number of patents by 3 and a one unit increase in log imports increases patents by 1.6. For context, the median log export value in Chile, the country with the smallest economy in the sample, was 14.54 in 2004, the year its FTA with the United States first went into effect. This means that an estimated 43.2 patents can be attributed to exports based on the median Chilean industry, which alone outweighs the negative effect found for the sole FTA variable. Log imports also show a similar effect, although smaller and less significant, when interacted with FTA. The magnitude and direction of the non-interacted log imports and exports terms also changed in Regression 3 compared to Regression 2. In Regression 3, log exports have no significant effect on patent filings, while log imports have a negative effect on patents. The fact that the sign and magnitude of exports and imports changes depending on its interaction with FTA suggests that the effect on innovation is inherently linked to trade.

I check for robustness by experimenting with different combinations of fixed effects variables. Fixed-effects models make it possible to control for variables that are not or cannot be measured (Allison 2009). In the model used in this paper, the fixed-effects country variables control for unobserved differences between Australia, Chile, Singapore, and South Korea that

may affect innovation, which includes cultural, educational, and environmental factors. Industry, or NAICS fixed-effects serve a similar purpose: some types of industries may be easier to innovate in than others for reasons that are unobservable. If these facts are considered together, it leads to the conclusion that some countries may have unobserved factors that give them an advantage in innovation in particular sectors. To test for this, I rerun the three regressions with industry-country fixed effects. The base form of the regression is now:

$$P_{cti} = \beta_0 + \beta_1 FTA_{cti} + \lambda_{ic}(I \times C) + \theta_t Y + \epsilon_{cti}$$

Table 3 shows the results of the new regressions using country-industry fixed effects:

Table 3: Regression Results with Industry-Country Fixed Effects

| Variable | Base Reg. | Reg 2 | Reg 3 |
|-------------------|--------------------|--------------------|----------------------|
| FTA | 43.93*** (3.52) | 43.89*** (3.52) | -101.44*** (8.04) |
| ln(exports) | x | 1.00* (0.39) | -2.87*** (0.46) |
| ln(imports) | x | -0.91 (0.50) | -3.33*** (0.58) |
| FTA x ln(exports) | x | x | 4.92*** (0.37) |
| FTA x ln(imports) | x | x | 4.05*** (0.49) |
| Intercept | 15.90 | 14.76 | 127.64*** |
| Australia | -82.58*** | -82.86*** | -83.79*** |
| Chile | -105.00*** | -101.99*** | -102.87*** |
| Singapore | -98.85*** | -96.58*** | -97.43*** |
| R-squared | 0.602 | 0.602 | 0.622 |
| Adjusted R-sq. | 0.583 | 0.58 | 0.603 |
| F-stat. | 31.61 | 31.51 | 34.01 |

*Significance codes: $p < 0.001 = ***$, $p < 0.01 = **$, $p < 0.05 = *$*

The new base regression provides a similar estimate of FTA's effect on patent filings, but regressions 2 and 3 differ from Table 2. After using country-industry fixed effects, log exports and log imports do not have a large, if any, effect on patent filings in Regression 2. In Regression

3, the interaction between FTA and log imports and log exports becomes greater in magnitude and more significant. The non-interacted log import and export terms move in the opposite direction: log exports and log imports show a negative association with patent filings. In sum, when country-industry fixed effects are used, the estimates of base regression and Regression 2 are mostly unchanged, while the estimates from Regression 3 increase in magnitude but maintain the same direction as before. However, the estimates in Table 3 also have dramatically higher adjusted R-squared values for all three regressions — almost double those from Table 2. Using country-industry fixed effects increases the amount of variation explained by the regression and yields increases in the magnitude of the empirical estimates.

Discussion

The results indicate that US Free Trade Agreements have a positive overall effect on innovation in its partner countries, but there is considerable variation in how these innovation gains are dispersed across industry sectors. Industries in which countries conduct a high volume of trade see larger gains in innovation compared to less traded sectors. Regression 3 from Table 2 suggests that exports, in particular, are an important determinant of the innovation gains for an industry due to an FTA. When the fixed effects are altered to combine country-industry effects, the importance of exports and imports increases. Ricardian theory predicts that countries will export goods from sectors they have a comparative advantage in, meaning the US may import from Chile, Singapore, Australia, or South Korea because those countries are more productive in those sectors.

If a country's exports indicate which industries are relatively more productive, then the positive association between exports and patent filings found in this paper suggest that innovation is concentrated within sectors that a country already possesses a comparative advantage in. One possible conclusion, consistent with the Arrow (1962) thesis, is that increased exposure to international competition eroded the unearned economic rents captured by domestic firms and forced them to intensify their R&D efforts to stave off competition from new American firms. In sectors with low innovation, the entering American firms may possess far more advanced technology and the productivity gap could be seen as insurmountable, leading to less investment in new innovations.

Prior to a Free Trade Agreement, the effect of exports is either insignificant (see Reg 3 Table 2) or negative (see Reg 3 Table 3), which might indicate that domestic firms in export

intensive sectors felt secure about their market position and were content to reap the profits at home before the FTA. Furthermore, a country may want to invest in industries that are less productive if there are diminishing returns to R&D expenditures (Bloom, Jones, and Webb 2017). The liberalization of trade barriers through the introduction of an FTA may reverse these incentives by 1) exposing domestic firms to the larger American market, and 2) introducing competition from American firms to the domestic market. In the former, the domestic firms in export intensive industries reinvigorate their investment activities in order to capture profits in the new American market. In the latter, domestic firms in export intensive industries invest in innovation to protect their share of the domestic market from new American firms.

The results of this paper also find an association between imports and innovation after a FTA, albeit not as strong as the relationship between exports and innovation. This result does not fit as well with the Ricardian model of trade: countries should import in industries they are less productive in, so increases in trade liberalization should concentrate innovation in industries that are export intensive, not import intensive. One possible explanation is that a large amount of imports from the United States to Chile, Australia, Singapore, and South Korea are for intermediate goods that are used for production of finished goods that are then exported back to the United States. Indeed, the correlation matrix of the panel dataset (Table 4 in Appendix) reveals a positive relationship between exports and imports. It may be that industries which import finished goods from the US still innovate less, but the effect of imported intermediate goods dominates, leading to an overall positive effect that is less than exports. Further analysis with data that differentiates intermediate and final goods could shed light on the exact link within imports to innovation.

It is also worth noting the limitations of this paper's findings. Although patents, as a measure of innovation output, tend to be closely related to innovation inputs, there is no direct estimate of firms' effort and resources put towards innovation in the data used for this paper. Consequently, it cannot be determined whether patent filings increase following a FTA because firm incentives have changed and led them to invest more in R&D, or because the FTA exposed firms to new sources of knowledge, which made the existing level of R&D expenditures more efficient. Another concern is that FTAs may encourage non-American firms to file for patents by making the process easier, leading firms to apply for patents for technology that already was in use. This would cause the impacts of an FTA on innovation to be overestimated. At the same time, alternative approaches that avoid this problem by focusing on direct trade barriers, like tariff rates, may underestimate the total impact of an FTA by ignoring the multitude of intangible measures that make trade easier between partner countries. This paper provides a new perspective by showing that Free Trade Agreements, considered as a whole, impact patent filings by a considerable amount. Further research can disentangle whether this effect is due to a true increase in innovative activity or a product of declining bureaucratic barriers.

Conclusion

In this paper, I identify the link between a rapid liberalization in trade barriers through a Free Trade Agreement and the level of innovation by industry. I find that FTAs lead to an increase in patent filings on average, but the increase is concentrated in sectors that are export and import intensive. The results and analysis can have important implications for future studies and future trade policy decisions.

When the effects of an FTA are identified by a single dummy variable in the regression, FTAs provide an overall positive effect on innovation for a given industry, but when the effect of FTA is interacted with exports and imports, the gains in patent filings become dependent on the level of trade in the specific industry sector. These results align with recent research from Cai, Ling, and Santacreu (2022), which find that R&D intensity moves towards sectors with a comparative advantage due to knowledge spillovers following trade liberalization, but it is unclear whether the innovation gains found in this paper are due to the same channel. In particular, the strong and positive impact of imports complicates the existing understanding between innovation and comparative advantage. Further analysis of the role of intermediate goods, as well as the level of competitive pressures within industry sectors, could reveal a more accurate picture of how imports are linked to innovation.

The strength of the empirical results also testifies to the power of the US economy in shaping foreign economies. The implementation of a Free Trade Agreement shifted the patterns of innovation which could lead to future shifts in productivity. This paper does not make any claims about the welfare effects of Free Trade Agreements, but in light of the connection

between innovation and trade liberalization, future analysis of welfare gains due to trade may consider how economic growth will be impacted.

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Appendix

Table 4: Correlation Matrix

| | Patents | Imports | Exports | log(Imports) | log(Exports) |
|--------------|---------|---------|---------|--------------|--------------|
| Patents | 1.000 | 0.252 | 0.324 | 0.185 | 0.211 |
| Imports | | 1.000 | 0.334 | 0.376 | 0.261 |
| Exports | | | 1.000 | 0.139 | 0.289 |
| log(Imports) | | | | 1.000 | 0.530 |
| log(Exports) | | | | | 1.000 |

Table 5: NAICS Codes and Descriptions

| NAICS | Description |
|--------------|--|
| 1111 | OILSEEDS & GRAINS |
| 1112 | VEGETABLES & MELONS |
| 1113 | FRUITS & TREE NUTS |
| 1114 | MUSHROOMS, NURSERY & RELATED PRODUCTS |
| 1119 | OTHER AGRICULTURAL PRODUCTS |
| 1121 | CATTLE |
| 1122 | SWINE |
| 1123 | POULTRY & EGGS |
| 1124 | SHEEP, GOATS & FINE ANIMAL HAIR |
| 1125 | FARMED FISH AND RELATED PRODUCTS |
| 1129 | OTHER ANIMALS |
| 1132 | FORESTRY PRODUCTS |
| 1133 | TIMBER & LOGS |
| 1141 | FISH, FRESH/CHILLED/FROZEN & OTHER MARINE PRODUCTS |
| 2111 | OIL & GAS |
| 2121 | COAL & PETROLEUM GASES |
| 2122 | METAL ORES |
| 2123 | NONMETALLIC MINERALS |
| 3111 | ANIMAL FOODS |
| 3112 | GRAIN & OILSEED MILLING PRODUCTS |
| 3113 | SUGAR & CONFECTIONERY PRODUCTS |
| 3114 | FRUITS & VEG PRESERVES & SPECIALTY FOODS |
| 3115 | DAIRY PRODUCTS |
| 3116 | MEAT PRODUCTS & MEAT PACKAGING PRODUCTS |
| 3117 | SEAFOOD PRODS, PREPARED, CANNED & PACKAGED |
| 3118 | BAKERY & TORTILLA PRODUCTS |
| 3119 | FOODS, NESOI |
| 3121 | BEVERAGES |
| 3122 | TOBACCO PRODUCTS |
| 3131 | FIBERS, YARNS & THREADS |
| 3132 | FABRICS |
| 3133 | FINISHED & COATED TEXTILE FABRICS |
| 3141 | TEXTILE FURNISHINGS |
| 3149 | OTHER TEXTILE PRODUCTS |
| 3151 | KNIT APPAREL |
| 3152 | APPAREL |
| 3159 | APPAREL ACCESSORIES |
| 3161 | LEATHER & HIDE TANNING |
| 3162 | FOOTWEAR |
| 3169 | OTHER LEATHER PRODUCTS |
| 3211 | SAWMILL & WOOD PRODUCTS |
| 3212 | VENEER, PLYWOOD & ENGINEERED WOOD PRODUCTS |
| 3219 | OTHER WOOD PRODUCTS |
| 3221 | PULP, PAPER & PAPERBOARD MILL PRODUCTS |

| | |
|------|--|
| 3222 | CONVERTED PAPER PRODUCTS |
| 3231 | PRINTED MATTER AND RELATED PRODUCTS, NESOI |
| 3241 | PETROLEUM & COAL PRODUCTS |
| 3251 | BASIC CHEMICALS |
| 3252 | RESIN, SYN RUBBER, ARTF & SYN FIBERS/FIL |
| 3253 | PESTICIDES, FERTILIZERS & OTH AGRI CHEMICALS |
| 3254 | PHARMACEUTICALS & MEDICINES |
| 3255 | PAINTS, COATINGS & ADHESIVES |
| 3256 | SOAPS, CLEANING COMPOUNDS & TOILET PREPARATIONS |
| 3259 | OTHER CHEMICAL PRODUCTS & PREPARATIONS |
| 3261 | PLASTICS PRODUCTS |
| 3262 | RUBBER PRODUCTS |
| 3271 | CLAY & REFRACTORY PRODUCTS |
| 3272 | GLASS & GLASS PRODUCTS |
| 3273 | CEMENT & CONCRETE PRODUCTS |
| 3274 | LIME & GYPSUM PRODUCTS |
| 3279 | OTHER NONMETALLIC MINERAL PRODUCTS |
| 3311 | IRON & STEEL & FERROALLOY |
| 3312 | STEEL PRODUCTS FROM PURCHASED STEEL |
| 3313 | ALUMINA & ALUMINUM & PROCESSING |
| 3314 | NONFERROUS (EXC ALUM) & PROCESSING |
| 3315 | FOUNDRIES |
| 3321 | CROWNS/CLOSURES/SEALS & OTHER PACKING ACCESSORIES |
| 3322 | CUTLERY & HANDTOOLS |
| 3323 | ARCHITECTURAL & STRUCTURAL METALS |
| 3324 | BOILERS, TANKS & SHIPPING CONTAINERS |
| 3325 | HARDWARE |
| 3326 | SPRINGS & WIRE PRODUCTS |
| 3327 | BOLTS/NUTS/SCRWS/RIVTS/WASHRS & OTHER TURNED PRODS |
| 3329 | OTHER FABRICATED METAL PRODUCTS |
| 3331 | AG & CONSTRUCTION & MACHINERY |
| 3332 | INDUSTRIAL MACHINERY |
| 3333 | COMMERCIAL & SERVICE INDUSTRY MACHINERY |
| 3334 | HVAC & COMMERCIAL REFRIGERATION EQUIPMENT |
| 3335 | METALWORKING MACHINERY |
| 3336 | ENGINES, TURBINES & POWER TRANSMSN EQUIP |
| 3339 | OTHER GENERAL PURPOSE MACHINERY |
| 3341 | COMPUTER EQUIPMENT |
| 3342 | COMMUNICATIONS EQUIPMENT |
| 3343 | AUDIO & VIDEO EQUIPMENT |
| 3344 | SEMICONDUCTORS & OTHER ELECTRONIC COMPONENTS |
| 3345 | NAVIGATIONAL/MEASURING/MEDICAL/CONTROL INSTRUMENT |
| 3346 | MAGNETIC & OPTICAL MEDIA |
| 3351 | ELECTRIC LIGHTING EQUIPMENT |
| 3352 | HOUSEHOLD APPLIANCES AND MISC MACHINES, NESOI |
| 3353 | ELECTRICAL EQUIPMENT |
| 3359 | ELECTRICAL EQUIPMENT & COMPONENTS, NESOI |

| | |
|------|---|
| 3361 | MOTOR VEHICLES |
| 3362 | MOTOR VEHICLE BODIES & TRAILERS |
| 3363 | MOTOR VEHICLE PARTS |
| 3364 | AEROSPACE PRODUCTS & PARTS |
| 3365 | RAILROAD ROLLING STOCK |
| 3366 | SHIPS & BOATS |
| 3369 | TRANSPORTATION EQUIPMENT, NESOI |
| 3371 | HOUSEHOLD & INSTITUTIONAL FURN & KITCHEN CABINETS |
| 3372 | OFFICE FURNITURE (INCLUDING FIXTURES) |
| 3379 | FURNITURE RELATED PRODUCTS, NESOI |
| 3391 | MEDICAL EQUIPMENT & SUPPLIES |
| 3399 | MISCELLANEOUS MANUFACTURED COMMODITIES |
| 5112 | SOFTWARE, NESOI |
| 9100 | WASTE AND SCRAP |
| 9200 | USED OR SECOND-HAND MERCHANDISE |
| 9300 | USED OR SECOND-HAND MERCHANDISE |
| 9900 | OTHER SPECIAL CLASSIFICATION PROVISIONS |

| Table 2 Base Regression: Full Results | | | | |
|--|-----------------|------------------|------------------|----------------|
| term | estimate | std.error | statistic | p.value |
| (Intercept) | 76.51396 | 11.91319 | 6.422624 | 1.40E-10 |
| FTA | 43.92965 | 4.557831 | 9.638279 | 6.88E-22 |
| Country_Australia | -82.5808 | 3.114432 | -26.5155 | 1.01E-149 |
| Country_Chile | -104.955 | 3.207606 | -32.7207 | 4.60E-223 |
| Country_Singapore | -98.852 | 3.207606 | -30.818 | 3.20E-199 |
| Country_SouthKorea | NA | NA | NA | NA |
| year_1998 | -31.123 | 8.092138 | -3.84608 | 1.21E-04 |
| year_1999 | -30.2503 | 8.092138 | -3.73823 | 1.86E-04 |
| year_2000 | -28.0198 | 8.092138 | -3.4626 | 5.37E-04 |
| year_2001 | -25.1677 | 8.092138 | -3.11014 | 0.0018753 |
| year_2002 | -23.662 | 8.092138 | -2.92407 | 0.0034627 |
| year_2003 | -22.8073 | 8.092138 | -2.81846 | 0.0048351 |
| year_2004 | -44.1624 | 7.064158 | -6.25161 | 4.23E-10 |
| year_2005 | -53.4535 | 6.782864 | -7.88067 | 3.60E-15 |
| year_2006 | -50.1944 | 6.782864 | -7.40018 | 1.47E-13 |
| year_2007 | -48.0934 | 6.782864 | -7.09043 | 1.43E-12 |
| year_2008 | -45.7172 | 6.782864 | -6.74011 | 1.67E-11 |
| year_2009 | -44.9798 | 6.782864 | -6.63139 | 3.50E-11 |
| year_2010 | -40.0529 | 6.782864 | -5.90501 | 3.64E-09 |
| year_2011 | -32.2403 | 6.782864 | -4.75321 | 2.03E-06 |
| year_2012 | -40.1698 | 6.68647 | -6.00763 | 1.95E-09 |
| year_2013 | -37.6595 | 6.68647 | -5.6322 | 1.83E-08 |
| year_2014 | -36.5451 | 6.68647 | -5.46553 | 4.73E-08 |
| year_2015 | -37.4612 | 6.68647 | -5.60253 | 2.17E-08 |
| year_2016 | -31.6015 | 6.68647 | -4.72618 | 2.32E-06 |
| year_2017 | -22.1129 | 6.68647 | -3.30711 | 9.46E-04 |
| year_2018 | -20.7458 | 6.68647 | -3.10265 | 0.0019233 |
| year_2019 | -14.834 | 6.68647 | -2.21851 | 0.0265429 |
| year_2020 | NA | NA | NA | NA |
| NAICS_1111 | 11.15591 | 14.55614 | 0.766406 | 0.443453 |
| NAICS_1112 | 4.112471 | 14.55614 | 0.282525 | 0.777547 |
| NAICS_1113 | 0.802773 | 14.55614 | 0.05515 | 0.95602 |
| NAICS_1114 | 3.349986 | 14.55614 | 0.230142 | 0.8179858 |
| NAICS_1119 | 2.239559 | 14.55614 | 0.153857 | 0.8777259 |
| NAICS_1121 | 4.043595 | 14.55614 | 0.277793 | 0.781177 |
| NAICS_1122 | 0.768687 | 14.55614 | 0.052808 | 0.9578856 |
| NAICS_1123 | 0.016622 | 14.55614 | 0.001142 | 0.9990889 |
| NAICS_1124 | 2.055037 | 14.55614 | 0.14118 | 0.8877305 |
| NAICS_1125 | 2.284152 | 14.55614 | 0.15692 | 0.875311 |
| NAICS_1129 | 3.997698 | 14.55614 | 0.27464 | 0.7835986 |

| | | | | |
|------------|----------|----------|----------|-----------|
| NAICS_1132 | 0.081018 | 14.55614 | 0.005566 | 0.9955592 |
| NAICS_1133 | 1.56772 | 14.55614 | 0.107702 | 0.9142346 |
| NAICS_1141 | 17.1313 | 14.55614 | 1.176913 | 0.2392587 |
| NAICS_2111 | 3.522248 | 14.55614 | 0.241977 | 0.8088031 |
| NAICS_2121 | 0.736623 | 14.55614 | 0.050606 | 0.9596408 |
| NAICS_2122 | 1.388179 | 14.55614 | 0.095367 | 0.924025 |
| NAICS_2123 | 4.495037 | 14.55614 | 0.308807 | 0.7574749 |
| NAICS_3111 | 0.165127 | 14.55614 | 0.011344 | 0.9909491 |
| NAICS_3112 | 21.7035 | 14.55614 | 1.49102 | 0.1359881 |
| NAICS_3113 | 5.653141 | 14.55614 | 0.388368 | 0.6977519 |
| NAICS_3114 | 9.43275 | 14.55614 | 0.648026 | 0.5169835 |
| NAICS_3115 | 86.26157 | 14.55614 | 5.92613 | 3.21E-09 |
| NAICS_3116 | 27.77514 | 14.55614 | 1.90814 | 0.0564021 |
| NAICS_3117 | 5.624875 | 14.55614 | 0.386426 | 0.6991893 |
| NAICS_3118 | 12.22972 | 14.55614 | 0.840176 | 0.4008301 |
| NAICS_3119 | 40.62426 | 14.55614 | 2.790868 | 0.0052668 |
| NAICS_3121 | 41.64735 | 14.55614 | 2.861154 | 0.0042299 |
| NAICS_3122 | 9.124217 | 14.55614 | 0.626829 | 0.5307855 |
| NAICS_3131 | 4.418292 | 14.55614 | 0.303535 | 0.7614889 |
| NAICS_3132 | 6.59734 | 14.55614 | 0.453234 | 0.65039 |
| NAICS_3133 | 13.16527 | 14.55614 | 0.904448 | 0.3657799 |
| NAICS_3141 | 0.620641 | 14.55614 | 0.042638 | 0.9659911 |
| NAICS_3149 | 0.36226 | 14.55614 | 0.024887 | 0.9801455 |
| NAICS_3151 | 0.481157 | 14.55614 | 0.033055 | 0.9736312 |
| NAICS_3152 | 11.79179 | 14.55614 | 0.81009 | 0.4179077 |
| NAICS_3159 | 11.07087 | 14.55614 | 0.760564 | 0.4469359 |
| NAICS_3161 | 4.37686 | 14.55614 | 0.300688 | 0.7636586 |
| NAICS_3162 | 10.07045 | 14.55614 | 0.691835 | 0.4890571 |
| NAICS_3169 | 12.26757 | 14.55614 | 0.842776 | 0.3993739 |
| NAICS_3211 | 0.605037 | 14.55614 | 0.041566 | 0.9668457 |
| NAICS_3212 | 8.885238 | 14.55614 | 0.610412 | 0.5416031 |
| NAICS_3219 | 8.40471 | 14.55614 | 0.5774 | 0.5636827 |
| NAICS_3221 | 66.90427 | 14.55614 | 4.596292 | 4.35E-06 |
| NAICS_3222 | 22.30783 | 14.55614 | 1.532537 | 0.1254219 |
| NAICS_3231 | 3.228885 | 14.55614 | 0.221823 | 0.8244563 |
| NAICS_3241 | 11.36119 | 14.55614 | 0.780509 | 0.4351102 |
| NAICS_3251 | 92.97736 | 14.55614 | 6.387501 | 1.76E-10 |
| NAICS_3252 | 2.161397 | 14.55614 | 0.148487 | 0.8819615 |
| NAICS_3253 | 22.48097 | 14.55614 | 1.544432 | 0.1225156 |
| NAICS_3254 | 8.754052 | 14.55614 | 0.601399 | 0.5475878 |
| NAICS_3255 | 59.20222 | 14.55614 | 4.067165 | 4.80E-05 |
| NAICS_3256 | 31.73728 | 14.55614 | 2.180336 | 0.029256 |
| NAICS_3259 | 86.43989 | 14.55614 | 5.93838 | 2.98E-09 |
| NAICS_3261 | 63.77992 | 14.55614 | 4.381651 | 1.19E-05 |

| | | | | |
|------------|----------|----------|----------|-----------|
| NAICS_3262 | 34.88977 | 14.55614 | 2.396911 | 0.0165524 |
| NAICS_3271 | 25.68663 | 14.55614 | 1.76466 | 0.0776518 |
| NAICS_3272 | 0.637138 | 14.55614 | 0.043771 | 0.9650878 |
| NAICS_3273 | 40.92777 | 14.55614 | 2.811719 | 0.0049375 |
| NAICS_3274 | 7.281548 | 14.55614 | 0.500239 | 0.616918 |
| NAICS_3279 | 30.63394 | 14.55614 | 2.104537 | 0.0353568 |
| NAICS_3311 | 4.213138 | 14.55614 | 0.289441 | 0.7722503 |
| NAICS_3312 | 14.31501 | 14.55614 | 0.983434 | 0.3254177 |
| NAICS_3313 | 5.732568 | 14.55614 | 0.393825 | 0.6937189 |
| NAICS_3314 | 17.43262 | 14.55614 | 1.197613 | 0.2310964 |
| NAICS_3315 | 4.36E-12 | 14.55614 | 2.99E-13 | 1 |
| NAICS_3321 | 19.37814 | 14.55614 | 1.331269 | 0.1831311 |
| NAICS_3322 | 38.3283 | 14.55614 | 2.633137 | 0.0084732 |
| NAICS_3323 | 5.489641 | 14.55614 | 0.377136 | 0.7060808 |
| NAICS_3324 | 22.4886 | 14.55614 | 1.544956 | 0.1223888 |
| NAICS_3325 | 6.999475 | 14.55614 | 0.480861 | 0.6306261 |
| NAICS_3326 | 0.041684 | 14.55614 | 0.002864 | 0.9977152 |
| NAICS_3327 | 4.50565 | 14.55614 | 0.309536 | 0.7569203 |
| NAICS_3329 | 9.13047 | 14.55614 | 0.627259 | 0.5305039 |
| NAICS_3331 | 11.2019 | 14.55614 | 0.769565 | 0.4415762 |
| NAICS_3332 | 38.13872 | 14.55614 | 2.620113 | 0.0088035 |
| NAICS_3333 | 80.88355 | 14.55614 | 5.556662 | 2.82E-08 |
| NAICS_3334 | 1.218041 | 14.55614 | 0.083679 | 0.9333135 |
| NAICS_3335 | 20.15842 | 14.55614 | 1.384874 | 0.1661223 |
| NAICS_3336 | 103.5418 | 14.55614 | 7.113273 | 1.21E-12 |
| NAICS_3339 | 140.4223 | 14.55614 | 9.646944 | 6.32E-22 |
| NAICS_3341 | 156.0398 | 14.55614 | 10.71986 | 1.15E-26 |
| NAICS_3342 | 258.626 | 14.55614 | 17.76749 | 1.51E-69 |
| NAICS_3343 | 82.8138 | 14.55614 | 5.689269 | 1.31E-08 |
| NAICS_3344 | 99.31206 | 14.55614 | 6.822692 | 9.46E-12 |
| NAICS_3345 | 331.9624 | 14.55614 | 22.80566 | 3.05E-112 |
| NAICS_3346 | 30.88292 | 14.55614 | 2.121642 | 0.0338926 |
| NAICS_3351 | 65.92634 | 14.55614 | 4.529109 | 5.99E-06 |
| NAICS_3352 | 17.12401 | 14.55614 | 1.176411 | 0.2394588 |
| NAICS_3353 | 69.50667 | 14.55614 | 4.775076 | 1.82E-06 |
| NAICS_3359 | 68.13254 | 14.55614 | 4.680674 | 2.90E-06 |
| NAICS_3361 | 91.97009 | 14.55614 | 6.318303 | 2.76E-10 |
| NAICS_3362 | 20.57082 | 14.55614 | 1.413206 | 0.1576267 |
| NAICS_3363 | 15.18768 | 14.55614 | 1.043386 | 0.2967949 |
| NAICS_3364 | 63.10032 | 14.55614 | 4.334963 | 1.47E-05 |
| NAICS_3365 | 20.69005 | 14.55614 | 1.421397 | 0.1552329 |
| NAICS_3366 | 17.64092 | 14.55614 | 1.211923 | 0.2255707 |
| NAICS_3369 | 22.30446 | 14.55614 | 1.532306 | 0.1254788 |
| NAICS_3371 | 14.55436 | 14.55614 | 0.999878 | 0.317394 |

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|------------|----------|----------|----------|-----------|
| NAICS_3372 | 21.78073 | 14.55614 | 1.496326 | 0.1346007 |
| NAICS_3379 | 8.786138 | 14.55614 | 0.603604 | 0.5461211 |
| NAICS_3391 | 43.00075 | 14.55614 | 2.954131 | 0.0031429 |
| NAICS_3399 | 175.948 | 14.55614 | 12.08755 | 2.11E-33 |
| NAICS_5112 | 1.23E-12 | 14.55614 | 8.46E-14 | 1 |
| NAICS_9100 | 1.23E-12 | 14.55614 | 8.46E-14 | 1 |
| NAICS_9200 | 1.23E-12 | 14.55614 | 8.45E-14 | 1 |
| NAICS_9300 | 1.23E-12 | 14.55614 | 8.44E-14 | 1 |
| NAICS_9800 | 1.22E-12 | 14.55614 | 8.39E-14 | 1 |
| NAICS_9900 | NA | NA | NA | NA |

| Table 2 Regression 2: Full Results | | | | |
|---|-----------------|------------------|------------------|----------------|
| term | estimate | std.error | statistic | p.value |
| (Intercept) | 95.61892 | 16.21311 | 5.897628 | 3.81E-09 |
| ln_exports | 2.257048 | 0.30157 | 7.484323 | 7.80E-14 |
| ln_imports | -3.01384 | 0.510168 | -5.90754 | 3.59E-09 |
| FTA | 43.8847 | 4.541626 | 9.662772 | 5.43E-22 |
| Country_Australia | -82.8615 | 3.126484 | -26.5031 | 1.37E-149 |
| Country_Chile | -101.987 | 3.407928 | -29.9263 | 1.89E-188 |
| Country_Singapore | -96.5796 | 3.328838 | -29.013 | 1.08E-177 |
| Country_SouthKorea | NA | NA | NA | NA |
| year_1998 | -31.9978 | 8.074035 | -3.96305 | 7.45E-05 |
| year_1999 | -31.5027 | 8.071468 | -3.90297 | 9.56E-05 |
| year_2000 | -29.21 | 8.070763 | -3.61924 | 2.97E-04 |
| year_2001 | -26.4758 | 8.073048 | -3.27953 | 0.0010434 |
| year_2002 | -25.3401 | 8.07398 | -3.13849 | 0.0017032 |
| year_2003 | -24.3725 | 8.069187 | -3.02044 | 0.0025306 |
| year_2004 | -45.6456 | 7.044238 | -6.47985 | 9.62E-11 |
| year_2005 | -54.8897 | 6.762896 | -8.1163 | 5.38E-16 |
| year_2006 | -51.1421 | 6.76023 | -7.56514 | 4.22E-14 |
| year_2007 | -48.7689 | 6.759201 | -7.21518 | 5.78E-13 |
| year_2008 | -45.793 | 6.758643 | -6.77547 | 1.31E-11 |
| year_2009 | -44.4111 | 6.759584 | -6.57009 | 5.28E-11 |
| year_2010 | -38.9509 | 6.759867 | -5.76209 | 8.56E-09 |
| year_2011 | -31.4911 | 6.75979 | -4.65859 | 3.23E-06 |
| year_2012 | -39.4925 | 6.663356 | -5.92681 | 3.19E-09 |
| year_2013 | -37.6179 | 6.663241 | -5.64559 | 1.69E-08 |
| year_2014 | -35.927 | 6.663248 | -5.39181 | 7.14E-08 |
| year_2015 | -37.2212 | 6.663053 | -5.5862 | 2.38E-08 |
| year_2016 | -31.2355 | 6.663071 | -4.68786 | 2.80E-06 |
| year_2017 | -21.6942 | 6.663135 | -3.25586 | 0.0011343 |
| year_2018 | -20.4102 | 6.663111 | -3.06317 | 0.002196 |
| year_2019 | -14.4944 | 6.662993 | -2.17536 | 0.0296268 |
| year_2020 | NA | NA | NA | NA |
| NAICS_1111 | 12.2291 | 14.57161 | 0.839242 | 0.4013541 |
| NAICS_1112 | 4.704384 | 14.70215 | 0.319979 | 0.7489908 |
| NAICS_1113 | -3.06518 | 14.55248 | -0.21063 | 0.8331807 |
| NAICS_1114 | -7.86398 | 14.83127 | -0.53023 | 0.5959647 |
| NAICS_1119 | 0.300075 | 14.61752 | 0.020528 | 0.9836222 |
| NAICS_1121 | 12.2131 | 15.49433 | 0.78823 | 0.4305811 |
| NAICS_1122 | -3.35697 | 16.60367 | -0.20218 | 0.8397781 |
| NAICS_1123 | 7.165546 | 15.56475 | 0.46037 | 0.6452608 |
| NAICS_1124 | -16.087 | 16.64379 | -0.96655 | 0.3337931 |

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|------------|----------|----------|----------|-----------|
| NAICS_1125 | -21.2902 | 15.20356 | -1.40034 | 0.1614424 |
| NAICS_1129 | 0.643466 | 14.73591 | 0.043667 | 0.9651711 |
| NAICS_1132 | -8.42444 | 14.71402 | -0.57255 | 0.5669655 |
| NAICS_1133 | 3.73701 | 14.93061 | 0.250292 | 0.8023668 |
| NAICS_1141 | 7.51039 | 14.60034 | 0.514398 | 0.606985 |
| NAICS_2111 | 6.851043 | 14.70083 | 0.466031 | 0.6412035 |
| NAICS_2121 | 18.04595 | 15.18323 | 1.188545 | 0.2346474 |
| NAICS_2122 | 2.430699 | 14.68477 | 0.165525 | 0.8685341 |
| NAICS_2123 | 1.241783 | 14.62177 | 0.084927 | 0.9323212 |
| NAICS_3111 | 4.913883 | 14.66292 | 0.335123 | 0.7375393 |
| NAICS_3112 | 19.78767 | 14.54258 | 1.360671 | 0.1736486 |
| NAICS_3113 | -0.46965 | 14.59486 | -0.03218 | 0.9743298 |
| NAICS_3114 | 6.068582 | 14.56389 | 0.416687 | 0.6769164 |
| NAICS_3115 | 82.23959 | 14.57065 | 5.644195 | 1.71E-08 |
| NAICS_3116 | 30.09942 | 14.55034 | 2.06864 | 0.0386058 |
| NAICS_3117 | -5.60748 | 14.75025 | -0.38016 | 0.7038334 |
| NAICS_3118 | 4.60247 | 14.66224 | 0.313899 | 0.7536041 |
| NAICS_3119 | 36.46875 | 14.53747 | 2.508603 | 0.0121368 |
| NAICS_3121 | 34.75282 | 14.56441 | 2.386147 | 0.0170446 |
| NAICS_3122 | 10.0635 | 14.85058 | 0.677651 | 0.4980092 |
| NAICS_3131 | -3.26083 | 14.84884 | -0.2196 | 0.8261857 |
| NAICS_3132 | 2.112075 | 14.58007 | 0.14486 | 0.884824 |
| NAICS_3133 | 10.11866 | 14.73254 | 0.686824 | 0.4922099 |
| NAICS_3141 | -3.27277 | 14.6437 | -0.22349 | 0.8231562 |
| NAICS_3149 | -3.10496 | 14.62752 | -0.21227 | 0.8319018 |
| NAICS_3151 | -4.3742 | 14.86949 | -0.29417 | 0.7686321 |
| NAICS_3152 | 3.319204 | 14.59659 | 0.227396 | 0.8201206 |
| NAICS_3159 | 7.082561 | 14.68732 | 0.482223 | 0.6296584 |
| NAICS_3161 | -5.10483 | 14.80204 | -0.34487 | 0.7301968 |
| NAICS_3162 | 6.543331 | 14.65846 | 0.446386 | 0.6553281 |
| NAICS_3169 | 9.350247 | 14.64969 | 0.638256 | 0.5233221 |
| NAICS_3211 | -4.53125 | 14.69306 | -0.30839 | 0.7577892 |
| NAICS_3212 | 1.285856 | 14.67906 | 0.087598 | 0.930198 |
| NAICS_3219 | 1.413065 | 14.64864 | 0.096464 | 0.9231541 |
| NAICS_3221 | 63.79527 | 14.53414 | 4.389338 | 1.15E-05 |
| NAICS_3222 | 20.11718 | 14.54393 | 1.383201 | 0.1666345 |
| NAICS_3231 | -0.50127 | 14.55048 | -0.03445 | 0.9725184 |
| NAICS_3241 | 11.74326 | 14.50456 | 0.809626 | 0.4181749 |
| NAICS_3251 | 90.65264 | 14.50947 | 6.247828 | 4.33E-10 |
| NAICS_3252 | 3.682983 | 14.51049 | 0.253815 | 0.7996436 |
| NAICS_3253 | 23.92761 | 14.55884 | 1.643511 | 0.100309 |
| NAICS_3254 | 4.879756 | 14.51239 | 0.336248 | 0.7366913 |
| NAICS_3255 | 60.66512 | 14.59233 | 4.15733 | 3.25E-05 |
| NAICS_3256 | 32.44993 | 14.51813 | 2.235131 | 0.025431 |

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|------------|----------|----------|----------|-----------|
| NAICS_3259 | 85.12846 | 14.51742 | 5.863885 | 4.67E-09 |
| NAICS_3261 | 60.8389 | 14.51992 | 4.190031 | 2.81E-05 |
| NAICS_3262 | 29.9182 | 14.53532 | 2.05831 | 0.0395865 |
| NAICS_3271 | 21.71941 | 14.61204 | 1.486406 | 0.1372038 |
| NAICS_3272 | -2.88114 | 14.57197 | -0.19772 | 0.8432698 |
| NAICS_3273 | 38.43479 | 14.87549 | 2.583766 | 0.009787 |
| NAICS_3274 | 18.61797 | 15.18963 | 1.225703 | 0.2203398 |
| NAICS_3279 | 28.40978 | 14.58844 | 1.947417 | 0.051513 |
| NAICS_3311 | -3.75762 | 14.56432 | -0.258 | 0.7964109 |
| NAICS_3312 | 8.267614 | 14.76085 | 0.560104 | 0.575421 |
| NAICS_3313 | 2.289712 | 14.60399 | 0.156787 | 0.8754161 |
| NAICS_3314 | 9.500496 | 14.53953 | 0.653425 | 0.5134973 |
| NAICS_3315 | -1.70926 | 14.6916 | -0.11634 | 0.9073832 |
| NAICS_3321 | 19.68652 | 14.81407 | 1.328907 | 0.1839093 |
| NAICS_3322 | 35.86823 | 14.57716 | 2.460578 | 0.0138883 |
| NAICS_3323 | 1.631811 | 14.61904 | 0.111622 | 0.9111251 |
| NAICS_3324 | 19.1884 | 14.57345 | 1.316668 | 0.1879804 |
| NAICS_3325 | 1.563912 | 14.6267 | 0.106922 | 0.9148533 |
| NAICS_3326 | -5.26735 | 14.64563 | -0.35965 | 0.719114 |
| NAICS_3327 | 2.571092 | 14.59693 | 0.176139 | 0.8601881 |
| NAICS_3329 | 7.044327 | 14.50945 | 0.485499 | 0.6273329 |
| NAICS_3331 | 11.85747 | 14.50436 | 0.817511 | 0.4136564 |
| NAICS_3332 | 37.79036 | 14.50898 | 2.604618 | 0.0092114 |
| NAICS_3333 | 80.40236 | 14.51978 | 5.537438 | 3.15E-08 |
| NAICS_3334 | -1.88848 | 14.53866 | -0.12989 | 0.8966531 |
| NAICS_3335 | 16.38851 | 14.54763 | 1.126541 | 0.2599639 |
| NAICS_3336 | 103.1515 | 14.50883 | 7.109569 | 1.24E-12 |
| NAICS_3339 | 140.0181 | 14.50424 | 9.653602 | 5.93E-22 |
| NAICS_3341 | 156.3558 | 14.50431 | 10.77995 | 6.04E-27 |
| NAICS_3342 | 256.7513 | 14.50604 | 17.69962 | 4.87E-69 |
| NAICS_3343 | 80.31007 | 14.54166 | 5.522759 | 3.42E-08 |
| NAICS_3344 | 98.1305 | 14.50493 | 6.765321 | 1.41E-11 |
| NAICS_3345 | 331.5632 | 14.50435 | 22.85957 | 9.48E-113 |
| NAICS_3346 | 28.1473 | 14.56723 | 1.932235 | 0.0533591 |
| NAICS_3351 | 62.70996 | 14.60499 | 4.293735 | 1.77E-05 |
| NAICS_3352 | 13.6505 | 14.5554 | 0.937831 | 0.3483542 |
| NAICS_3353 | 68.06565 | 14.51691 | 4.688714 | 2.79E-06 |
| NAICS_3359 | 66.93402 | 14.51332 | 4.611903 | 4.04E-06 |
| NAICS_3361 | 99.47798 | 14.58707 | 6.819601 | 9.66E-12 |
| NAICS_3362 | 24.39256 | 14.69633 | 1.659772 | 0.0969919 |
| NAICS_3363 | 11.83934 | 14.51205 | 0.815829 | 0.4146178 |
| NAICS_3364 | 66.14877 | 14.51312 | 4.557861 | 5.23E-06 |
| NAICS_3365 | 26.4031 | 14.72497 | 1.793083 | 0.0729902 |
| NAICS_3366 | 16.92635 | 14.62462 | 1.157387 | 0.2471421 |

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|------------|----------|----------|----------|-----------|
| NAICS_3369 | 23.22725 | 14.59184 | 1.591797 | 0.1114622 |
| NAICS_3371 | 8.319981 | 14.60925 | 0.569501 | 0.5690292 |
| NAICS_3372 | 14.73756 | 14.654 | 1.005702 | 0.3145835 |
| NAICS_3379 | 6.889331 | 14.92896 | 0.461474 | 0.6444685 |
| NAICS_3391 | 42.49366 | 14.50911 | 2.928758 | 0.003411 |
| NAICS_3399 | 173.7391 | 14.51172 | 11.97233 | 8.36E-33 |
| NAICS_5112 | -11.6912 | 16.24116 | -0.71985 | 0.4716347 |
| NAICS_9100 | -5.39154 | 14.57939 | -0.36981 | 0.7115351 |
| NAICS_9200 | -10.1571 | 15.3127 | -0.66331 | 0.5071445 |
| NAICS_9300 | -12.7262 | 15.96448 | -0.79716 | 0.4253797 |
| NAICS_9800 | -65.3658 | 17.91505 | -3.64865 | 2.65E-04 |
| NAICS_9900 | NA | NA | NA | NA |

| Table 2 Regression 3: Full Results | | | | |
|---|-----------------|------------------|------------------|----------------|
| term | estimate | std.error | statistic | p.value |
| (Intercept) | 152.0703 | 17.47636 | 8.701481 | 3.80E-18 |
| FTA | -29.4911 | 10.22192 | -2.88509 | 0.0039215 |
| ln_exports | 0.244972 | 0.426087 | 0.574933 | 0.5653495 |
| ln_imports | -4.32757 | 0.643614 | -6.72386 | 1.87E-11 |
| Country_Australia | -83.791 | 3.115228 | -26.8972 | 7.41E-154 |
| Country_Chile | -102.872 | 3.395297 | -30.2984 | 6.55E-193 |
| Country_Singapore | -97.4304 | 3.315851 | -29.3832 | 5.12E-182 |
| Country_SouthKorea | NA | NA | NA | NA |
| year_1998 | -36.9972 | 8.057207 | -4.59181 | 4.45E-06 |
| year_1999 | -35.834 | 8.0503 | -4.45127 | 8.63E-06 |
| year_2000 | -33.4672 | 8.049113 | -4.15788 | 3.24E-05 |
| year_2001 | -31.0218 | 8.053281 | -3.85207 | 1.18E-04 |
| year_2002 | -29.725 | 8.053497 | -3.69095 | 2.25E-04 |
| year_2003 | -27.9737 | 8.044023 | -3.47757 | 5.08E-04 |
| year_2004 | -44.626 | 7.014902 | -6.36159 | 2.09E-10 |
| year_2005 | -53.8024 | 6.735227 | -7.98821 | 1.52E-15 |
| year_2006 | -50.1531 | 6.732358 | -7.44956 | 1.01E-13 |
| year_2007 | -47.9109 | 6.731132 | -7.11781 | 1.17E-12 |
| year_2008 | -44.7366 | 6.730633 | -6.64671 | 3.16E-11 |
| year_2009 | -43.3351 | 6.731595 | -6.43758 | 1.27E-10 |
| year_2010 | -37.7858 | 6.732085 | -5.6128 | 2.04E-08 |
| year_2011 | -30.3102 | 6.732009 | -4.5024 | 6.80E-06 |
| year_2012 | -39.5003 | 6.634965 | -5.95335 | 2.72E-09 |
| year_2013 | -37.8661 | 6.634742 | -5.70725 | 1.18E-08 |
| year_2014 | -35.9407 | 6.634831 | -5.41697 | 6.20E-08 |
| year_2015 | -37.3664 | 6.634547 | -5.63209 | 1.83E-08 |
| year_2016 | -31.334 | 6.634582 | -4.72283 | 2.36E-06 |
| year_2017 | -21.7854 | 6.634661 | -3.28358 | 0.0010285 |
| year_2018 | -20.5322 | 6.634621 | -3.0947 | 0.0019756 |
| year_2019 | -14.5825 | 6.634494 | -2.19799 | 0.027973 |
| year_2020 | NA | NA | NA | NA |
| NAICS_1111 | 10.91821 | 14.51166 | 0.752374 | 0.4518438 |
| NAICS_1112 | 2.993528 | 14.64029 | 0.204472 | 0.837989 |
| NAICS_1113 | -4.01417 | 14.49052 | -0.27702 | 0.7817704 |
| NAICS_1114 | -10.5098 | 14.77066 | -0.71153 | 0.4767727 |
| NAICS_1119 | -0.75033 | 14.55682 | -0.05154 | 0.9588926 |
| NAICS_1121 | 7.681082 | 15.43822 | 0.497537 | 0.6188216 |
| NAICS_1122 | -8.25812 | 16.54499 | -0.49913 | 0.6176981 |
| NAICS_1123 | 1.708647 | 15.5092 | 0.11017 | 0.9122769 |
| NAICS_1124 | -21.7746 | 16.58363 | -1.31302 | 0.1892075 |

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|------------|----------|----------|----------|-----------|
| NAICS_1125 | -25.7331 | 15.14585 | -1.69902 | 0.0893472 |
| NAICS_1129 | -1.50681 | 14.67533 | -0.10268 | 0.918222 |
| NAICS_1132 | -10.7738 | 14.65401 | -0.73521 | 0.4622297 |
| NAICS_1133 | 1.188736 | 14.87325 | 0.079924 | 0.936299 |
| NAICS_1141 | 6.438615 | 14.53916 | 0.442846 | 0.6578865 |
| NAICS_2111 | 6.881587 | 14.6498 | 0.469739 | 0.6385516 |
| NAICS_2121 | 16.16284 | 15.12109 | 1.068894 | 0.2851437 |
| NAICS_2122 | -0.48232 | 14.62773 | -0.03297 | 0.9736966 |
| NAICS_2123 | -0.83251 | 14.56251 | -0.05717 | 0.9544124 |
| NAICS_3111 | 2.757992 | 14.60197 | 0.188878 | 0.8501923 |
| NAICS_3112 | 17.39866 | 14.484 | 1.201233 | 0.2296896 |
| NAICS_3113 | -2.30606 | 14.5339 | -0.15867 | 0.8739342 |
| NAICS_3114 | 4.942261 | 14.50206 | 0.340797 | 0.7332635 |
| NAICS_3115 | 79.8607 | 14.51044 | 5.503672 | 3.81E-08 |
| NAICS_3116 | 27.13133 | 14.49259 | 1.872083 | 0.0612246 |
| NAICS_3117 | -7.34729 | 14.68937 | -0.50018 | 0.6169613 |
| NAICS_3118 | 2.614467 | 14.60097 | 0.179061 | 0.8578933 |
| NAICS_3119 | 35.10891 | 14.47606 | 2.425309 | 0.0153131 |
| NAICS_3121 | 33.08135 | 14.50309 | 2.280987 | 0.0225704 |
| NAICS_3122 | 8.346301 | 14.7917 | 0.564256 | 0.572593 |
| NAICS_3131 | -6.07709 | 14.78941 | -0.41091 | 0.6811485 |
| NAICS_3132 | 1.713802 | 14.51765 | 0.11805 | 0.9060308 |
| NAICS_3133 | 9.266665 | 14.66968 | 0.631688 | 0.5276052 |
| NAICS_3141 | -3.84511 | 14.58125 | -0.2637 | 0.7920148 |
| NAICS_3149 | -4.11031 | 14.56522 | -0.2822 | 0.7777956 |
| NAICS_3151 | -6.80852 | 14.80805 | -0.45979 | 0.6456803 |
| NAICS_3152 | 3.5987 | 14.53481 | 0.247592 | 0.8044554 |
| NAICS_3159 | 6.557806 | 14.6245 | 0.448412 | 0.6538655 |
| NAICS_3161 | -6.02191 | 14.74071 | -0.40852 | 0.6828993 |
| NAICS_3162 | 5.708826 | 14.59625 | 0.391116 | 0.69572 |
| NAICS_3169 | 8.580019 | 14.58713 | 0.588191 | 0.5564175 |
| NAICS_3211 | -6.95864 | 14.63501 | -0.47548 | 0.6344559 |
| NAICS_3212 | -0.64435 | 14.61816 | -0.04408 | 0.9648425 |
| NAICS_3219 | -0.16135 | 14.58751 | -0.01106 | 0.9911749 |
| NAICS_3221 | 63.37745 | 14.47251 | 4.379162 | 1.20E-05 |
| NAICS_3222 | 19.19591 | 14.48195 | 1.325506 | 0.1850341 |
| NAICS_3231 | -0.9454 | 14.48829 | -0.06525 | 0.9479742 |
| NAICS_3241 | 12.05028 | 14.44412 | 0.834269 | 0.4041496 |
| NAICS_3251 | 90.37308 | 14.4477 | 6.255188 | 4.13E-10 |
| NAICS_3252 | 2.957756 | 14.44863 | 0.204708 | 0.8378042 |
| NAICS_3253 | 22.22209 | 14.49868 | 1.532698 | 0.1253822 |
| NAICS_3254 | 3.361773 | 14.45138 | 0.232626 | 0.8160564 |
| NAICS_3255 | 59.48031 | 14.53036 | 4.093519 | 4.28E-05 |
| NAICS_3256 | 31.24136 | 14.4565 | 2.161059 | 0.0307147 |

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|------------|----------|----------|----------|-----------|
| NAICS_3259 | 83.90554 | 14.45615 | 5.80414 | 6.67E-09 |
| NAICS_3261 | 60.25047 | 14.45795 | 4.167289 | 3.11E-05 |
| NAICS_3262 | 29.17182 | 14.47353 | 2.01553 | 0.0438762 |
| NAICS_3271 | 20.82954 | 14.54972 | 1.431611 | 0.1522869 |
| NAICS_3272 | -4.18487 | 14.51114 | -0.28839 | 0.7730539 |
| NAICS_3273 | 36.87253 | 14.81267 | 2.489255 | 0.0128174 |
| NAICS_3274 | 17.14162 | 15.1266 | 1.13321 | 0.2571536 |
| NAICS_3279 | 27.42885 | 14.52635 | 1.888214 | 0.0590265 |
| NAICS_3311 | -4.46032 | 14.5021 | -0.30756 | 0.7584207 |
| NAICS_3312 | 8.498357 | 14.69808 | 0.578195 | 0.5631455 |
| NAICS_3313 | 1.20333 | 14.54234 | 0.082747 | 0.9340547 |
| NAICS_3314 | 8.051026 | 14.47915 | 0.556043 | 0.5781941 |
| NAICS_3315 | -3.35731 | 14.6297 | -0.22949 | 0.8184962 |
| NAICS_3321 | 16.84051 | 14.75372 | 1.141442 | 0.2537138 |
| NAICS_3322 | 35.09221 | 14.51492 | 2.417664 | 0.0156385 |
| NAICS_3323 | -0.34729 | 14.55796 | -0.02386 | 0.9809684 |
| NAICS_3324 | 17.80652 | 14.51174 | 1.227042 | 0.2198359 |
| NAICS_3325 | 0.451619 | 14.56449 | 0.031008 | 0.9752636 |
| NAICS_3326 | -6.48584 | 14.58359 | -0.44474 | 0.6565206 |
| NAICS_3327 | 1.467401 | 14.53519 | 0.100955 | 0.9195882 |
| NAICS_3329 | 6.915303 | 14.44726 | 0.478658 | 0.6321922 |
| NAICS_3331 | 11.61738 | 14.44222 | 0.804404 | 0.4211832 |
| NAICS_3332 | 37.19209 | 14.44745 | 2.574301 | 0.0100587 |
| NAICS_3333 | 80.37454 | 14.45764 | 5.559314 | 2.78E-08 |
| NAICS_3334 | -2.56755 | 14.47676 | -0.17736 | 0.8592317 |
| NAICS_3335 | 15.90304 | 14.4857 | 1.097844 | 0.2722993 |
| NAICS_3336 | 102.537 | 14.44679 | 7.09756 | 1.36E-12 |
| NAICS_3339 | 139.8177 | 14.44222 | 9.681181 | 4.54E-22 |
| NAICS_3341 | 157.5013 | 14.44267 | 10.90528 | 1.56E-27 |
| NAICS_3342 | 256.9764 | 14.44388 | 17.79137 | 1.00E-69 |
| NAICS_3343 | 80.31718 | 14.47934 | 5.547019 | 2.98E-08 |
| NAICS_3344 | 99.29929 | 14.44353 | 6.875001 | 6.57E-12 |
| NAICS_3345 | 331.1221 | 14.44256 | 22.92684 | 2.19E-113 |
| NAICS_3346 | 27.30828 | 14.50508 | 1.882671 | 0.0597743 |
| NAICS_3351 | 61.80806 | 14.54271 | 4.250106 | 2.16E-05 |
| NAICS_3352 | 13.74195 | 14.49349 | 0.948146 | 0.3430781 |
| NAICS_3353 | 67.24698 | 14.45498 | 4.652168 | 3.33E-06 |
| NAICS_3359 | 66.228 | 14.45147 | 4.582786 | 4.64E-06 |
| NAICS_3361 | 100.6239 | 14.5293 | 6.925585 | 4.61E-12 |
| NAICS_3362 | 22.20992 | 14.63547 | 1.517541 | 0.1291621 |
| NAICS_3363 | 11.93682 | 14.44985 | 0.826086 | 0.4087751 |
| NAICS_3364 | 66.01156 | 14.45103 | 4.567949 | 4.98E-06 |
| NAICS_3365 | 26.48692 | 14.66266 | 1.80642 | 0.0708832 |
| NAICS_3366 | 14.70468 | 14.56388 | 1.009668 | 0.3126793 |

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|----------------|----------|----------|----------|-----------|
| NAICS_3369 | 22.72654 | 14.52946 | 1.564169 | 0.1178098 |
| NAICS_3371 | 7.09616 | 14.54726 | 0.4878 | 0.6257021 |
| NAICS_3372 | 13.66337 | 14.59174 | 0.936378 | 0.3491017 |
| NAICS_3379 | 3.355327 | 14.8701 | 0.225643 | 0.8214841 |
| NAICS_3391 | 41.56261 | 14.44726 | 2.876851 | 0.0040252 |
| NAICS_3399 | 173.6128 | 14.44967 | 12.015 | 5.03E-33 |
| NAICS_5112 | -16.6765 | 16.1806 | -1.03065 | 0.3027306 |
| NAICS_9100 | -7.12143 | 14.52024 | -0.49045 | 0.6238272 |
| NAICS_9200 | -3.26729 | 15.28407 | -0.21377 | 0.8307301 |
| NAICS_9300 | -28.9528 | 16.00158 | -1.80937 | 0.0704241 |
| NAICS_9800 | -71.422 | 17.85286 | -4.00059 | 6.36E-05 |
| NAICS_9900 | NA | NA | NA | NA |
| FTA:ln_exports | 2.971802 | 0.463831 | 6.407085 | 1.55E-10 |
| FTA:ln_imports | 1.59349 | 0.614202 | 2.594409 | 0.0094894 |

| Table 3 Base Regression: Full Results | | | | |
|--|-----------------|------------------|------------------|----------------|
| term | estimate | std.error | statistic | p.value |
| (Intercept) | 15.899437 | 16.49577 | 0.9638491 | 0.335146 |
| FTA | 43.929646 | 3.517657 | 12.488325 | 1.63E-35 |
| year_1998 | -31.12298 | 6.245376 | -4.983363 | 6.36E-07 |
| year_1999 | -30.2503 | 6.245376 | -4.843631 | 1.29E-06 |
| year_2000 | -28.01981 | 6.245376 | -4.486488 | 7.33E-06 |
| year_2001 | -25.16766 | 6.245376 | -4.029807 | 5.63E-05 |
| year_2002 | -23.66195 | 6.245376 | -3.788715 | 1.52E-04 |
| year_2003 | -22.80734 | 6.245376 | -3.651875 | 2.62E-04 |
| year_2004 | -44.16238 | 5.451999 | -8.100218 | 6.16E-16 |
| year_2005 | -53.45352 | 5.2349 | -10.21099 | 2.36E-24 |
| year_2006 | -50.19444 | 5.2349 | -9.588423 | 1.12E-21 |
| year_2007 | -48.09341 | 5.2349 | -9.187072 | 4.88E-20 |
| year_2008 | -45.71722 | 5.2349 | -8.73316 | 2.89E-18 |
| year_2009 | -44.97979 | 5.2349 | -8.592292 | 9.86E-18 |
| year_2010 | -40.05291 | 5.2349 | -7.651131 | 2.18E-14 |
| year_2011 | -32.24035 | 5.2349 | -6.158732 | 7.63E-10 |
| year_2012 | -40.16984 | 5.160505 | -7.784092 | 7.75E-15 |
| year_2013 | -37.65955 | 5.160505 | -7.297648 | 3.16E-13 |
| year_2014 | -36.5451 | 5.160505 | -7.08169 | 1.52E-12 |
| year_2015 | -37.46118 | 5.160505 | -7.259208 | 4.20E-13 |
| year_2016 | -31.60148 | 5.160505 | -6.123718 | 9.50E-10 |
| year_2017 | -22.1129 | 5.160505 | -4.285026 | 1.85E-05 |
| year_2018 | -20.7458 | 5.160505 | -4.020111 | 5.86E-05 |
| year_2019 | -14.83398 | 5.160505 | -2.87452 | 0.004055 |
| year_2020 | NA | NA | NA | NA |
| Country_Australia:NAICS_1111 | -6.918576 | 22.49386 | -0.307576 | 0.758412 |
| Country_Australia:NAICS_1112 | -11.62823 | 22.49386 | -0.516951 | 0.605202 |
| Country_Australia:NAICS_1113 | -12.90462 | 22.49386 | -0.573695 | 0.566188 |
| Country_Australia:NAICS_1114 | -9.3143 | 22.49386 | -0.414082 | 0.678823 |
| Country_Australia:NAICS_1119 | -12.41767 | 22.49386 | -0.552047 | 0.580929 |
| Country_Australia:NAICS_1121 | -10.72942 | 22.49386 | -0.476993 | 0.633378 |
| Country_Australia:NAICS_1122 | -12.22457 | 22.49386 | -0.543463 | 0.586824 |
| Country_Australia:NAICS_1123 | -13.36866 | 22.49386 | -0.594325 | 0.552309 |
| Country_Australia:NAICS_1124 | -10.30796 | 22.49386 | -0.458256 | 0.646779 |
| Country_Australia:NAICS_1125 | -9.814677 | 22.49386 | -0.436327 | 0.662609 |
| Country_Australia:NAICS_1129 | -11.31321 | 22.49386 | -0.502947 | 0.615013 |
| Country_Australia:NAICS_1132 | -13.30602 | 22.49386 | -0.59154 | 0.554172 |
| Country_Australia:NAICS_1133 | -11.94628 | 22.49386 | -0.531091 | 0.595368 |
| Country_Australia:NAICS_1141 | 8.4862325 | 22.49386 | 0.3772688 | 0.705982 |
| Country_Australia:NAICS_2111 | -12.0829 | 22.49386 | -0.537164 | 0.591167 |

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|------------------------------|-----------|----------|-----------|----------|
| Country_Australia:NAICS_2121 | -12.90241 | 22.49386 | -0.573597 | 0.566254 |
| Country_Australia:NAICS_2122 | -12.97555 | 22.49386 | -0.576848 | 0.564055 |
| Country_Australia:NAICS_2123 | -9.476456 | 22.49386 | -0.421291 | 0.673552 |
| Country_Australia:NAICS_3111 | -13.21629 | 22.49386 | -0.587551 | 0.556848 |
| Country_Australia:NAICS_3112 | 8.8229105 | 22.49386 | 0.3922364 | 0.694892 |
| Country_Australia:NAICS_3113 | -9.059729 | 22.49386 | -0.402765 | 0.68713 |
| Country_Australia:NAICS_3114 | -8.17426 | 22.49386 | -0.3634 | 0.716314 |
| Country_Australia:NAICS_3115 | 68.996831 | 22.49386 | 3.0673629 | 0.002166 |
| Country_Australia:NAICS_3116 | 14.139249 | 22.49386 | 0.6285826 | 0.529637 |
| Country_Australia:NAICS_3117 | -10.52231 | 22.49386 | -0.467786 | 0.639948 |
| Country_Australia:NAICS_3118 | -4.660152 | 22.49386 | -0.207174 | 0.835878 |
| Country_Australia:NAICS_3119 | 10.429445 | 22.49386 | 0.4636574 | 0.642904 |
| Country_Australia:NAICS_3121 | 15.481479 | 22.49386 | 0.6882536 | 0.49131 |
| Country_Australia:NAICS_3122 | -9.507273 | 22.49386 | -0.422661 | 0.672552 |
| Country_Australia:NAICS_3131 | -11.68792 | 22.49386 | -0.519605 | 0.603351 |
| Country_Australia:NAICS_3132 | -11.35654 | 22.49386 | -0.504873 | 0.61366 |
| Country_Australia:NAICS_3133 | -9.559928 | 22.49386 | -0.425002 | 0.670845 |
| Country_Australia:NAICS_3141 | -13.08753 | 22.49386 | -0.581827 | 0.560697 |
| Country_Australia:NAICS_3149 | -13.19722 | 22.49386 | -0.586703 | 0.557417 |
| Country_Australia:NAICS_3151 | -12.80565 | 22.49386 | -0.569296 | 0.569169 |
| Country_Australia:NAICS_3152 | 1.2491405 | 22.49386 | 0.0555325 | 0.955715 |
| Country_Australia:NAICS_3159 | -0.0856 | 22.49386 | -0.003805 | 0.996964 |
| Country_Australia:NAICS_3161 | -8.5764 | 22.49386 | -0.381277 | 0.703006 |
| Country_Australia:NAICS_3162 | -5.163743 | 22.49386 | -0.229562 | 0.818437 |
| Country_Australia:NAICS_3169 | -0.208117 | 22.49386 | -0.009252 | 0.992618 |
| Country_Australia:NAICS_3211 | -12.60305 | 22.49386 | -0.560288 | 0.575296 |
| Country_Australia:NAICS_3212 | -9.821042 | 22.49386 | -0.43661 | 0.662404 |
| Country_Australia:NAICS_3219 | -5.119467 | 22.49386 | -0.227594 | 0.819967 |
| Country_Australia:NAICS_3221 | 47.195875 | 22.49386 | 2.0981671 | 0.035917 |
| Country_Australia:NAICS_3222 | 1.23576 | 22.49386 | 0.0549377 | 0.956189 |
| Country_Australia:NAICS_3231 | -8.233451 | 22.49386 | -0.366031 | 0.71435 |
| Country_Australia:NAICS_3241 | -3.208336 | 22.49386 | -0.142632 | 0.886584 |
| Country_Australia:NAICS_3251 | 59.709768 | 22.49386 | 2.6544919 | 0.007956 |
| Country_Australia:NAICS_3252 | -12.21699 | 22.49386 | -0.543125 | 0.587056 |
| Country_Australia:NAICS_3253 | 20.708347 | 22.49386 | 0.9206222 | 0.357271 |
| Country_Australia:NAICS_3254 | -4.714582 | 22.49386 | -0.209594 | 0.833989 |
| Country_Australia:NAICS_3255 | 44.612191 | 22.49386 | 1.9833053 | 0.047362 |
| Country_Australia:NAICS_3256 | 5.3392317 | 22.49386 | 0.237364 | 0.81238 |
| Country_Australia:NAICS_3259 | 56.896974 | 22.49386 | 2.5294447 | 0.01144 |
| Country_Australia:NAICS_3261 | 40.332971 | 22.49386 | 1.7930658 | 0.072994 |
| Country_Australia:NAICS_3262 | 18.094322 | 22.49386 | 0.8044116 | 0.421179 |
| Country_Australia:NAICS_3271 | 8.3418714 | 22.49386 | 0.370851 | 0.710757 |
| Country_Australia:NAICS_3272 | -13.18581 | 22.49386 | -0.586196 | 0.557758 |
| Country_Australia:NAICS_3273 | 56.298979 | 22.49386 | 2.5028599 | 0.012336 |

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|------------------------------|-----------|----------|-----------|----------|
| Country_Australia:NAICS_3274 | -5.563993 | 22.49386 | -0.247356 | 0.804638 |
| Country_Australia:NAICS_3279 | 11.989325 | 22.49386 | 0.5330044 | 0.594043 |
| Country_Australia:NAICS_3311 | -10.95187 | 22.49386 | -0.486883 | 0.626353 |
| Country_Australia:NAICS_3312 | 2.9717357 | 22.49386 | 0.1321132 | 0.894898 |
| Country_Australia:NAICS_3313 | -7.355233 | 22.49386 | -0.326988 | 0.743684 |
| Country_Australia:NAICS_3314 | -2.801459 | 22.49386 | -0.124543 | 0.900888 |
| Country_Australia:NAICS_3315 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_3321 | 9.3208946 | 22.49386 | 0.4143751 | 0.678609 |
| Country_Australia:NAICS_3322 | 22.321445 | 22.49386 | 0.9923351 | 0.321059 |
| Country_Australia:NAICS_3323 | -7.062892 | 22.49386 | -0.313992 | 0.753534 |
| Country_Australia:NAICS_3324 | 6.6929036 | 22.49386 | 0.2975436 | 0.766058 |
| Country_Australia:NAICS_3325 | -7.164163 | 22.49386 | -0.318494 | 0.750117 |
| Country_Australia:NAICS_3326 | -13.34954 | 22.49386 | -0.593475 | 0.552877 |
| Country_Australia:NAICS_3327 | -9.282663 | 22.49386 | -0.412675 | 0.679854 |
| Country_Australia:NAICS_3329 | 1.8612463 | 22.49386 | 0.0827446 | 0.934056 |
| Country_Australia:NAICS_3331 | -0.415171 | 22.49386 | -0.018457 | 0.985275 |
| Country_Australia:NAICS_3332 | 21.138058 | 22.49386 | 0.9397257 | 0.347382 |
| Country_Australia:NAICS_3333 | 29.19862 | 22.49386 | 1.2980707 | 0.194294 |
| Country_Australia:NAICS_3334 | -12.20834 | 22.49386 | -0.542741 | 0.587321 |
| Country_Australia:NAICS_3335 | 8.118121 | 22.49386 | 0.3609039 | 0.718179 |
| Country_Australia:NAICS_3336 | 94.670668 | 22.49386 | 4.2087338 | 2.59E-05 |
| Country_Australia:NAICS_3339 | 125.64381 | 22.49386 | 5.5856936 | 2.39E-08 |
| Country_Australia:NAICS_3341 | 63.167458 | 22.49386 | 2.808209 | 0.004992 |
| Country_Australia:NAICS_3342 | 67.366721 | 22.49386 | 2.9948938 | 0.002752 |
| Country_Australia:NAICS_3343 | -2.272642 | 22.49386 | -0.101034 | 0.919526 |
| Country_Australia:NAICS_3344 | 28.174376 | 22.49386 | 1.2525363 | 0.210405 |
| Country_Australia:NAICS_3345 | 186.60308 | 22.49386 | 8.2957343 | 1.22E-16 |
| Country_Australia:NAICS_3346 | -3.963632 | 22.49386 | -0.17621 | 0.860133 |
| Country_Australia:NAICS_3351 | -4.328834 | 22.49386 | -0.192445 | 0.847398 |
| Country_Australia:NAICS_3352 | -2.810488 | 22.49386 | -0.124945 | 0.90057 |
| Country_Australia:NAICS_3353 | 15.973327 | 22.49386 | 0.7101194 | 0.477647 |
| Country_Australia:NAICS_3359 | 12.724993 | 22.49386 | 0.5657096 | 0.571604 |
| Country_Australia:NAICS_3361 | 48.514756 | 22.49386 | 2.1568 | 0.031046 |
| Country_Australia:NAICS_3362 | 0.2219425 | 22.49386 | 0.0098668 | 0.992128 |
| Country_Australia:NAICS_3363 | 1.8640865 | 22.49386 | 0.0828709 | 0.933956 |
| Country_Australia:NAICS_3364 | 31.860572 | 22.49386 | 1.416412 | 0.156687 |
| Country_Australia:NAICS_3365 | 14.739276 | 22.49386 | 0.6552578 | 0.512318 |
| Country_Australia:NAICS_3366 | 5.1926087 | 22.49386 | 0.2308456 | 0.81744 |
| Country_Australia:NAICS_3369 | 10.93978 | 22.49386 | 0.4863452 | 0.626734 |
| Country_Australia:NAICS_3371 | 5.538993 | 22.49386 | 0.2462447 | 0.805498 |
| Country_Australia:NAICS_3372 | 12.60513 | 22.49386 | 0.5603809 | 0.575233 |
| Country_Australia:NAICS_3379 | -9.918081 | 22.49386 | -0.440924 | 0.659278 |
| Country_Australia:NAICS_3391 | 22.744108 | 22.49386 | 1.0111252 | 0.311982 |
| Country_Australia:NAICS_3399 | 121.76855 | 22.49386 | 5.4134129 | 6.33E-08 |

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| Country_Australia:NAICS_5112 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_9100 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_9200 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_9300 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_9800 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| Country_Australia:NAICS_9900 | -13.36989 | 22.49386 | -0.59438 | 0.552272 |
| NAICS_1111:Country_Chile | -14.65449 | 22.50166 | -0.651263 | 0.514892 |
| NAICS_1112:Country_Chile | -15.11744 | 22.50166 | -0.671837 | 0.501704 |
| NAICS_1113:Country_Chile | -15.19241 | 22.50166 | -0.675168 | 0.499585 |
| NAICS_1114:Country_Chile | -14.97115 | 22.50166 | -0.665336 | 0.505852 |
| NAICS_1119:Country_Chile | -15.27063 | 22.50166 | -0.678645 | 0.497379 |
| NAICS_1121:Country_Chile | -15.09558 | 22.50166 | -0.670865 | 0.502323 |
| NAICS_1122:Country_Chile | -15.25674 | 22.50166 | -0.678027 | 0.497771 |
| NAICS_1123:Country_Chile | -15.27618 | 22.50166 | -0.678891 | 0.497223 |
| NAICS_1124:Country_Chile | -15.21802 | 22.50166 | -0.676307 | 0.498862 |
| NAICS_1125:Country_Chile | -15.03981 | 22.50166 | -0.668387 | 0.503903 |
| NAICS_1129:Country_Chile | -15.04977 | 22.50166 | -0.668829 | 0.503621 |
| NAICS_1132:Country_Chile | -15.27278 | 22.50166 | -0.67874 | 0.497319 |
| NAICS_1133:Country_Chile | -15.2249 | 22.50166 | -0.676612 | 0.498668 |
| NAICS_1141:Country_Chile | -13.508 | 22.50166 | -0.600312 | 0.548313 |
| NAICS_2111:Country_Chile | -14.86026 | 22.50166 | -0.660407 | 0.509008 |
| NAICS_2121:Country_Chile | -15.21931 | 22.50166 | -0.676364 | 0.498826 |
| NAICS_2122:Country_Chile | -15.23566 | 22.50166 | -0.677091 | 0.498365 |
| NAICS_2123:Country_Chile | -15.01346 | 22.50166 | -0.667216 | 0.50465 |
| NAICS_3111:Country_Chile | -15.26452 | 22.50166 | -0.678373 | 0.497552 |
| NAICS_3112:Country_Chile | -13.26231 | 22.50166 | -0.589392 | 0.555612 |
| NAICS_3113:Country_Chile | -14.98599 | 22.50166 | -0.665995 | 0.50543 |
| NAICS_3114:Country_Chile | -14.48128 | 22.50166 | -0.643565 | 0.519873 |
| NAICS_3115:Country_Chile | -10.27153 | 22.50166 | -0.456479 | 0.648056 |
| NAICS_3116:Country_Chile | -12.8833 | 22.50166 | -0.572549 | 0.566964 |
| NAICS_3117:Country_Chile | -14.88134 | 22.50166 | -0.661344 | 0.508407 |
| NAICS_3118:Country_Chile | -14.5938 | 22.50166 | -0.648566 | 0.516635 |
| NAICS_3119:Country_Chile | -12.68889 | 22.50166 | -0.563909 | 0.572829 |
| NAICS_3121:Country_Chile | -12.54385 | 22.50166 | -0.557463 | 0.577224 |
| NAICS_3122:Country_Chile | -15.07785 | 22.50166 | -0.670077 | 0.502825 |
| NAICS_3131:Country_Chile | -15.15108 | 22.50166 | -0.673332 | 0.500752 |
| NAICS_3132:Country_Chile | -15.24242 | 22.50166 | -0.677391 | 0.498174 |
| NAICS_3133:Country_Chile | -15.1983 | 22.50166 | -0.67543 | 0.499419 |
| NAICS_3141:Country_Chile | -15.26525 | 22.50166 | -0.678405 | 0.497531 |
| NAICS_3149:Country_Chile | -15.27847 | 22.50166 | -0.678993 | 0.497159 |
| NAICS_3151:Country_Chile | -15.27219 | 22.50166 | -0.678714 | 0.497335 |
| NAICS_3152:Country_Chile | -14.92634 | 22.50166 | -0.663344 | 0.507126 |
| NAICS_3159:Country_Chile | -14.87322 | 22.50166 | -0.660983 | 0.508639 |
| NAICS_3161:Country_Chile | -15.2364 | 22.50166 | -0.677123 | 0.498344 |

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|--------------------------|-----------|----------|-----------|----------|
| NAICS_3162:Country_Chile | -15.18895 | 22.50166 | -0.675015 | 0.499683 |
| NAICS_3169:Country_Chile | -15.05357 | 22.50166 | -0.668998 | 0.503513 |
| NAICS_3211:Country_Chile | -15.22462 | 22.50166 | -0.6766 | 0.498676 |
| NAICS_3212:Country_Chile | -15.00614 | 22.50166 | -0.66689 | 0.504858 |
| NAICS_3219:Country_Chile | -14.97467 | 22.50166 | -0.665492 | 0.505752 |
| NAICS_3221:Country_Chile | -13.51003 | 22.50166 | -0.600401 | 0.548253 |
| NAICS_3222:Country_Chile | -14.81298 | 22.50166 | -0.658306 | 0.510357 |
| NAICS_3231:Country_Chile | -15.27276 | 22.50166 | -0.678739 | 0.49732 |
| NAICS_3241:Country_Chile | -14.20403 | 22.50166 | -0.631244 | 0.527896 |
| NAICS_3251:Country_Chile | -11.00474 | 22.50166 | -0.489064 | 0.624808 |
| NAICS_3252:Country_Chile | -15.15245 | 22.50166 | -0.673392 | 0.500714 |
| NAICS_3253:Country_Chile | -9.681972 | 22.50166 | -0.430278 | 0.667003 |
| NAICS_3254:Country_Chile | -14.87977 | 22.50166 | -0.661274 | 0.508452 |
| NAICS_3255:Country_Chile | -13.18121 | 22.50166 | -0.585789 | 0.558031 |
| NAICS_3256:Country_Chile | -14.22238 | 22.50166 | -0.632059 | 0.527363 |
| NAICS_3259:Country_Chile | -13.02842 | 22.50166 | -0.578998 | 0.562604 |
| NAICS_3261:Country_Chile | -12.88084 | 22.50166 | -0.57244 | 0.567038 |
| NAICS_3262:Country_Chile | -13.88544 | 22.50166 | -0.617085 | 0.537193 |
| NAICS_3271:Country_Chile | -14.27146 | 22.50166 | -0.63424 | 0.525939 |
| NAICS_3272:Country_Chile | -15.20205 | 22.50166 | -0.675597 | 0.499313 |
| NAICS_3273:Country_Chile | -13.53904 | 22.50166 | -0.601691 | 0.547394 |
| NAICS_3274:Country_Chile | -14.77127 | 22.50166 | -0.656452 | 0.511549 |
| NAICS_3279:Country_Chile | -14.82975 | 22.50166 | -0.659051 | 0.509879 |
| NAICS_3311:Country_Chile | -15.06146 | 22.50166 | -0.669349 | 0.503289 |
| NAICS_3312:Country_Chile | -14.72152 | 22.50166 | -0.654242 | 0.512972 |
| NAICS_3313:Country_Chile | -15.02678 | 22.50166 | -0.667808 | 0.504273 |
| NAICS_3314:Country_Chile | -14.32902 | 22.50166 | -0.636798 | 0.524271 |
| NAICS_3315:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_3321:Country_Chile | -13.11509 | 22.50166 | -0.58285 | 0.560008 |
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| NAICS_3323:Country_Chile | -15.1644 | 22.50166 | -0.673924 | 0.500376 |
| NAICS_3324:Country_Chile | -14.40562 | 22.50166 | -0.640203 | 0.522056 |
| NAICS_3325:Country_Chile | -15.00472 | 22.50166 | -0.666827 | 0.504899 |
| NAICS_3326:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_3327:Country_Chile | -15.05618 | 22.50166 | -0.669114 | 0.503439 |
| NAICS_3329:Country_Chile | -14.57733 | 22.50166 | -0.647834 | 0.517108 |
| NAICS_3331:Country_Chile | -14.81939 | 22.50166 | -0.658591 | 0.510174 |
| NAICS_3332:Country_Chile | -14.54362 | 22.50166 | -0.646335 | 0.518078 |
| NAICS_3333:Country_Chile | -13.927 | 22.50166 | -0.618932 | 0.535976 |
| NAICS_3334:Country_Chile | -15.18429 | 22.50166 | -0.674808 | 0.499814 |
| NAICS_3335:Country_Chile | -14.12915 | 22.50166 | -0.627916 | 0.530074 |
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| NAICS_3342:Country_Chile | -13.91686 | 22.50166 | -0.618482 | 0.536273 |
| NAICS_3343:Country_Chile | -15.03533 | 22.50166 | -0.668188 | 0.50403 |
| NAICS_3344:Country_Chile | -13.44342 | 22.50166 | -0.597441 | 0.550227 |
| NAICS_3345:Country_Chile | -7.787791 | 22.50166 | -0.346099 | 0.729276 |
| NAICS_3346:Country_Chile | -15.05315 | 22.50166 | -0.66898 | 0.503525 |
| NAICS_3351:Country_Chile | -15.17371 | 22.50166 | -0.674338 | 0.500113 |
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| NAICS_3353:Country_Chile | -14.21112 | 22.50166 | -0.631559 | 0.52769 |
| NAICS_3359:Country_Chile | -14.52602 | 22.50166 | -0.645553 | 0.518584 |
| NAICS_3361:Country_Chile | -14.36383 | 22.50166 | -0.638345 | 0.523264 |
| NAICS_3362:Country_Chile | -15.1104 | 22.50166 | -0.671524 | 0.501903 |
| NAICS_3363:Country_Chile | -14.80872 | 22.50166 | -0.658117 | 0.510479 |
| NAICS_3364:Country_Chile | -13.7516 | 22.50166 | -0.611137 | 0.541123 |
| NAICS_3365:Country_Chile | -15.05092 | 22.50166 | -0.66888 | 0.503588 |
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| NAICS_3371:Country_Chile | -14.81349 | 22.50166 | -0.658329 | 0.510343 |
| NAICS_3372:Country_Chile | -14.44072 | 22.50166 | -0.641762 | 0.521043 |
| NAICS_3379:Country_Chile | -15.08407 | 22.50166 | -0.670354 | 0.502649 |
| NAICS_3391:Country_Chile | -13.33969 | 22.50166 | -0.592832 | 0.553308 |
| NAICS_3399:Country_Chile | -10.68956 | 22.50166 | -0.475057 | 0.634758 |
| NAICS_5112:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9100:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9200:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9300:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9800:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9900:Country_Chile | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_1111:Country_Singapore | -13.14886 | 22.50166 | -0.584351 | 0.558998 |
| NAICS_1112:Country_Singapore | -14.545 | 22.50166 | -0.646397 | 0.518038 |
| NAICS_1113:Country_Singapore | -15.10981 | 22.50166 | -0.671498 | 0.50192 |
| NAICS_1114:Country_Singapore | -14.71399 | 22.50166 | -0.653907 | 0.513187 |
| NAICS_1119:Country_Singapore | -14.67741 | 22.50166 | -0.652281 | 0.514235 |
| NAICS_1121:Country_Singapore | -14.57183 | 22.50166 | -0.647589 | 0.517266 |
| NAICS_1122:Country_Singapore | -15.11406 | 22.50166 | -0.671686 | 0.5018 |
| NAICS_1123:Country_Singapore | -15.27741 | 22.50166 | -0.678946 | 0.497188 |
| NAICS_1124:Country_Singapore | -14.83657 | 22.50166 | -0.659354 | 0.509684 |
| NAICS_1125:Country_Singapore | -14.96217 | 22.50166 | -0.664936 | 0.506107 |
| NAICS_1129:Country_Singapore | -14.51163 | 22.50166 | -0.644914 | 0.518998 |
| NAICS_1132:Country_Singapore | -15.27515 | 22.50166 | -0.678845 | 0.497252 |
| NAICS_1133:Country_Singapore | -14.71093 | 22.50166 | -0.653771 | 0.513275 |
| NAICS_1141:Country_Singapore | -12.91603 | 22.50166 | -0.574004 | 0.565979 |
| NAICS_2111:Country_Singapore | -14.26169 | 22.50166 | -0.633806 | 0.526222 |
| NAICS_2121:Country_Singapore | -15.18319 | 22.50166 | -0.674759 | 0.499845 |
| NAICS_2122:Country_Singapore | -15.09556 | 22.50166 | -0.670864 | 0.502323 |

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| NAICS_2123:Country_Singapore | -14.31576 | 22.50166 | -0.636209 | 0.524655 |
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| NAICS_3112:Country_Singapore | -10.55125 | 22.50166 | -0.46891 | 0.639145 |
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| NAICS_3121:Country_Singapore | -4.651062 | 22.50166 | -0.206699 | 0.83625 |
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| NAICS_3131:Country_Singapore | -15.01429 | 22.50166 | -0.667253 | 0.504627 |
| NAICS_3132:Country_Singapore | -14.87761 | 22.50166 | -0.661178 | 0.508514 |
| NAICS_3133:Country_Singapore | -14.05986 | 22.50166 | -0.624837 | 0.532093 |
| NAICS_3141:Country_Singapore | -15.2644 | 22.50166 | -0.678368 | 0.497555 |
| NAICS_3149:Country_Singapore | -15.25869 | 22.50166 | -0.678114 | 0.497716 |
| NAICS_3151:Country_Singapore | -15.22609 | 22.50166 | -0.676665 | 0.498635 |
| NAICS_3152:Country_Singapore | -13.30995 | 22.50166 | -0.59151 | 0.554193 |
| NAICS_3159:Country_Singapore | -13.5205 | 22.50166 | -0.600867 | 0.547943 |
| NAICS_3161:Country_Singapore | -14.07505 | 22.50166 | -0.625512 | 0.53165 |
| NAICS_3162:Country_Singapore | -14.1495 | 22.50166 | -0.62882 | 0.529482 |
| NAICS_3169:Country_Singapore | -11.10672 | 22.50166 | -0.493596 | 0.621603 |
| NAICS_3211:Country_Singapore | -14.98219 | 22.50166 | -0.665826 | 0.505538 |
| NAICS_3212:Country_Singapore | -14.64014 | 22.50166 | -0.650625 | 0.515304 |
| NAICS_3219:Country_Singapore | -13.14834 | 22.50166 | -0.584328 | 0.559014 |
| NAICS_3221:Country_Singapore | -0.309858 | 22.50166 | -0.01377 | 0.989013 |
| NAICS_3222:Country_Singapore | -10.29407 | 22.50166 | -0.45748 | 0.647336 |
| NAICS_3231:Country_Singapore | -14.94696 | 22.50166 | -0.66426 | 0.50654 |
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| NAICS_3251:Country_Singapore | 13.929171 | 22.50166 | 0.6190287 | 0.535912 |
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| NAICS_3253:Country_Singapore | -8.358193 | 22.50166 | -0.371448 | 0.710312 |
| NAICS_3254:Country_Singapore | -12.44557 | 22.50166 | -0.553096 | 0.580211 |
| NAICS_3255:Country_Singapore | -2.93016 | 22.50166 | -0.13022 | 0.896395 |
| NAICS_3256:Country_Singapore | -9.970735 | 22.50166 | -0.443111 | 0.657695 |
| NAICS_3259:Country_Singapore | 4.2333198 | 22.50166 | 0.1881337 | 0.850776 |
| NAICS_3261:Country_Singapore | -1.50009 | 22.50166 | -0.066666 | 0.946849 |
| NAICS_3262:Country_Singapore | -5.79947 | 22.50166 | -0.257735 | 0.796617 |
| NAICS_3271:Country_Singapore | -9.28781 | 22.50166 | -0.412761 | 0.679791 |
| NAICS_3272:Country_Singapore | -15.13276 | 22.50166 | -0.672518 | 0.50127 |
| NAICS_3273:Country_Singapore | -8.112103 | 22.50166 | -0.360511 | 0.718473 |
| NAICS_3274:Country_Singapore | -13.26056 | 22.50166 | -0.589315 | 0.555664 |
| NAICS_3279:Country_Singapore | -9.277341 | 22.50166 | -0.412296 | 0.680132 |

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| NAICS_3311:Country_Singapore | -14.71541 | 22.50166 | -0.65397 | 0.513147 |
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| NAICS_3313:Country_Singapore | -14.23375 | 22.50166 | -0.632565 | 0.527033 |
| NAICS_3314:Country_Singapore | -11.72255 | 22.50166 | -0.520964 | 0.602404 |
| NAICS_3315:Country_Singapore | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_3321:Country_Singapore | -11.80871 | 22.50166 | -0.524793 | 0.599739 |
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| NAICS_3326:Country_Singapore | -15.27397 | 22.50166 | -0.678793 | 0.497285 |
| NAICS_3327:Country_Singapore | -14.70636 | 22.50166 | -0.653568 | 0.513406 |
| NAICS_3329:Country_Singapore | -11.42019 | 22.50166 | -0.507527 | 0.611797 |
| NAICS_3331:Country_Singapore | -13.85469 | 22.50166 | -0.615719 | 0.538095 |
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| NAICS_3333:Country_Singapore | 0.2605698 | 22.50166 | 0.01158 | 0.990761 |
| NAICS_3334:Country_Singapore | -15.1557 | 22.50166 | -0.673537 | 0.500622 |
| NAICS_3335:Country_Singapore | -12.04764 | 22.50166 | -0.535411 | 0.592378 |
| NAICS_3336:Country_Singapore | 6.2144514 | 22.50166 | 0.2761775 | 0.782418 |
| NAICS_3339:Country_Singapore | 24.391869 | 22.50166 | 1.0840032 | 0.278391 |
| NAICS_3341:Country_Singapore | 25.78357 | 22.50166 | 1.1458521 | 0.251885 |
| NAICS_3342:Country_Singapore | 42.088323 | 22.50166 | 1.8704544 | 0.061451 |
| NAICS_3343:Country_Singapore | -3.112971 | 22.50166 | -0.138344 | 0.889971 |
| NAICS_3344:Country_Singapore | 19.839354 | 22.50166 | 0.8816841 | 0.37797 |
| NAICS_3345:Country_Singapore | 76.062172 | 22.50166 | 3.380292 | 7.27E-04 |
| NAICS_3346:Country_Singapore | -8.834885 | 22.50166 | -0.392633 | 0.6946 |
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| NAICS_3353:Country_Singapore | 10.170466 | 22.50166 | 0.4519874 | 0.651288 |
| NAICS_3359:Country_Singapore | 3.9620993 | 22.50166 | 0.1760803 | 0.860235 |
| NAICS_3361:Country_Singapore | 6.9166936 | 22.50166 | 0.307386 | 0.758556 |
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| NAICS_3363:Country_Singapore | -13.42932 | 22.50166 | -0.596815 | 0.550645 |
| NAICS_3364:Country_Singapore | 0.3729124 | 22.50166 | 0.0165727 | 0.986778 |
| NAICS_3365:Country_Singapore | -12.54998 | 22.50166 | -0.557736 | 0.577038 |
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| NAICS_3379:Country_Singapore | -11.38612 | 22.50166 | -0.506013 | 0.612859 |
| NAICS_3391:Country_Singapore | -5.958142 | 22.50166 | -0.264787 | 0.791179 |
| NAICS_3399:Country_Singapore | 26.575692 | 22.50166 | 1.1810549 | 0.23761 |
| NAICS_5112:Country_Singapore | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
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| NAICS_9200:Country_Singapore | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
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| NAICS_9800:Country_Singapore | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_9900:Country_Singapore | -15.27988 | 22.50166 | -0.679056 | 0.497119 |
| NAICS_1111:Country_SouthKorea | 35.415938 | 22.46837 | 1.5762577 | 0.114999 |
| NAICS_1112:Country_SouthKorea | 13.81091 | 22.46837 | 0.6146824 | 0.538779 |
| NAICS_1113:Country_SouthKorea | 2.4882836 | 22.46837 | 0.1107461 | 0.91182 |
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| NAICS_1119:Country_SouthKorea | 7.3942933 | 22.46837 | 0.3290979 | 0.742089 |
| NAICS_1121:Country_SouthKorea | 12.641561 | 22.46837 | 0.5626382 | 0.573694 |
| NAICS_1122:Country_SouthKorea | 1.7404728 | 22.46837 | 0.0774633 | 0.938257 |
| NAICS_1123:Country_SouthKorea | 0.0591009 | 22.46837 | 0.0026304 | 0.997901 |
| NAICS_1124:Country_SouthKorea | 4.6530445 | 22.46837 | 0.2070931 | 0.835942 |
| NAICS_1125:Country_SouthKorea | 5.0236094 | 22.46837 | 0.2235859 | 0.823084 |
| NAICS_1129:Country_SouthKorea | 12.935755 | 22.46837 | 0.5757318 | 0.56481 |
| NAICS_1132:Country_SouthKorea | 0.2483761 | 22.46837 | 0.0110545 | 0.99118 |
| NAICS_1133:Country_SouthKorea | 4.2233405 | 22.46837 | 0.1879683 | 0.850905 |
| NAICS_1141:Country_SouthKorea | 42.533367 | 22.46837 | 1.8930332 | 0.058384 |
| NAICS_2111:Country_SouthKorea | 11.364203 | 22.46837 | 0.5057867 | 0.613018 |
| NAICS_2121:Country_SouthKorea | 2.3217609 | 22.46837 | 0.1033346 | 0.9177 |
| NAICS_2122:Country_SouthKorea | 4.9298358 | 22.46837 | 0.2194123 | 0.826334 |
| NAICS_2123:Country_SouthKorea | 12.856176 | 22.46837 | 0.57219 | 0.567207 |
| NAICS_3111:Country_SouthKorea | 0.4744747 | 22.46837 | 0.0211175 | 0.983152 |
| NAICS_3112:Country_SouthKorea | 57.874994 | 22.46837 | 2.5758433 | 0.010014 |
| NAICS_3113:Country_SouthKorea | 17.076397 | 22.46837 | 0.7600195 | 0.447262 |
| NAICS_3114:Country_SouthKorea | 30.352429 | 22.46837 | 1.350896 | 0.176761 |
| NAICS_3115:Country_SouthKorea | 236.33764 | 22.46837 | 10.518683 | 9.79E-26 |
| NAICS_3116:Country_SouthKorea | 76.584785 | 22.46837 | 3.4085603 | 6.56E-04 |
| NAICS_3117:Country_SouthKorea | 18.584597 | 22.46837 | 0.827145 | 0.408176 |
| NAICS_3118:Country_SouthKorea | 37.447606 | 22.46837 | 1.6666812 | 0.095611 |
| NAICS_3119:Country_SouthKorea | 125.50541 | 22.46837 | 5.5858715 | 2.39E-08 |
| NAICS_3121:Country_SouthKorea | 124.3732 | 22.46837 | 5.5354801 | 3.19E-08 |
| NAICS_3122:Country_SouthKorea | 30.369089 | 22.46837 | 1.3516375 | 0.176523 |
| NAICS_3131:Country_SouthKorea | 15.596811 | 22.46837 | 0.6941675 | 0.487594 |
| NAICS_3132:Country_SouthKorea | 23.936284 | 22.46837 | 1.0653326 | 0.286752 |
| NAICS_3133:Country_SouthKorea | 47.549525 | 22.46837 | 2.1162875 | 0.034346 |
| NAICS_3141:Country_SouthKorea | 2.1701011 | 22.46837 | 0.0965847 | 0.923058 |
| NAICS_3149:Country_SouthKorea | 1.2537753 | 22.46837 | 0.0558018 | 0.955501 |
| NAICS_3151:Country_SouthKorea | 1.2989234 | 22.46837 | 0.0578112 | 0.9539 |
| NAICS_3152:Country_SouthKorea | 30.224664 | 22.46837 | 1.3452096 | 0.178589 |
| NAICS_3159:Country_SouthKorea | 28.833148 | 22.46837 | 1.2832774 | 0.199426 |
| NAICS_3161:Country_SouthKorea | 11.465641 | 22.46837 | 0.5103015 | 0.609852 |
| NAICS_3162:Country_SouthKorea | 30.854341 | 22.46837 | 1.3732346 | 0.169712 |
| NAICS_3169:Country_SouthKorea | 31.509042 | 22.46837 | 1.4023734 | 0.160836 |

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|-------------------------------|-----------|----------|-----------|-----------|
| NAICS_3211:Country_SouthKorea | 1.3003555 | 22.46837 | 0.0578749 | 0.953849 |
| NAICS_3212:Country_SouthKorea | 31.078632 | 22.46837 | 1.3832172 | 0.166631 |
| NAICS_3219:Country_SouthKorea | 22.931675 | 22.46837 | 1.0206204 | 0.30746 |
| NAICS_3221:Country_SouthKorea | 190.31144 | 22.46837 | 8.4701944 | 2.81E-17 |
| NAICS_3222:Country_SouthKorea | 69.172943 | 22.46837 | 3.0786813 | 0.002085 |
| NAICS_3231:Country_SouthKorea | 7.4390621 | 22.46837 | 0.3310905 | 0.740583 |
| NAICS_3241:Country_SouthKorea | 30.450267 | 22.46837 | 1.3552505 | 0.17537 |
| NAICS_3251:Country_SouthKorea | 265.34559 | 22.46837 | 11.80974 | 5.79E-32 |
| NAICS_3252:Country_SouthKorea | 6.8616839 | 22.46837 | 0.3053931 | 0.760073 |
| NAICS_3253:Country_SouthKorea | 43.326058 | 22.46837 | 1.9283136 | 0.053846 |
| NAICS_3254:Country_SouthKorea | 23.126487 | 22.46837 | 1.0292909 | 0.303369 |
| NAICS_3255:Country_SouthKorea | 164.3784 | 22.46837 | 7.3159923 | 2.76E-13 |
| NAICS_3256:Country_SouthKorea | 101.87334 | 22.46837 | 4.5340785 | 5.86E-06 |
| NAICS_3259:Country_SouthKorea | 253.72803 | 22.46837 | 11.292678 | 2.19E-29 |
| NAICS_3261:Country_SouthKorea | 185.23798 | 22.46837 | 8.2443898 | 1.88E-16 |
| NAICS_3262:Country_SouthKorea | 97.22001 | 22.46837 | 4.3269725 | 1.53E-05 |
| NAICS_3271:Country_SouthKorea | 74.034271 | 22.46837 | 3.2950445 | 9.88E-04 |
| NAICS_3272:Country_SouthKorea | 2.1395314 | 22.46837 | 0.0952242 | 0.924139 |
| NAICS_3273:Country_SouthKorea | 85.133606 | 22.46837 | 3.7890428 | 1.52E-04 |
| NAICS_3274:Country_SouthKorea | 18.792366 | 22.46837 | 0.8363921 | 0.402955 |
| NAICS_3279:Country_SouthKorea | 90.723871 | 22.46837 | 4.0378488 | 5.44E-05 |
| NAICS_3311:Country_SouthKorea | 13.651645 | 22.46837 | 0.607594 | 0.543471 |
| NAICS_3312:Country_SouthKorea | 38.204203 | 22.46837 | 1.7003551 | 0.089097 |
| NAICS_3313:Country_SouthKorea | 15.616389 | 22.46837 | 0.6950389 | 0.487048 |
| NAICS_3314:Country_SouthKorea | 54.653872 | 22.46837 | 2.4324808 | 0.015014 |
| NAICS_3315:Country_SouthKorea | -4.21E-12 | 22.46837 | -1.87E-13 | 1 |
| NAICS_3321:Country_SouthKorea | 49.185835 | 22.46837 | 2.1891147 | 0.028613 |
| NAICS_3322:Country_SouthKorea | 107.9234 | 22.46837 | 4.8033486 | 1.58E-06 |
| NAICS_3323:Country_SouthKorea | 14.59023 | 22.46837 | 0.6493676 | 0.516116 |
| NAICS_3324:Country_SouthKorea | 65.9718 | 22.46837 | 2.9362079 | 0.00333 |
| NAICS_3325:Country_SouthKorea | 20.598302 | 22.46837 | 0.916769 | 0.359287 |
| NAICS_3326:Country_SouthKorea | 0.140478 | 22.46837 | 0.0062523 | 0.995012 |
| NAICS_3327:Country_SouthKorea | 13.138158 | 22.46837 | 0.5847402 | 0.558736 |
| NAICS_3329:Country_SouthKorea | 16.728512 | 22.46837 | 0.7445362 | 0.45657 |
| NAICS_3331:Country_SouthKorea | 29.967198 | 22.46837 | 1.3337506 | 0.182317 |
| NAICS_3332:Country_SouthKorea | 109.14111 | 22.46837 | 4.8575452 | 1.21E-06 |
| NAICS_3333:Country_SouthKorea | 264.07237 | 22.46837 | 11.753073 | 1.12E-31 |
| NAICS_3334:Country_SouthKorea | 3.4908569 | 22.46837 | 0.1553676 | 0.876535 |
| NAICS_3335:Country_SouthKorea | 54.762693 | 22.46837 | 2.437324 | 0.014815 |
| NAICS_3336:Country_SouthKorea | 280.46201 | 22.46837 | 12.482527 | 1.76E-35 |
| NAICS_3339:Country_SouthKorea | 376.59671 | 22.46837 | 16.761196 | 3.60E-62 |
| NAICS_3341:Country_SouthKorea | 504.99803 | 22.46837 | 22.475956 | ##### |
| NAICS_3342:Country_SouthKorea | 895.03634 | 22.46837 | 39.835397 | 3.26e-321 |
| NAICS_3343:Country_SouthKorea | 307.74649 | 22.46837 | 13.696878 | 2.65E-42 |

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|-------------------------------|-----------|----------|-----------|----------|
| NAICS_3344:Country_SouthKorea | 318.74826 | 22.46837 | 14.186534 | 3.19E-45 |
| NAICS_3345:Country_SouthKorea | 1029.0424 | 22.46837 | 45.799607 | 0 |
| NAICS_3346:Country_SouthKorea | 107.45371 | 22.46837 | 4.782444 | 1.76E-06 |
| NAICS_3351:Country_SouthKorea | 247.6669 | 22.46837 | 11.022915 | 4.37E-28 |
| NAICS_3352:Country_SouthKorea | 55.219047 | 22.46837 | 2.457635 | 0.014003 |
| NAICS_3353:Country_SouthKorea | 222.16437 | 22.46837 | 9.887873 | 6.05E-23 |
| NAICS_3359:Country_SouthKorea | 226.43945 | 22.46837 | 10.078144 | 9.07E-24 |
| NAICS_3361:Country_SouthKorea | 282.8831 | 22.46837 | 12.590283 | 4.61E-36 |
| NAICS_3362:Country_SouthKorea | 63.519542 | 22.46837 | 2.8270653 | 0.004707 |
| NAICS_3363:Country_SouthKorea | 43.195008 | 22.46837 | 1.9224809 | 0.054575 |
| NAICS_3364:Country_SouthKorea | 189.98976 | 22.46837 | 8.4558773 | 3.18E-17 |
| NAICS_3365:Country_SouthKorea | 51.692175 | 22.46837 | 2.3006645 | 0.021432 |
| NAICS_3366:Country_SouthKorea | 47.58209 | 22.46837 | 2.1177368 | 0.034223 |
| NAICS_3369:Country_SouthKorea | 57.022087 | 22.46837 | 2.5378829 | 0.011168 |
| NAICS_3371:Country_SouthKorea | 36.396043 | 22.46837 | 1.6198793 | 0.105291 |
| NAICS_3372:Country_SouthKorea | 57.446569 | 22.46837 | 2.5567754 | 0.01058 |
| NAICS_3379:Country_SouthKorea | 27.60318 | 22.46837 | 1.2285352 | 0.219276 |
| NAICS_3391:Country_SouthKorea | 124.62706 | 22.46837 | 5.5467787 | 2.99E-08 |
| NAICS_3399:Country_SouthKorea | 522.20776 | 22.46837 | 23.241909 | ##### |
| NAICS_5112:Country_SouthKorea | -2.29E-12 | 22.46837 | -1.02E-13 | 1 |
| NAICS_9100:Country_SouthKorea | -2.29E-12 | 22.46837 | -1.02E-13 | 1 |
| NAICS_9200:Country_SouthKorea | -2.30E-12 | 22.46837 | -1.02E-13 | 1 |
| NAICS_9300:Country_SouthKorea | -2.29E-12 | 22.46837 | -1.02E-13 | 1 |
| NAICS_9800:Country_SouthKorea | -2.25E-12 | 22.46837 | -1.00E-13 | 1 |
| NAICS_9900:Country_SouthKorea | NA | NA | NA | NA |

Table 3 Regression 2: Full Results

| term | estimate | std.error | statistic | p.value |
|------------------------------|-----------------|------------------|------------------|----------------|
| (Intercept) | 14.76389 | 19.07833 | 0.773856 | 0.439035 |
| FTA | 43.89244 | 3.516803 | 12.48078 | 1.79E-35 |
| ln_exports | 1.001283 | 0.389094 | 2.573371 | 0.010086 |
| ln_imports | -0.90902 | 0.496892 | -1.82941 | 0.067369 |
| year_1998 | -31.1606 | 6.254964 | -4.98173 | 6.41E-07 |
| year_1999 | -30.4909 | 6.252245 | -4.87679 | 1.10E-06 |
| year_2000 | -28.2466 | 6.251509 | -4.51837 | 6.31E-06 |
| year_2001 | -25.4046 | 6.253862 | -4.06223 | 4.90E-05 |
| year_2002 | -24.045 | 6.255063 | -3.84409 | 1.22E-04 |
| year_2003 | -23.2349 | 6.250393 | -3.71735 | 2.02E-04 |
| year_2004 | -44.587 | 5.456707 | -8.17104 | 3.45E-16 |
| year_2005 | -53.89 | 5.238743 | -10.2868 | 1.09E-24 |
| year_2006 | -50.4953 | 5.235568 | -9.64466 | 6.51E-22 |
| year_2007 | -48.3317 | 5.234388 | -9.23349 | 3.18E-20 |
| year_2008 | -45.7441 | 5.233491 | -8.74065 | 2.71E-18 |
| year_2009 | -44.6858 | 5.235199 | -8.53564 | 1.61E-17 |
| year_2010 | -39.6215 | 5.23597 | -7.56717 | 4.17E-14 |
| year_2011 | -32.0123 | 5.234907 | -6.11516 | 1.00E-09 |
| year_2012 | -39.9504 | 5.160145 | -7.74211 | 1.08E-14 |
| year_2013 | -37.714 | 5.159842 | -7.30913 | 2.90E-13 |
| year_2014 | -36.3467 | 5.159986 | -7.04395 | 2.00E-12 |
| year_2015 | -37.4225 | 5.159587 | -7.253 | 4.39E-13 |
| year_2016 | -31.5088 | 5.159632 | -6.10679 | 1.06E-09 |
| year_2017 | -22.001 | 5.159715 | -4.26399 | 2.03E-05 |
| year_2018 | -20.6695 | 5.159659 | -4.00598 | 6.22E-05 |
| year_2019 | -14.7471 | 5.159548 | -2.85821 | 0.00427 |
| year_2020 | NA | NA | NA | NA |
| Country_Australia:NAICS_1111 | -6.87617 | 22.5697 | -0.30466 | 0.760629 |
| Country_Australia:NAICS_1112 | -9.3496 | 22.58817 | -0.41392 | 0.678945 |
| Country_Australia:NAICS_1113 | -12.6497 | 22.50568 | -0.56207 | 0.574084 |
| Country_Australia:NAICS_1114 | -9.5927 | 22.62483 | -0.42399 | 0.671583 |
| Country_Australia:NAICS_1119 | -12.9626 | 22.54263 | -0.57503 | 0.565287 |
| Country_Australia:NAICS_1121 | -8.319 | 22.65515 | -0.3672 | 0.713477 |
| Country_Australia:NAICS_1122 | -10.7701 | 24.14534 | -0.44605 | 0.655569 |
| Country_Australia:NAICS_1123 | -14.4592 | 22.96662 | -0.62957 | 0.528989 |
| Country_Australia:NAICS_1124 | -20.2432 | 23.51486 | -0.86087 | 0.389332 |
| Country_Australia:NAICS_1125 | -14.9049 | 23.0786 | -0.64583 | 0.518403 |
| Country_Australia:NAICS_1129 | -11.585 | 22.56327 | -0.51345 | 0.607652 |
| Country_Australia:NAICS_1132 | -15.1802 | 22.59746 | -0.67176 | 0.50175 |
| Country_Australia:NAICS_1133 | -10.4275 | 22.70824 | -0.4592 | 0.646104 |

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|------------------------------|----------|----------|----------|----------|
| Country_Australia:NAICS_1141 | 6.90761 | 22.54267 | 0.306424 | 0.759289 |
| Country_Australia:NAICS_2111 | -14.7104 | 22.58128 | -0.65144 | 0.514775 |
| Country_Australia:NAICS_2121 | -12.8307 | 22.78775 | -0.56305 | 0.573413 |
| Country_Australia:NAICS_2122 | -15.5709 | 22.53538 | -0.69095 | 0.489612 |
| Country_Australia:NAICS_2123 | -9.32365 | 22.54872 | -0.41349 | 0.679258 |
| Country_Australia:NAICS_3111 | -10.9613 | 22.5451 | -0.48619 | 0.626841 |
| Country_Australia:NAICS_3112 | 8.393955 | 22.50299 | 0.373015 | 0.709146 |
| Country_Australia:NAICS_3113 | -10.2531 | 22.52816 | -0.45512 | 0.64903 |
| Country_Australia:NAICS_3114 | -6.04404 | 22.53658 | -0.26819 | 0.78856 |
| Country_Australia:NAICS_3115 | 67.95908 | 22.5229 | 3.017333 | 0.002557 |
| Country_Australia:NAICS_3116 | 10.69682 | 22.5328 | 0.474722 | 0.634996 |
| Country_Australia:NAICS_3117 | -8.19546 | 22.57427 | -0.36304 | 0.71658 |
| Country_Australia:NAICS_3118 | -4.09324 | 22.56048 | -0.18143 | 0.856031 |
| Country_Australia:NAICS_3119 | 11.3447 | 22.50887 | 0.50401 | 0.614266 |
| Country_Australia:NAICS_3121 | 13.55278 | 22.50691 | 0.602161 | 0.547081 |
| Country_Australia:NAICS_3122 | 3.935411 | 23.40377 | 0.168153 | 0.866467 |
| Country_Australia:NAICS_3131 | -12.2387 | 22.62305 | -0.54098 | 0.588531 |
| Country_Australia:NAICS_3132 | -10.3755 | 22.52524 | -0.46062 | 0.645083 |
| Country_Australia:NAICS_3133 | -9.39222 | 22.57136 | -0.41611 | 0.677337 |
| Country_Australia:NAICS_3141 | -12.3149 | 22.5532 | -0.54604 | 0.585052 |
| Country_Australia:NAICS_3149 | -11.3563 | 22.5582 | -0.50342 | 0.61468 |
| Country_Australia:NAICS_3151 | -10.275 | 22.65729 | -0.4535 | 0.650201 |
| Country_Australia:NAICS_3152 | 1.075925 | 22.52644 | 0.047763 | 0.961906 |
| Country_Australia:NAICS_3159 | 1.59139 | 22.58519 | 0.070462 | 0.943828 |
| Country_Australia:NAICS_3161 | -9.46403 | 22.65341 | -0.41777 | 0.676121 |
| Country_Australia:NAICS_3162 | -4.86932 | 22.56802 | -0.21576 | 0.829178 |
| Country_Australia:NAICS_3169 | 1.849292 | 22.58382 | 0.081886 | 0.934739 |
| Country_Australia:NAICS_3211 | -11.0834 | 22.58362 | -0.49077 | 0.623599 |
| Country_Australia:NAICS_3212 | -8.2743 | 22.54995 | -0.36693 | 0.713678 |
| Country_Australia:NAICS_3219 | -3.43032 | 22.56989 | -0.15199 | 0.879201 |
| Country_Australia:NAICS_3221 | 47.77821 | 22.50347 | 2.123149 | 0.033767 |
| Country_Australia:NAICS_3222 | 4.097853 | 22.54027 | 0.181801 | 0.855742 |
| Country_Australia:NAICS_3231 | -6.62406 | 22.50762 | -0.2943 | 0.768533 |
| Country_Australia:NAICS_3241 | 1.402651 | 22.57584 | 0.062131 | 0.95046 |
| Country_Australia:NAICS_3251 | 60.58336 | 22.49062 | 2.693717 | 0.007078 |
| Country_Australia:NAICS_3252 | -9.90044 | 22.51776 | -0.43967 | 0.660184 |
| Country_Australia:NAICS_3253 | 23.26966 | 22.51573 | 1.033485 | 0.301403 |
| Country_Australia:NAICS_3254 | -4.50979 | 22.48802 | -0.20054 | 0.841061 |
| Country_Australia:NAICS_3255 | 46.67082 | 22.54689 | 2.069945 | 0.038484 |
| Country_Australia:NAICS_3256 | 7.369159 | 22.50537 | 0.32744 | 0.743342 |
| Country_Australia:NAICS_3259 | 58.57885 | 22.50832 | 2.602542 | 0.009268 |
| Country_Australia:NAICS_3261 | 42.01307 | 22.50545 | 1.866795 | 0.061961 |
| Country_Australia:NAICS_3262 | 20.3595 | 22.5141 | 0.9043 | 0.365859 |
| Country_Australia:NAICS_3271 | 8.961557 | 22.5632 | 0.397176 | 0.691247 |

| | | | | |
|------------------------------|----------|----------|----------|----------|
| Country_Australia:NAICS_3272 | -13.0492 | 22.52066 | -0.57943 | 0.56231 |
| Country_Australia:NAICS_3273 | 58.09345 | 22.67114 | 2.562441 | 0.010409 |
| Country_Australia:NAICS_3274 | 5.212861 | 23.15928 | 0.225087 | 0.821916 |
| Country_Australia:NAICS_3279 | 12.68156 | 22.53156 | 0.562836 | 0.57356 |
| Country_Australia:NAICS_3311 | -13.4 | 22.53099 | -0.59474 | 0.552034 |
| Country_Australia:NAICS_3312 | 4.209074 | 22.63387 | 0.185964 | 0.852477 |
| Country_Australia:NAICS_3313 | -10.7385 | 22.56165 | -0.47596 | 0.634111 |
| Country_Australia:NAICS_3314 | -4.43917 | 22.49899 | -0.19731 | 0.843593 |
| Country_Australia:NAICS_3315 | -12.1602 | 22.58805 | -0.53835 | 0.590349 |
| Country_Australia:NAICS_3321 | 10.87727 | 22.65687 | 0.480087 | 0.631177 |
| Country_Australia:NAICS_3322 | 24.21758 | 22.53174 | 1.074821 | 0.282482 |
| Country_Australia:NAICS_3323 | -5.58004 | 22.56427 | -0.2473 | 0.804685 |
| Country_Australia:NAICS_3324 | 8.483815 | 22.54378 | 0.376326 | 0.706683 |
| Country_Australia:NAICS_3325 | -6.849 | 22.54203 | -0.30383 | 0.761262 |
| Country_Australia:NAICS_3326 | -13.0389 | 22.55486 | -0.5781 | 0.563213 |
| Country_Australia:NAICS_3327 | -7.82796 | 22.54717 | -0.34718 | 0.728463 |
| Country_Australia:NAICS_3329 | 2.690963 | 22.49236 | 0.119639 | 0.904772 |
| Country_Australia:NAICS_3331 | 1.852365 | 22.50482 | 0.08231 | 0.934402 |
| Country_Australia:NAICS_3332 | 22.09198 | 22.50595 | 0.981606 | 0.326319 |
| Country_Australia:NAICS_3333 | 30.7719 | 22.50938 | 1.36707 | 0.171635 |
| Country_Australia:NAICS_3334 | -10.2014 | 22.52361 | -0.45292 | 0.650616 |
| Country_Australia:NAICS_3335 | 8.413712 | 22.51335 | 0.373721 | 0.70862 |
| Country_Australia:NAICS_3336 | 96.96587 | 22.50654 | 4.308343 | 1.66E-05 |
| Country_Australia:NAICS_3339 | 126.7698 | 22.49174 | 5.636279 | 1.79E-08 |
| Country_Australia:NAICS_3341 | 65.68694 | 22.50846 | 2.918323 | 0.003527 |
| Country_Australia:NAICS_3342 | 68.99421 | 22.49715 | 3.066798 | 0.00217 |
| Country_Australia:NAICS_3343 | -0.68514 | 22.52151 | -0.03042 | 0.975732 |
| Country_Australia:NAICS_3344 | 29.42551 | 22.50199 | 1.307685 | 0.191012 |
| Country_Australia:NAICS_3345 | 187.1651 | 22.48886 | 8.322571 | 9.79E-17 |
| Country_Australia:NAICS_3346 | -3.07346 | 22.53768 | -0.13637 | 0.891532 |
| Country_Australia:NAICS_3351 | -2.69768 | 22.55139 | -0.11962 | 0.904784 |
| Country_Australia:NAICS_3352 | -0.73058 | 22.52344 | -0.03244 | 0.974125 |
| Country_Australia:NAICS_3353 | 17.2519 | 22.50314 | 0.766644 | 0.443312 |
| Country_Australia:NAICS_3359 | 14.40247 | 22.50446 | 0.639983 | 0.522199 |
| Country_Australia:NAICS_3361 | 50.26214 | 22.49733 | 2.234138 | 0.025497 |
| Country_Australia:NAICS_3362 | 3.062318 | 22.56857 | 0.13569 | 0.89207 |
| Country_Australia:NAICS_3363 | 2.736977 | 22.49029 | 0.121696 | 0.903142 |
| Country_Australia:NAICS_3364 | 33.15436 | 22.4956 | 1.473816 | 0.140564 |
| Country_Australia:NAICS_3365 | 17.41148 | 22.53595 | 0.772609 | 0.439773 |
| Country_Australia:NAICS_3366 | 5.357231 | 22.50763 | 0.238018 | 0.811872 |
| Country_Australia:NAICS_3369 | 11.72447 | 22.50404 | 0.520994 | 0.602383 |
| Country_Australia:NAICS_3371 | 6.30144 | 22.53523 | 0.279626 | 0.77977 |
| Country_Australia:NAICS_3372 | 13.75549 | 22.56093 | 0.609704 | 0.542072 |
| Country_Australia:NAICS_3379 | -7.16421 | 22.69134 | -0.31572 | 0.752219 |

| | | | | |
|------------------------------|----------|----------|----------|----------|
| Country_Australia:NAICS_3391 | 23.18449 | 22.48837 | 1.030955 | 0.302588 |
| Country_Australia:NAICS_3399 | 121.7601 | 22.48859 | 5.414304 | 6.30E-08 |
| Country_Australia:NAICS_5112 | -11.6073 | 23.47116 | -0.49453 | 0.620941 |
| Country_Australia:NAICS_9100 | -13.5677 | 22.56299 | -0.60132 | 0.547639 |
| Country_Australia:NAICS_9200 | -12.3665 | 22.91825 | -0.53959 | 0.58949 |
| Country_Australia:NAICS_9300 | -12.1899 | 23.30174 | -0.52313 | 0.600895 |
| Country_Australia:NAICS_9800 | -32.3051 | 24.67525 | -1.30921 | 0.190494 |
| Country_Australia:NAICS_9900 | -11.3582 | 22.50025 | -0.5048 | 0.61371 |
| NAICS_1111:Country_Chile | -15.5334 | 22.51616 | -0.68988 | 0.490287 |
| NAICS_1112:Country_Chile | -17.4767 | 22.59554 | -0.77346 | 0.439272 |
| NAICS_1113:Country_Chile | -20.0676 | 22.6077 | -0.88764 | 0.374755 |
| NAICS_1114:Country_Chile | -17.4318 | 22.67651 | -0.76872 | 0.442081 |
| NAICS_1119:Country_Chile | -14.5119 | 22.60419 | -0.642 | 0.520887 |
| NAICS_1121:Country_Chile | -0.95987 | 23.51101 | -0.04083 | 0.967435 |
| NAICS_1122:Country_Chile | -10.2615 | 23.95094 | -0.42844 | 0.668342 |
| NAICS_1123:Country_Chile | -1.96246 | 23.46981 | -0.08362 | 0.933363 |
| NAICS_1124:Country_Chile | -13.1035 | 23.88488 | -0.54861 | 0.583285 |
| NAICS_1125:Country_Chile | -24.3589 | 23.02535 | -1.05792 | 0.29012 |
| NAICS_1129:Country_Chile | -16.7325 | 22.66707 | -0.73818 | 0.460421 |
| NAICS_1132:Country_Chile | -15.6874 | 22.6489 | -0.69263 | 0.488557 |
| NAICS_1133:Country_Chile | -15.2343 | 22.799 | -0.6682 | 0.504023 |
| NAICS_1141:Country_Chile | -17.9885 | 22.62617 | -0.79503 | 0.426614 |
| NAICS_2111:Country_Chile | -6.07006 | 22.89706 | -0.2651 | 0.790936 |
| NAICS_2121:Country_Chile | -0.26957 | 23.46545 | -0.01149 | 0.990834 |
| NAICS_2122:Country_Chile | -17.9379 | 22.59064 | -0.79404 | 0.427191 |
| NAICS_2123:Country_Chile | -16.9378 | 22.56574 | -0.7506 | 0.452912 |
| NAICS_3111:Country_Chile | -10.4071 | 22.67901 | -0.45889 | 0.646327 |
| NAICS_3112:Country_Chile | -11.3558 | 22.54075 | -0.50379 | 0.61442 |
| NAICS_3113:Country_Chile | -15.2603 | 22.57898 | -0.67586 | 0.499145 |
| NAICS_3114:Country_Chile | -17.8924 | 22.58549 | -0.79221 | 0.42826 |
| NAICS_3115:Country_Chile | -10.1114 | 22.55526 | -0.4483 | 0.653949 |
| NAICS_3116:Country_Chile | -12.7734 | 22.54487 | -0.56658 | 0.571016 |
| NAICS_3117:Country_Chile | -20.2574 | 22.79344 | -0.88874 | 0.374167 |
| NAICS_3118:Country_Chile | -14.4568 | 22.64437 | -0.63843 | 0.52321 |
| NAICS_3119:Country_Chile | -13.084 | 22.53548 | -0.5806 | 0.561526 |
| NAICS_3121:Country_Chile | -15.1968 | 22.554 | -0.6738 | 0.500457 |
| NAICS_3122:Country_Chile | -11.9353 | 22.7551 | -0.52451 | 0.599936 |
| NAICS_3131:Country_Chile | -13.0287 | 22.77151 | -0.57215 | 0.567236 |
| NAICS_3132:Country_Chile | -14.1433 | 22.5646 | -0.62679 | 0.53081 |
| NAICS_3133:Country_Chile | -9.48122 | 22.8417 | -0.41508 | 0.67809 |
| NAICS_3141:Country_Chile | -11.2254 | 22.66766 | -0.49522 | 0.620459 |
| NAICS_3149:Country_Chile | -11.4573 | 22.66056 | -0.50561 | 0.613144 |
| NAICS_3151:Country_Chile | -10.1131 | 22.88963 | -0.44182 | 0.65863 |
| NAICS_3152:Country_Chile | -14.7444 | 22.56607 | -0.65339 | 0.513521 |

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| NAICS_3159:Country_Chile | -9.69784 | 22.7341 | -0.42658 | 0.669697 |
| NAICS_3161:Country_Chile | -15.7786 | 22.7751 | -0.6928 | 0.488452 |
| NAICS_3162:Country_Chile | -10.8643 | 22.69141 | -0.47878 | 0.632103 |
| NAICS_3169:Country_Chile | -11.1267 | 22.70945 | -0.48996 | 0.624175 |
| NAICS_3211:Country_Chile | -19.4845 | 22.64891 | -0.86028 | 0.389654 |
| NAICS_3212:Country_Chile | -19.2983 | 22.6328 | -0.85267 | 0.393864 |
| NAICS_3219:Country_Chile | -18.5863 | 22.59189 | -0.8227 | 0.4107 |
| NAICS_3221:Country_Chile | -13.2395 | 22.51898 | -0.58793 | 0.556595 |
| NAICS_3222:Country_Chile | -13.8128 | 22.54373 | -0.61271 | 0.540082 |
| NAICS_3231:Country_Chile | -12.6173 | 22.60816 | -0.55809 | 0.576798 |
| NAICS_3241:Country_Chile | -11.2631 | 22.52268 | -0.50008 | 0.617032 |
| NAICS_3251:Country_Chile | -11.288 | 22.49696 | -0.50176 | 0.61585 |
| NAICS_3252:Country_Chile | -8.74373 | 22.65156 | -0.38601 | 0.699498 |
| NAICS_3253:Country_Chile | -9.37599 | 22.51533 | -0.41643 | 0.677107 |
| NAICS_3254:Country_Chile | -13.004 | 22.53579 | -0.57704 | 0.563926 |
| NAICS_3255:Country_Chile | -6.6226 | 22.73691 | -0.29127 | 0.77085 |
| NAICS_3256:Country_Chile | -10.6561 | 22.56849 | -0.47217 | 0.636819 |
| NAICS_3259:Country_Chile | -10.2911 | 22.55369 | -0.45629 | 0.648189 |
| NAICS_3261:Country_Chile | -11.4168 | 22.53389 | -0.50665 | 0.612412 |
| NAICS_3262:Country_Chile | -14.1403 | 22.51186 | -0.62813 | 0.529936 |
| NAICS_3271:Country_Chile | -13.2361 | 22.5862 | -0.58603 | 0.557872 |
| NAICS_3272:Country_Chile | -13.3193 | 22.61082 | -0.58907 | 0.55583 |
| NAICS_3273:Country_Chile | -3.68607 | 23.18116 | -0.15901 | 0.873663 |
| NAICS_3274:Country_Chile | -5.30708 | 23.16172 | -0.22913 | 0.818772 |
| NAICS_3279:Country_Chile | -11.4063 | 22.64113 | -0.50379 | 0.614422 |
| NAICS_3311:Country_Chile | -15.8961 | 22.5417 | -0.70519 | 0.480712 |
| NAICS_3312:Country_Chile | -12.7805 | 22.7309 | -0.56225 | 0.573958 |
| NAICS_3313:Country_Chile | -9.57021 | 22.75765 | -0.42053 | 0.67411 |
| NAICS_3314:Country_Chile | -19.5249 | 22.61055 | -0.86353 | 0.387866 |
| NAICS_3315:Country_Chile | -9.72507 | 22.77405 | -0.42702 | 0.669371 |
| NAICS_3321:Country_Chile | -3.50122 | 23.06418 | -0.1518 | 0.879345 |
| NAICS_3322:Country_Chile | -10.4997 | 22.61981 | -0.46418 | 0.642528 |
| NAICS_3323:Country_Chile | -11.63 | 22.63805 | -0.51374 | 0.607449 |
| NAICS_3324:Country_Chile | -13.3476 | 22.56901 | -0.59141 | 0.554257 |
| NAICS_3325:Country_Chile | -11.767 | 22.67751 | -0.51888 | 0.603853 |
| NAICS_3326:Country_Chile | -11.1421 | 22.70142 | -0.49081 | 0.62357 |
| NAICS_3327:Country_Chile | -10.0243 | 22.70823 | -0.44144 | 0.658904 |
| NAICS_3329:Country_Chile | -12.3555 | 22.5387 | -0.54819 | 0.583574 |
| NAICS_3331:Country_Chile | -11.0121 | 22.54356 | -0.48848 | 0.62522 |
| NAICS_3332:Country_Chile | -10.9176 | 22.5813 | -0.48348 | 0.628768 |
| NAICS_3333:Country_Chile | -8.66395 | 22.64708 | -0.38256 | 0.702052 |
| NAICS_3334:Country_Chile | -12.2496 | 22.58312 | -0.54242 | 0.587539 |
| NAICS_3335:Country_Chile | -10.5656 | 22.62209 | -0.46705 | 0.640477 |
| NAICS_3336:Country_Chile | -9.08088 | 22.5262 | -0.40313 | 0.686865 |

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| NAICS_3339:Country_Chile | -5.55114 | 22.54305 | -0.24625 | 0.805497 |
| NAICS_3341:Country_Chile | -7.69908 | 22.62022 | -0.34036 | 0.733591 |
| NAICS_3342:Country_Chile | -9.30095 | 22.57695 | -0.41197 | 0.680373 |
| NAICS_3343:Country_Chile | -8.96255 | 22.67932 | -0.39519 | 0.692714 |
| NAICS_3344:Country_Chile | -9.53523 | 22.58929 | -0.42211 | 0.672952 |
| NAICS_3345:Country_Chile | -3.71321 | 22.57234 | -0.1645 | 0.869339 |
| NAICS_3346:Country_Chile | -9.12279 | 22.70081 | -0.40187 | 0.687788 |
| NAICS_3351:Country_Chile | -11.037 | 22.67825 | -0.48668 | 0.626496 |
| NAICS_3352:Country_Chile | -10.8805 | 22.64231 | -0.48054 | 0.630856 |
| NAICS_3353:Country_Chile | -9.30878 | 22.61894 | -0.41155 | 0.68068 |
| NAICS_3359:Country_Chile | -10.7536 | 22.58686 | -0.4761 | 0.634013 |
| NAICS_3361:Country_Chile | -1.6643 | 23.05941 | -0.07217 | 0.942465 |
| NAICS_3362:Country_Chile | -4.94184 | 22.97902 | -0.21506 | 0.829726 |
| NAICS_3363:Country_Chile | -12.6984 | 22.52841 | -0.56366 | 0.572999 |
| NAICS_3364:Country_Chile | -8.36614 | 22.59491 | -0.37027 | 0.711192 |
| NAICS_3365:Country_Chile | -3.48547 | 23.12083 | -0.15075 | 0.880176 |
| NAICS_3366:Country_Chile | -7.35444 | 22.83129 | -0.32212 | 0.747368 |
| NAICS_3369:Country_Chile | -6.04678 | 22.89313 | -0.26413 | 0.791685 |
| NAICS_3371:Country_Chile | -14.3141 | 22.58044 | -0.63392 | 0.526151 |
| NAICS_3372:Country_Chile | -14.597 | 22.60873 | -0.64563 | 0.518531 |
| NAICS_3379:Country_Chile | -6.42208 | 23.1575 | -0.27732 | 0.781539 |
| NAICS_3391:Country_Chile | -7.39533 | 22.65662 | -0.32641 | 0.744122 |
| NAICS_3399:Country_Chile | -7.12943 | 22.56705 | -0.31592 | 0.752068 |
| NAICS_5112:Country_Chile | -10.5696 | 23.6683 | -0.44657 | 0.655193 |
| NAICS_9100:Country_Chile | -15.8076 | 22.56319 | -0.70059 | 0.483573 |
| NAICS_9200:Country_Chile | -14.1469 | 22.97329 | -0.6158 | 0.538043 |
| NAICS_9300:Country_Chile | -13.5646 | 23.34419 | -0.58107 | 0.561206 |
| NAICS_9800:Country_Chile | -32.786 | 24.58277 | -1.3337 | 0.182335 |
| NAICS_9900:Country_Chile | -12.7199 | 22.523 | -0.56475 | 0.572256 |
| NAICS_1111:Country_Singapore | -8.64324 | 22.65962 | -0.38144 | 0.702887 |
| NAICS_1112:Country_Singapore | -1.99855 | 23.22785 | -0.08604 | 0.931435 |
| NAICS_1113:Country_Singapore | -9.47597 | 22.66605 | -0.41807 | 0.675906 |
| NAICS_1114:Country_Singapore | -14.7818 | 22.75227 | -0.64968 | 0.515913 |
| NAICS_1119:Country_Singapore | -11.5658 | 22.67739 | -0.51001 | 0.610054 |
| NAICS_1121:Country_Singapore | -10.5786 | 24.06187 | -0.43964 | 0.660206 |
| NAICS_1122:Country_Singapore | -11.6663 | 24.12727 | -0.48353 | 0.628728 |
| NAICS_1123:Country_Singapore | -8.42029 | 23.77699 | -0.35414 | 0.723245 |
| NAICS_1124:Country_Singapore | -11.5023 | 24.1413 | -0.47646 | 0.63376 |
| NAICS_1125:Country_Singapore | -19.5964 | 22.87105 | -0.85682 | 0.391566 |
| NAICS_1129:Country_Singapore | -8.9725 | 22.88262 | -0.39211 | 0.694986 |
| NAICS_1132:Country_Singapore | -15.7829 | 22.61217 | -0.69798 | 0.485204 |
| NAICS_1133:Country_Singapore | -11.7222 | 22.84957 | -0.51302 | 0.607951 |
| NAICS_1141:Country_Singapore | -13.8409 | 22.56645 | -0.61334 | 0.539665 |
| NAICS_2111:Country_Singapore | -4.73379 | 23.00647 | -0.20576 | 0.836983 |

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| NAICS_2121:Country_Singapore | -1.53911 | 23.50787 | -0.06547 | 0.9478 |
| NAICS_2122:Country_Singapore | -4.86134 | 23.22292 | -0.20933 | 0.834192 |
| NAICS_2123:Country_Singapore | -9.19549 | 22.71042 | -0.4049 | 0.685559 |
| NAICS_3111:Country_Singapore | -8.0659 | 22.80834 | -0.35364 | 0.723618 |
| NAICS_3112:Country_Singapore | -8.91147 | 22.55238 | -0.39515 | 0.692744 |
| NAICS_3113:Country_Singapore | -14.6622 | 22.54895 | -0.65024 | 0.515555 |
| NAICS_3114:Country_Singapore | -9.5044 | 22.61838 | -0.42021 | 0.674344 |
| NAICS_3115:Country_Singapore | 8.083923 | 22.56344 | 0.358275 | 0.720145 |
| NAICS_3116:Country_Singapore | -0.47397 | 22.9082 | -0.02069 | 0.983493 |
| NAICS_3117:Country_Singapore | -14.7147 | 22.66955 | -0.6491 | 0.516292 |
| NAICS_3118:Country_Singapore | -13.7702 | 22.58727 | -0.60964 | 0.542113 |
| NAICS_3119:Country_Singapore | -3.82094 | 22.52198 | -0.16965 | 0.865286 |
| NAICS_3121:Country_Singapore | -2.25994 | 22.58102 | -0.10008 | 0.920282 |
| NAICS_3122:Country_Singapore | -11.1386 | 22.66627 | -0.49142 | 0.623141 |
| NAICS_3131:Country_Singapore | -11.4824 | 22.82079 | -0.50315 | 0.614868 |
| NAICS_3132:Country_Singapore | -11.5318 | 22.61196 | -0.50999 | 0.610073 |
| NAICS_3133:Country_Singapore | -9.31279 | 22.75596 | -0.40925 | 0.682368 |
| NAICS_3141:Country_Singapore | -12.7986 | 22.61658 | -0.56589 | 0.57148 |
| NAICS_3149:Country_Singapore | -13.0779 | 22.60895 | -0.57844 | 0.562982 |
| NAICS_3151:Country_Singapore | -10.4727 | 22.85985 | -0.45813 | 0.646871 |
| NAICS_3152:Country_Singapore | -14.8128 | 22.55466 | -0.65675 | 0.511356 |
| NAICS_3159:Country_Singapore | -11.8288 | 22.64823 | -0.52229 | 0.601484 |
| NAICS_3161:Country_Singapore | -14.832 | 22.6949 | -0.65354 | 0.513424 |
| NAICS_3162:Country_Singapore | -11.8401 | 22.63637 | -0.52305 | 0.600948 |
| NAICS_3169:Country_Singapore | -9.06911 | 22.60361 | -0.40122 | 0.688264 |
| NAICS_3211:Country_Singapore | -14.0318 | 22.66 | -0.61923 | 0.535779 |
| NAICS_3212:Country_Singapore | -13.5343 | 22.66565 | -0.59713 | 0.550437 |
| NAICS_3219:Country_Singapore | -12.2754 | 22.63734 | -0.54226 | 0.58765 |
| NAICS_3221:Country_Singapore | 2.758671 | 22.58844 | 0.122128 | 0.902801 |
| NAICS_3222:Country_Singapore | -8.38395 | 22.53196 | -0.37209 | 0.709833 |
| NAICS_3231:Country_Singapore | -15.3059 | 22.51211 | -0.6799 | 0.496587 |
| NAICS_3241:Country_Singapore | -10.5606 | 22.49934 | -0.46937 | 0.638813 |
| NAICS_3251:Country_Singapore | 13.6649 | 22.49698 | 0.60741 | 0.543593 |
| NAICS_3252:Country_Singapore | -13.5993 | 22.50014 | -0.60441 | 0.545586 |
| NAICS_3253:Country_Singapore | -1.83363 | 22.77481 | -0.08051 | 0.935832 |
| NAICS_3254:Country_Singapore | -15.1695 | 22.51868 | -0.67364 | 0.500556 |
| NAICS_3255:Country_Singapore | 0.588063 | 22.58866 | 0.026034 | 0.979231 |
| NAICS_3256:Country_Singapore | -7.5289 | 22.52564 | -0.33424 | 0.738208 |
| NAICS_3259:Country_Singapore | 5.00999 | 22.49858 | 0.22268 | 0.823789 |
| NAICS_3261:Country_Singapore | -0.32605 | 22.50781 | -0.01449 | 0.988442 |
| NAICS_3262:Country_Singapore | -4.52806 | 22.53036 | -0.20098 | 0.840721 |
| NAICS_3271:Country_Singapore | -6.56748 | 22.59431 | -0.29067 | 0.77131 |
| NAICS_3272:Country_Singapore | -13.3162 | 22.54844 | -0.59056 | 0.55483 |
| NAICS_3273:Country_Singapore | -4.97714 | 22.78228 | -0.21847 | 0.827071 |

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| NAICS_3274:Country_Singapore | -2.71235 | 23.25674 | -0.11663 | 0.907159 |
| NAICS_3279:Country_Singapore | -6.18307 | 22.58969 | -0.27371 | 0.784312 |
| NAICS_3311:Country_Singapore | -12.3646 | 22.55066 | -0.5483 | 0.583495 |
| NAICS_3312:Country_Singapore | -8.91138 | 22.74335 | -0.39182 | 0.695197 |
| NAICS_3313:Country_Singapore | -11.3588 | 22.59308 | -0.50275 | 0.615149 |
| NAICS_3314:Country_Singapore | -10.7306 | 22.50828 | -0.47674 | 0.633559 |
| NAICS_3315:Country_Singapore | -11.7768 | 22.65446 | -0.51984 | 0.603185 |
| NAICS_3321:Country_Singapore | -8.35997 | 22.68973 | -0.36845 | 0.712548 |
| NAICS_3322:Country_Singapore | -4.7943 | 22.55804 | -0.21253 | 0.831697 |
| NAICS_3323:Country_Singapore | -12.631 | 22.58621 | -0.55924 | 0.576014 |
| NAICS_3324:Country_Singapore | -9.2373 | 22.57742 | -0.40914 | 0.682447 |
| NAICS_3325:Country_Singapore | -13.34 | 22.56867 | -0.59109 | 0.554476 |
| NAICS_3326:Country_Singapore | -14.1769 | 22.57124 | -0.62809 | 0.529958 |
| NAICS_3327:Country_Singapore | -12.2699 | 22.55274 | -0.54405 | 0.586416 |
| NAICS_3329:Country_Singapore | -10.4157 | 22.50065 | -0.46291 | 0.643441 |
| NAICS_3331:Country_Singapore | -11.7199 | 22.51053 | -0.52064 | 0.602629 |
| NAICS_3332:Country_Singapore | -6.32636 | 22.49745 | -0.2812 | 0.77856 |
| NAICS_3333:Country_Singapore | 0.1801 | 22.49834 | 0.008005 | 0.993613 |
| NAICS_3334:Country_Singapore | -15.1439 | 22.51068 | -0.67274 | 0.501126 |
| NAICS_3335:Country_Singapore | -11.4488 | 22.5117 | -0.50857 | 0.611064 |
| NAICS_3336:Country_Singapore | 8.429693 | 22.51409 | 0.374419 | 0.708101 |
| NAICS_3339:Country_Singapore | 25.40496 | 22.49872 | 1.129174 | 0.258853 |
| NAICS_3341:Country_Singapore | 24.57146 | 22.50573 | 1.091787 | 0.274954 |
| NAICS_3342:Country_Singapore | 41.6946 | 22.49614 | 1.853411 | 0.063854 |
| NAICS_3343:Country_Singapore | -3.82755 | 22.51501 | -0.17 | 0.865014 |
| NAICS_3344:Country_Singapore | 19.45033 | 22.50826 | 0.864142 | 0.387532 |
| NAICS_3345:Country_Singapore | 75.71822 | 22.49872 | 3.365446 | 7.67E-04 |
| NAICS_3346:Country_Singapore | -8.26551 | 22.5081 | -0.36722 | 0.71346 |
| NAICS_3351:Country_Singapore | -7.37022 | 22.54885 | -0.32686 | 0.743784 |
| NAICS_3352:Country_Singapore | -12.2061 | 22.52877 | -0.5418 | 0.587967 |
| NAICS_3353:Country_Singapore | 10.20135 | 22.49861 | 0.453422 | 0.650255 |
| NAICS_3359:Country_Singapore | 4.618189 | 22.49817 | 0.20527 | 0.837366 |
| NAICS_3361:Country_Singapore | 17.85143 | 23.06426 | 0.773986 | 0.438958 |
| NAICS_3362:Country_Singapore | -6.47477 | 22.68365 | -0.28544 | 0.775315 |
| NAICS_3363:Country_Singapore | -12.8809 | 22.50789 | -0.57228 | 0.567144 |
| NAICS_3364:Country_Singapore | 1.964978 | 22.51311 | 0.087282 | 0.93045 |
| NAICS_3365:Country_Singapore | -4.54671 | 22.90568 | -0.1985 | 0.84266 |
| NAICS_3366:Country_Singapore | -11.3445 | 22.55291 | -0.50302 | 0.614963 |
| NAICS_3369:Country_Singapore | -6.04232 | 22.56662 | -0.26775 | 0.788894 |
| NAICS_3371:Country_Singapore | -12.7342 | 22.56101 | -0.56444 | 0.572471 |
| NAICS_3372:Country_Singapore | -11.379 | 22.58385 | -0.50386 | 0.614375 |
| NAICS_3379:Country_Singapore | -8.90517 | 22.77791 | -0.39096 | 0.695838 |
| NAICS_3391:Country_Singapore | -6.45703 | 22.49688 | -0.28702 | 0.774104 |
| NAICS_3399:Country_Singapore | 27.57334 | 22.50217 | 1.225363 | 0.220468 |

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| NAICS_5112:Country_Singapore | -14.7588 | 23.45238 | -0.62931 | 0.529161 |
| NAICS_9100:Country_Singapore | -16.3864 | 22.57666 | -0.72581 | 0.467972 |
| NAICS_9200:Country_Singapore | -14.08 | 22.99417 | -0.61233 | 0.540335 |
| NAICS_9300:Country_Singapore | -13.8074 | 23.36257 | -0.591 | 0.554532 |
| NAICS_9800:Country_Singapore | -35.2745 | 24.76437 | -1.4244 | 0.154362 |
| NAICS_9900:Country_Singapore | -14.249 | 22.49891 | -0.63332 | 0.526539 |
| NAICS_1111:Country_SouthKorea | 43.28381 | 22.65992 | 1.910148 | 0.056144 |
| NAICS_1112:Country_SouthKorea | 15.18911 | 22.54977 | 0.673582 | 0.500594 |
| NAICS_1113:Country_SouthKorea | 4.301923 | 22.48064 | 0.191361 | 0.848247 |
| NAICS_1114:Country_SouthKorea | 7.710224 | 22.60562 | 0.341076 | 0.733054 |
| NAICS_1119:Country_SouthKorea | 12.09068 | 22.54297 | 0.536339 | 0.591736 |
| NAICS_1121:Country_SouthKorea | 26.91024 | 23.47815 | 1.146182 | 0.251748 |
| NAICS_1122:Country_SouthKorea | 15.45724 | 23.47378 | 0.65849 | 0.510239 |
| NAICS_1123:Country_SouthKorea | 14.84253 | 23.48572 | 0.631981 | 0.527414 |
| NAICS_1124:Country_SouthKorea | 10.07081 | 23.71884 | 0.424591 | 0.671144 |
| NAICS_1125:Country_SouthKorea | 3.493475 | 22.61281 | 0.154491 | 0.877226 |
| NAICS_1129:Country_SouthKorea | 17.48266 | 22.59605 | 0.773704 | 0.439125 |
| NAICS_1132:Country_SouthKorea | 2.116015 | 22.56589 | 0.093771 | 0.925293 |
| NAICS_1133:Country_SouthKorea | 19.49435 | 23.31558 | 0.836108 | 0.403115 |
| NAICS_1141:Country_SouthKorea | 43.69824 | 22.47014 | 1.944725 | 0.051837 |
| NAICS_2111:Country_SouthKorea | 13.71902 | 22.50921 | 0.609485 | 0.542218 |
| NAICS_2121:Country_SouthKorea | 18.76085 | 23.41218 | 0.801329 | 0.422961 |
| NAICS_2122:Country_SouthKorea | 14.21145 | 22.78032 | 0.623848 | 0.532742 |
| NAICS_2123:Country_SouthKorea | 15.48162 | 22.53113 | 0.687121 | 0.492023 |
| NAICS_3111:Country_SouthKorea | 5.582782 | 22.60096 | 0.247015 | 0.804902 |
| NAICS_3112:Country_SouthKorea | 60.47504 | 22.49765 | 2.68806 | 0.007199 |
| NAICS_3113:Country_SouthKorea | 19.23019 | 22.51339 | 0.854167 | 0.393034 |
| NAICS_3114:Country_SouthKorea | 31.35798 | 22.47637 | 1.395153 | 0.163002 |
| NAICS_3115:Country_SouthKorea | 238.4173 | 22.4981 | 10.59722 | 4.28E-26 |
| NAICS_3116:Country_SouthKorea | 82.41602 | 22.56961 | 3.651637 | 2.62E-04 |
| NAICS_3117:Country_SouthKorea | 16.72282 | 22.54338 | 0.741806 | 0.458223 |
| NAICS_3118:Country_SouthKorea | 36.81096 | 22.51245 | 1.635138 | 0.102053 |
| NAICS_3119:Country_SouthKorea | 125.7711 | 22.46786 | 5.597823 | 2.23E-08 |
| NAICS_3121:Country_SouthKorea | 124.4742 | 22.48313 | 5.536339 | 3.17E-08 |
| NAICS_3122:Country_SouthKorea | 28.47916 | 22.56495 | 1.262097 | 0.206945 |
| NAICS_3131:Country_SouthKorea | 13.2512 | 22.60327 | 0.586252 | 0.55772 |
| NAICS_3132:Country_SouthKorea | 21.25977 | 22.50039 | 0.944863 | 0.344753 |
| NAICS_3133:Country_SouthKorea | 45.49187 | 22.53901 | 2.018362 | 0.043581 |
| NAICS_3141:Country_SouthKorea | 0.321897 | 22.53002 | 0.014287 | 0.988601 |
| NAICS_3149:Country_SouthKorea | -0.82947 | 22.51226 | -0.03685 | 0.970609 |
| NAICS_3151:Country_SouthKorea | -3.39756 | 22.65526 | -0.14997 | 0.880793 |
| NAICS_3152:Country_SouthKorea | 27.92096 | 22.49886 | 1.240995 | 0.214638 |
| NAICS_3159:Country_SouthKorea | 26.48162 | 22.54171 | 1.174783 | 0.240111 |
| NAICS_3161:Country_SouthKorea | 12.6144 | 22.52039 | 0.560132 | 0.575402 |

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|-------------------------------|----------|----------|----------|----------|
| NAICS_3162:Country_SouthKorea | 30.28682 | 22.5087 | 1.34556 | 0.178476 |
| NAICS_3169:Country_SouthKorea | 30.66043 | 22.49893 | 1.362751 | 0.172993 |
| NAICS_3211:Country_SouthKorea | 7.487612 | 22.68224 | 0.330109 | 0.741325 |
| NAICS_3212:Country_SouthKorea | 32.64029 | 22.57003 | 1.446179 | 0.14816 |
| NAICS_3219:Country_SouthKorea | 24.27076 | 22.53174 | 1.077181 | 0.281427 |
| NAICS_3221:Country_SouthKorea | 189.6984 | 22.46455 | 8.444345 | 3.50E-17 |
| NAICS_3222:Country_SouthKorea | 68.71937 | 22.47683 | 3.057343 | 0.002239 |
| NAICS_3231:Country_SouthKorea | 6.51618 | 22.48506 | 0.2898 | 0.771975 |
| NAICS_3241:Country_SouthKorea | 28.44574 | 22.47483 | 1.265671 | 0.205662 |
| NAICS_3251:Country_SouthKorea | 266.0911 | 22.47109 | 11.84149 | 3.99E-32 |
| NAICS_3252:Country_SouthKorea | 6.150385 | 22.46454 | 0.273782 | 0.784258 |
| NAICS_3253:Country_SouthKorea | 45.61794 | 22.49535 | 2.027883 | 0.0426 |
| NAICS_3254:Country_SouthKorea | 23.8158 | 22.46432 | 1.060161 | 0.289098 |
| NAICS_3255:Country_SouthKorea | 164.9959 | 22.48555 | 7.337862 | 2.35E-13 |
| NAICS_3256:Country_SouthKorea | 102.4827 | 22.46618 | 4.561643 | 5.14E-06 |
| NAICS_3259:Country_SouthKorea | 253.8927 | 22.46869 | 11.29984 | 2.02E-29 |
| NAICS_3261:Country_SouthKorea | 183.6511 | 22.47224 | 8.172354 | 3.41E-16 |
| NAICS_3262:Country_SouthKorea | 93.98297 | 22.50695 | 4.175732 | 3.00E-05 |
| NAICS_3271:Country_SouthKorea | 74.19966 | 22.49485 | 3.298517 | 9.76E-04 |
| NAICS_3272:Country_SouthKorea | 2.434628 | 22.47504 | 0.108326 | 0.913739 |
| NAICS_3273:Country_SouthKorea | 82.02066 | 22.59107 | 3.630667 | 2.84E-04 |
| NAICS_3274:Country_SouthKorea | 24.60722 | 22.80033 | 1.079248 | 0.280504 |
| NAICS_3279:Country_SouthKorea | 90.30028 | 22.48051 | 4.016825 | 5.94E-05 |
| NAICS_3311:Country_SouthKorea | 10.45655 | 22.49844 | 0.464768 | 0.642108 |
| NAICS_3312:Country_SouthKorea | 34.92043 | 22.5588 | 1.547974 | 0.121662 |
| NAICS_3313:Country_SouthKorea | 15.87232 | 22.4752 | 0.706215 | 0.480072 |
| NAICS_3314:Country_SouthKorea | 54.81844 | 22.4625 | 2.440442 | 0.014687 |
| NAICS_3315:Country_SouthKorea | -0.27719 | 22.5292 | -0.0123 | 0.990184 |
| NAICS_3321:Country_SouthKorea | 49.81887 | 22.59634 | 2.204732 | 0.027497 |
| NAICS_3322:Country_SouthKorea | 106.5219 | 22.49539 | 4.735279 | 2.22E-06 |
| NAICS_3323:Country_SouthKorea | 12.77219 | 22.50639 | 0.567492 | 0.570394 |
| NAICS_3324:Country_SouthKorea | 64.67228 | 22.48238 | 2.876576 | 0.004029 |
| NAICS_3325:Country_SouthKorea | 18.45632 | 22.51089 | 0.819884 | 0.412303 |
| NAICS_3326:Country_SouthKorea | -2.30427 | 22.53521 | -0.10225 | 0.918559 |
| NAICS_3327:Country_SouthKorea | 11.7118 | 22.49833 | 0.520563 | 0.602683 |
| NAICS_3329:Country_SouthKorea | 15.91535 | 22.46435 | 0.708471 | 0.47867 |
| NAICS_3331:Country_SouthKorea | 28.44346 | 22.4703 | 1.265825 | 0.205607 |
| NAICS_3332:Country_SouthKorea | 109.9619 | 22.46783 | 4.894192 | 1.00E-06 |
| NAICS_3333:Country_SouthKorea | 264.1999 | 22.46252 | 11.76181 | 1.01E-31 |
| NAICS_3334:Country_SouthKorea | 2.072597 | 22.47428 | 0.092221 | 0.926525 |
| NAICS_3335:Country_SouthKorea | 53.0997 | 22.47721 | 2.36238 | 0.018178 |
| NAICS_3336:Country_SouthKorea | 280.0216 | 22.46408 | 12.4653 | 2.17E-35 |
| NAICS_3339:Country_SouthKorea | 376.1629 | 22.46397 | 16.74517 | 4.68E-62 |
| NAICS_3341:Country_SouthKorea | 503.5982 | 22.4691 | 22.41292 | ##### |

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|-------------------------------|----------|----------|----------|-------------|
| NAICS_3342:Country_SouthKorea | 892.079 | 22.49078 | 39.6642 | .13627e-318 |
| NAICS_3343:Country_SouthKorea | 305.4971 | 22.48317 | 13.58781 | 1.15E-41 |
| NAICS_3344:Country_SouthKorea | 317.5343 | 22.48953 | 14.11921 | 8.14E-45 |
| NAICS_3345:Country_SouthKorea | 1029.537 | 22.46545 | 45.82759 | 0 |
| NAICS_3346:Country_SouthKorea | 105.3486 | 22.50365 | 4.6814 | 2.89E-06 |
| NAICS_3351:Country_SouthKorea | 246.4879 | 22.49837 | 10.95581 | 9.11E-28 |
| NAICS_3352:Country_SouthKorea | 52.00186 | 22.50108 | 2.311083 | 0.020849 |
| NAICS_3353:Country_SouthKorea | 221.0584 | 22.46655 | 9.839449 | 9.76E-23 |
| NAICS_3359:Country_SouthKorea | 225.5536 | 22.46478 | 10.04032 | 1.33E-23 |
| NAICS_3361:Country_SouthKorea | 278.8478 | 22.51269 | 12.38625 | 5.75E-35 |
| NAICS_3362:Country_SouthKorea | 65.41431 | 22.55406 | 2.900335 | 0.003736 |
| NAICS_3363:Country_SouthKorea | 40.81799 | 22.47991 | 1.815754 | 0.069439 |
| NAICS_3364:Country_SouthKorea | 191.0234 | 22.47319 | 8.500058 | 2.18E-17 |
| NAICS_3365:Country_SouthKorea | 51.52205 | 22.5363 | 2.286181 | 0.022265 |
| NAICS_3366:Country_SouthKorea | 50.13944 | 22.57061 | 2.221448 | 0.026344 |
| NAICS_3369:Country_SouthKorea | 57.55643 | 22.48424 | 2.559857 | 0.010487 |
| NAICS_3371:Country_SouthKorea | 35.6305 | 22.50928 | 1.582925 | 0.113472 |
| NAICS_3372:Country_SouthKorea | 55.73951 | 22.54133 | 2.472769 | 0.013424 |
| NAICS_3379:Country_SouthKorea | 27.04312 | 22.61629 | 1.195737 | 0.231829 |
| NAICS_3391:Country_SouthKorea | 124.6822 | 22.4634 | 5.550461 | 2.93E-08 |
| NAICS_3399:Country_SouthKorea | 520.9629 | 22.46813 | 23.18675 | ##### |
| NAICS_5112:Country_SouthKorea | 1.978522 | 23.40366 | 0.084539 | 0.93263 |
| NAICS_9100:Country_SouthKorea | 2.992432 | 22.49036 | 0.133054 | 0.894154 |
| NAICS_9200:Country_SouthKorea | 0.717127 | 22.88939 | 0.03133 | 0.975007 |
| NAICS_9300:Country_SouthKorea | 0.914288 | 23.25388 | 0.039318 | 0.968638 |
| NAICS_9800:Country_SouthKorea | -19.1911 | 24.66953 | -0.77793 | 0.43663 |
| NAICS_9900:Country_SouthKorea | NA | NA | NA | NA |

Table 3 Regression 3: Full Results

| term | estimate | std.error | statistic | p.value |
|------------------------------|-----------------|------------------|------------------|----------------|
| (Intercept) | 127.6405 | 19.42756 | 6.570077 | 5.29E-11 |
| FTA | -101.4374 | 8.0371 | -12.62114 | 3.14E-36 |
| ln_exports | -2.868685 | 0.459098 | -6.248529 | 4.32E-10 |
| ln_imports | -3.330271 | 0.578666 | -5.755083 | 8.93E-09 |
| year_1998 | -40.2711 | 6.1167 | -6.583794 | 4.83E-11 |
| year_1999 | -38.32527 | 6.110342 | -6.272197 | 3.71E-10 |
| year_2000 | -35.9419 | 6.109266 | -5.883178 | 4.16E-09 |
| year_2001 | -33.64497 | 6.113021 | -5.50382 | 3.81E-08 |
| year_2002 | -31.9711 | 6.113459 | -5.229625 | 1.73E-07 |
| year_2003 | -29.67695 | 6.105221 | -4.860914 | 1.19E-06 |
| year_2004 | -42.36294 | 5.324854 | -7.9557 | 1.98E-15 |
| year_2005 | -51.4111 | 5.112514 | -10.05593 | 1.13E-23 |
| year_2006 | -48.32201 | 5.109134 | -9.457964 | 3.88E-21 |
| year_2007 | -46.46579 | 5.107759 | -9.097099 | 1.11E-19 |
| year_2008 | -43.73642 | 5.106857 | -8.564255 | 1.26E-17 |
| year_2009 | -42.81236 | 5.108433 | -8.380724 | 6.00E-17 |
| year_2010 | -37.74498 | 5.109235 | -7.387598 | 1.62E-13 |
| year_2011 | -30.00673 | 5.108259 | -5.874159 | 4.39E-09 |
| year_2012 | -40.2094 | 5.034614 | -7.98659 | 1.55E-15 |
| year_2013 | -38.20999 | 5.034242 | -7.590018 | 3.50E-14 |
| year_2014 | -36.59576 | 5.034439 | -7.269083 | 3.90E-13 |
| year_2015 | -37.79029 | 5.033986 | -7.507031 | 6.59E-14 |
| year_2016 | -31.83134 | 5.034042 | -6.323216 | 2.68E-10 |
| year_2017 | -22.32839 | 5.034135 | -4.435397 | 9.29E-06 |
| year_2018 | -21.02666 | 5.034069 | -4.176872 | 2.98E-05 |
| year_2019 | -15.04012 | 5.033952 | -2.987736 | 0.002818 |
| year_2020 | NA | NA | NA | NA |
| FTA:ln_exports | 4.917307 | 0.368629 | 13.33944 | 3.12E-40 |
| FTA:ln_imports | 4.048412 | 0.486316 | 8.324659 | 9.62E-17 |
| Country_Australia:NAICS_1111 | -16.98631 | 22.0249 | -0.771232 | 0.440588 |
| Country_Australia:NAICS_1112 | -20.94264 | 22.04555 | -0.949971 | 0.342151 |
| Country_Australia:NAICS_1113 | -23.71873 | 21.96486 | -1.079849 | 0.280237 |
| Country_Australia:NAICS_1114 | -19.52553 | 22.07863 | -0.884363 | 0.376522 |
| Country_Australia:NAICS_1119 | -22.38406 | 21.99798 | -1.017551 | 0.308917 |
| Country_Australia:NAICS_1121 | -20.21107 | 22.11022 | -0.914105 | 0.360685 |
| Country_Australia:NAICS_1122 | -18.88753 | 23.56633 | -0.801462 | 0.422884 |
| Country_Australia:NAICS_1123 | -30.01634 | 22.42433 | -1.338562 | 0.180745 |
| Country_Australia:NAICS_1124 | -25.79035 | 22.94403 | -1.124055 | 0.261018 |
| Country_Australia:NAICS_1125 | -29.0241 | 22.53198 | -1.288129 | 0.197732 |
| Country_Australia:NAICS_1129 | -19.86788 | 22.01727 | -0.902377 | 0.366879 |
| Country_Australia:NAICS_1132 | -23.92532 | 22.05092 | -1.085003 | 0.277947 |
| Country_Australia:NAICS_1133 | -19.98213 | 22.16009 | -0.901717 | 0.36723 |

| | | | | |
|------------------------------|-----------|----------|-----------|----------|
| Country_Australia:NAICS_1141 | -1.881601 | 21.99768 | -0.085536 | 0.931837 |
| Country_Australia:NAICS_2111 | -22.83483 | 22.03923 | -1.036099 | 0.300182 |
| Country_Australia:NAICS_2121 | -18.9412 | 22.24267 | -0.85157 | 0.394474 |
| Country_Australia:NAICS_2122 | -25.94317 | 21.9923 | -1.179648 | 0.238169 |
| Country_Australia:NAICS_2123 | -20.05909 | 22.00501 | -0.911569 | 0.362018 |
| Country_Australia:NAICS_3111 | -24.42594 | 22.0051 | -1.110013 | 0.267021 |
| Country_Australia:NAICS_3112 | -2.47049 | 21.96055 | -0.112497 | 0.910432 |
| Country_Australia:NAICS_3113 | -20.4564 | 21.98478 | -0.93048 | 0.352146 |
| Country_Australia:NAICS_3114 | -18.12593 | 21.99528 | -0.824083 | 0.409913 |
| Country_Australia:NAICS_3115 | 56.97298 | 21.98187 | 2.591817 | 0.009562 |
| Country_Australia:NAICS_3116 | -0.256821 | 21.99114 | -0.011678 | 0.990682 |
| Country_Australia:NAICS_3117 | -19.76936 | 22.03114 | -0.897337 | 0.369562 |
| Country_Australia:NAICS_3118 | -16.53705 | 22.01885 | -0.751041 | 0.452647 |
| Country_Australia:NAICS_3119 | -1.460286 | 21.96865 | -0.066471 | 0.947004 |
| Country_Australia:NAICS_3121 | 3.648586 | 21.96377 | 0.166118 | 0.868067 |
| Country_Australia:NAICS_3122 | -9.495763 | 22.84205 | -0.415714 | 0.677629 |
| Country_Australia:NAICS_3131 | -21.48192 | 22.07626 | -0.973078 | 0.330539 |
| Country_Australia:NAICS_3132 | -20.40712 | 21.98168 | -0.928369 | 0.353239 |
| Country_Australia:NAICS_3133 | -18.20142 | 22.02576 | -0.82637 | 0.408615 |
| Country_Australia:NAICS_3141 | -22.21954 | 22.0106 | -1.009492 | 0.312764 |
| Country_Australia:NAICS_3149 | -21.54427 | 22.01469 | -0.978631 | 0.327787 |
| Country_Australia:NAICS_3151 | -20.01479 | 22.11174 | -0.905166 | 0.3654 |
| Country_Australia:NAICS_3152 | -7.102671 | 21.98459 | -0.323075 | 0.746646 |
| Country_Australia:NAICS_3159 | -7.889461 | 22.04026 | -0.357957 | 0.720384 |
| Country_Australia:NAICS_3161 | -16.99221 | 22.10495 | -0.768706 | 0.442087 |
| Country_Australia:NAICS_3162 | -15.4706 | 22.02459 | -0.702424 | 0.482432 |
| Country_Australia:NAICS_3169 | -9.020795 | 22.0407 | -0.409279 | 0.682344 |
| Country_Australia:NAICS_3211 | -21.53313 | 22.03907 | -0.977044 | 0.328572 |
| Country_Australia:NAICS_3212 | -18.48672 | 22.00787 | -0.840005 | 0.400927 |
| Country_Australia:NAICS_3219 | -13.86611 | 22.02584 | -0.629538 | 0.529012 |
| Country_Australia:NAICS_3221 | 36.35838 | 21.96158 | 1.655545 | 0.097847 |
| Country_Australia:NAICS_3222 | -7.500122 | 21.99825 | -0.340942 | 0.733155 |
| Country_Australia:NAICS_3231 | -17.04142 | 21.96479 | -0.775851 | 0.437856 |
| Country_Australia:NAICS_3241 | -8.549879 | 22.03355 | -0.388039 | 0.697996 |
| Country_Australia:NAICS_3251 | 50.81985 | 21.94795 | 2.315471 | 0.020608 |
| Country_Australia:NAICS_3252 | -23.26542 | 21.97779 | -1.058588 | 0.289814 |
| Country_Australia:NAICS_3253 | 11.02467 | 21.97459 | 0.501701 | 0.615889 |
| Country_Australia:NAICS_3254 | -16.46189 | 21.94726 | -0.750066 | 0.453234 |
| Country_Australia:NAICS_3255 | 34.2999 | 22.00523 | 1.558716 | 0.119097 |
| Country_Australia:NAICS_3256 | -4.677702 | 21.96486 | -0.212963 | 0.83136 |
| Country_Australia:NAICS_3259 | 47.32636 | 21.96618 | 2.15451 | 0.031225 |
| Country_Australia:NAICS_3261 | 30.50813 | 21.96386 | 1.389015 | 0.16486 |
| Country_Australia:NAICS_3262 | 8.978024 | 21.97358 | 0.408583 | 0.682855 |
| Country_Australia:NAICS_3271 | -1.380064 | 22.01898 | -0.062676 | 0.950026 |
| Country_Australia:NAICS_3272 | -23.39595 | 21.97731 | -1.06455 | 0.287106 |
| Country_Australia:NAICS_3273 | 49.15802 | 22.12618 | 2.221713 | 0.026326 |
| Country_Australia:NAICS_3274 | -1.175843 | 22.61287 | -0.051999 | 0.958531 |

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|------------------------------|-----------|----------|-----------|----------|
| Country_Australia:NAICS_3279 | 2.215135 | 21.98854 | 0.10074 | 0.919759 |
| Country_Australia:NAICS_3311 | -23.32694 | 21.98733 | -1.060926 | 0.28875 |
| Country_Australia:NAICS_3312 | -4.454264 | 22.08702 | -0.201669 | 0.84018 |
| Country_Australia:NAICS_3313 | -18.83087 | 22.01546 | -0.855348 | 0.39238 |
| Country_Australia:NAICS_3314 | -15.40429 | 21.95685 | -0.701571 | 0.482964 |
| Country_Australia:NAICS_3315 | -24.47057 | 22.04513 | -1.110022 | 0.267018 |
| Country_Australia:NAICS_3321 | -2.01669 | 22.11288 | -0.0912 | 0.927336 |
| Country_Australia:NAICS_3322 | 13.00776 | 21.98933 | 0.591549 | 0.554167 |
| Country_Australia:NAICS_3323 | -17.86716 | 22.02245 | -0.811316 | 0.417205 |
| Country_Australia:NAICS_3324 | -3.838578 | 22.00263 | -0.17446 | 0.861508 |
| Country_Australia:NAICS_3325 | -17.86786 | 21.99908 | -0.81221 | 0.416692 |
| Country_Australia:NAICS_3326 | -24.12316 | 22.01179 | -1.09592 | 0.273141 |
| Country_Australia:NAICS_3327 | -19.78147 | 22.00569 | -0.898925 | 0.368715 |
| Country_Australia:NAICS_3329 | -8.86986 | 21.95148 | -0.404067 | 0.686173 |
| Country_Australia:NAICS_3331 | -10.05472 | 21.96416 | -0.457778 | 0.647122 |
| Country_Australia:NAICS_3332 | 11.91725 | 21.96304 | 0.542605 | 0.587415 |
| Country_Australia:NAICS_3333 | 20.45085 | 21.96689 | 0.930985 | 0.351885 |
| Country_Australia:NAICS_3334 | -21.27586 | 21.98145 | -0.967901 | 0.333119 |
| Country_Australia:NAICS_3335 | -1.457734 | 21.97002 | -0.066351 | 0.9471 |
| Country_Australia:NAICS_3336 | 85.7534 | 21.96527 | 3.904045 | 9.52E-05 |
| Country_Australia:NAICS_3339 | 115.5001 | 21.95052 | 5.26184 | 1.46E-07 |
| Country_Australia:NAICS_3341 | 55.71654 | 21.96537 | 2.536563 | 0.01121 |
| Country_Australia:NAICS_3342 | 57.67407 | 21.95588 | 2.626816 | 0.008633 |
| Country_Australia:NAICS_3343 | -12.64228 | 21.97993 | -0.575174 | 0.565187 |
| Country_Australia:NAICS_3344 | 19.41021 | 21.95903 | 0.883929 | 0.376757 |
| Country_Australia:NAICS_3345 | 176.0066 | 21.94738 | 8.019481 | 1.19E-15 |
| Country_Australia:NAICS_3346 | -12.84176 | 21.994 | -0.583875 | 0.559318 |
| Country_Australia:NAICS_3351 | -14.97148 | 22.00939 | -0.680231 | 0.496375 |
| Country_Australia:NAICS_3352 | -10.46507 | 21.98067 | -0.476103 | 0.634012 |
| Country_Australia:NAICS_3353 | 6.228651 | 21.96178 | 0.283613 | 0.776713 |
| Country_Australia:NAICS_3359 | 2.782827 | 21.96317 | 0.126704 | 0.899177 |
| Country_Australia:NAICS_3361 | 40.55157 | 21.95651 | 1.846905 | 0.064792 |
| Country_Australia:NAICS_3362 | -10.75167 | 22.02871 | -0.488075 | 0.625508 |
| Country_Australia:NAICS_3363 | -6.950366 | 21.94755 | -0.316681 | 0.751493 |
| Country_Australia:NAICS_3364 | 21.99441 | 21.95376 | 1.001852 | 0.316441 |
| Country_Australia:NAICS_3365 | 5.35771 | 21.99441 | 0.243594 | 0.80755 |
| Country_Australia:NAICS_3366 | -5.668402 | 21.96611 | -0.258052 | 0.796372 |
| Country_Australia:NAICS_3369 | 0.745717 | 21.96231 | 0.033954 | 0.972914 |
| Country_Australia:NAICS_3371 | -4.649643 | 21.99347 | -0.21141 | 0.832572 |
| Country_Australia:NAICS_3372 | 3.039616 | 22.01724 | 0.138056 | 0.890199 |
| Country_Australia:NAICS_3379 | -19.73767 | 22.14649 | -0.891232 | 0.372827 |
| Country_Australia:NAICS_3391 | 11.0986 | 21.94786 | 0.50568 | 0.613093 |
| Country_Australia:NAICS_3399 | 110.4288 | 21.94726 | 5.031554 | 4.95E-07 |
| Country_Australia:NAICS_5112 | -26.69823 | 22.91136 | -1.165283 | 0.243933 |
| Country_Australia:NAICS_9100 | -25.64027 | 22.02062 | -1.164376 | 0.244301 |
| Country_Australia:NAICS_9200 | -5.192814 | 22.36362 | -0.232199 | 0.816388 |
| Country_Australia:NAICS_9300 | -41.60758 | 22.77845 | -1.82662 | 0.067788 |

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|------------------------------|-----------|----------|-----------|----------|
| Country_Australia:NAICS_9800 | -33.86948 | 24.07603 | -1.406772 | 0.159528 |
| Country_Australia:NAICS_9900 | -22.1865 | 21.95855 | -1.010381 | 0.312338 |
| NAICS_1111:Country_Chile | -26.83376 | 21.97419 | -1.221149 | 0.22206 |
| NAICS_1112:Country_Chile | -27.34531 | 22.04988 | -1.240157 | 0.214948 |
| NAICS_1113:Country_Chile | -31.17288 | 22.06311 | -1.412896 | 0.157719 |
| NAICS_1114:Country_Chile | -26.28267 | 22.12793 | -1.18776 | 0.234957 |
| NAICS_1119:Country_Chile | -24.19701 | 22.05843 | -1.096951 | 0.272691 |
| NAICS_1121:Country_Chile | -13.53136 | 22.95053 | -0.589588 | 0.555481 |
| NAICS_1122:Country_Chile | -18.91363 | 23.37308 | -0.809206 | 0.418417 |
| NAICS_1123:Country_Chile | -14.12879 | 22.90779 | -0.616768 | 0.537402 |
| NAICS_1124:Country_Chile | -11.61689 | 23.30709 | -0.498427 | 0.618194 |
| NAICS_1125:Country_Chile | -31.12727 | 22.46807 | -1.385401 | 0.165962 |
| NAICS_1129:Country_Chile | -26.3738 | 22.12035 | -1.192287 | 0.233178 |
| NAICS_1132:Country_Chile | -25.76719 | 22.10209 | -1.165826 | 0.243714 |
| NAICS_1133:Country_Chile | -21.99254 | 22.24667 | -0.988577 | 0.322895 |
| NAICS_1141:Country_Chile | -28.11298 | 22.07995 | -1.273236 | 0.202965 |
| NAICS_2111:Country_Chile | -17.57015 | 22.36579 | -0.785581 | 0.432132 |
| NAICS_2121:Country_Chile | -13.93393 | 22.9234 | -0.607848 | 0.543303 |
| NAICS_2122:Country_Chile | -28.68933 | 22.04592 | -1.301344 | 0.193172 |
| NAICS_2123:Country_Chile | -27.91648 | 22.02188 | -1.26767 | 0.204947 |
| NAICS_3111:Country_Chile | -26.07358 | 22.13821 | -1.177764 | 0.23892 |
| NAICS_3112:Country_Chile | -27.00294 | 22.00331 | -1.227222 | 0.219769 |
| NAICS_3113:Country_Chile | -26.0137 | 22.03518 | -1.180553 | 0.23781 |
| NAICS_3114:Country_Chile | -28.8767 | 22.04117 | -1.310125 | 0.190185 |
| NAICS_3115:Country_Chile | -23.25967 | 22.01481 | -1.056546 | 0.290745 |
| NAICS_3116:Country_Chile | -28.74107 | 22.00798 | -1.305938 | 0.191605 |
| NAICS_3117:Country_Chile | -28.80037 | 22.2422 | -1.294853 | 0.195402 |
| NAICS_3118:Country_Chile | -24.43834 | 22.09831 | -1.105892 | 0.268801 |
| NAICS_3119:Country_Chile | -24.44074 | 21.99329 | -1.111281 | 0.266475 |
| NAICS_3121:Country_Chile | -26.42079 | 22.01102 | -1.200344 | 0.230036 |
| NAICS_3122:Country_Chile | -26.04871 | 22.21232 | -1.172715 | 0.240939 |
| NAICS_3131:Country_Chile | -23.12199 | 22.22176 | -1.040511 | 0.298129 |
| NAICS_3132:Country_Chile | -25.79515 | 22.02146 | -1.171364 | 0.241482 |
| NAICS_3133:Country_Chile | -17.96106 | 22.29038 | -0.805776 | 0.420392 |
| NAICS_3141:Country_Chile | -21.34373 | 22.12125 | -0.964852 | 0.334643 |
| NAICS_3149:Country_Chile | -24.80338 | 22.11704 | -1.12146 | 0.26212 |
| NAICS_3151:Country_Chile | -23.83422 | 22.34093 | -1.066841 | 0.286071 |
| NAICS_3152:Country_Chile | -24.89602 | 22.02175 | -1.13052 | 0.258286 |
| NAICS_3159:Country_Chile | -21.78053 | 22.18813 | -0.98163 | 0.326307 |
| NAICS_3161:Country_Chile | -22.66224 | 22.22276 | -1.019776 | 0.30786 |
| NAICS_3162:Country_Chile | -21.01304 | 22.14622 | -0.948832 | 0.34273 |
| NAICS_3169:Country_Chile | -21.82916 | 22.1631 | -0.984933 | 0.324682 |
| NAICS_3211:Country_Chile | -28.52439 | 22.1012 | -1.290626 | 0.196865 |
| NAICS_3212:Country_Chile | -29.37109 | 22.08642 | -1.329825 | 0.183608 |
| NAICS_3219:Country_Chile | -27.43356 | 22.04547 | -1.244408 | 0.21338 |
| NAICS_3221:Country_Chile | -25.48304 | 21.97808 | -1.159475 | 0.246291 |
| NAICS_3222:Country_Chile | -25.6836 | 22.00145 | -1.16736 | 0.243094 |

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| NAICS_3231:Country_Chile | -23.2086 | 22.06361 | -1.051895 | 0.292874 |
| NAICS_3241:Country_Chile | -25.07541 | 21.99064 | -1.140276 | 0.2542 |
| NAICS_3251:Country_Chile | -23.38661 | 21.95669 | -1.065125 | 0.286846 |
| NAICS_3252:Country_Chile | -23.47683 | 22.11215 | -1.061716 | 0.288391 |
| NAICS_3253:Country_Chile | -21.09946 | 21.97397 | -0.960203 | 0.336977 |
| NAICS_3254:Country_Chile | -25.01088 | 21.99523 | -1.137105 | 0.255523 |
| NAICS_3255:Country_Chile | -18.44563 | 22.19237 | -0.83117 | 0.405898 |
| NAICS_3256:Country_Chile | -23.73998 | 22.02798 | -1.077719 | 0.281186 |
| NAICS_3259:Country_Chile | -22.04084 | 22.0123 | -1.001297 | 0.316709 |
| NAICS_3261:Country_Chile | -23.46959 | 21.99218 | -1.067179 | 0.285918 |
| NAICS_3262:Country_Chile | -26.81855 | 21.97154 | -1.220604 | 0.222266 |
| NAICS_3271:Country_Chile | -21.42109 | 22.04056 | -0.971894 | 0.331128 |
| NAICS_3272:Country_Chile | -25.26762 | 22.06687 | -1.145048 | 0.252218 |
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| NAICS_3274:Country_Chile | -15.39373 | 22.60675 | -0.680935 | 0.495929 |
| NAICS_3279:Country_Chile | -23.56306 | 22.09692 | -1.06635 | 0.286292 |
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| NAICS_3313:Country_Chile | -21.12721 | 22.21028 | -0.951235 | 0.341509 |
| NAICS_3314:Country_Chile | -29.94381 | 22.06518 | -1.357062 | 0.174794 |
| NAICS_3315:Country_Chile | -20.72172 | 22.22678 | -0.932286 | 0.351212 |
| NAICS_3321:Country_Chile | -19.41325 | 22.51437 | -0.86226 | 0.388566 |
| NAICS_3322:Country_Chile | -21.86908 | 22.0758 | -0.990636 | 0.321889 |
| NAICS_3323:Country_Chile | -24.94088 | 22.09543 | -1.12878 | 0.259019 |
| NAICS_3324:Country_Chile | -26.22018 | 22.02748 | -1.190339 | 0.233943 |
| NAICS_3325:Country_Chile | -21.632 | 22.13156 | -0.977428 | 0.328382 |
| NAICS_3326:Country_Chile | -22.7349 | 22.15569 | -1.026143 | 0.30485 |
| NAICS_3327:Country_Chile | -21.81985 | 22.16455 | -0.984448 | 0.32492 |
| NAICS_3329:Country_Chile | -23.3181 | 21.99718 | -1.060049 | 0.289149 |
| NAICS_3331:Country_Chile | -24.75996 | 22.00454 | -1.12522 | 0.260524 |
| NAICS_3332:Country_Chile | -23.37457 | 22.03937 | -1.060583 | 0.288906 |
| NAICS_3333:Country_Chile | -20.5818 | 22.10285 | -0.931183 | 0.351783 |
| NAICS_3334:Country_Chile | -25.72433 | 22.04178 | -1.167071 | 0.243211 |
| NAICS_3335:Country_Chile | -22.75268 | 22.0784 | -1.03054 | 0.302782 |
| NAICS_3336:Country_Chile | -22.02999 | 21.98613 | -1.001995 | 0.316371 |
| NAICS_3339:Country_Chile | -18.45478 | 22.00306 | -0.838737 | 0.401638 |
| NAICS_3341:Country_Chile | -20.4668 | 22.07924 | -0.92697 | 0.353965 |
| NAICS_3342:Country_Chile | -23.07067 | 22.03671 | -1.04692 | 0.295163 |
| NAICS_3343:Country_Chile | -22.36784 | 22.13717 | -1.01042 | 0.31232 |
| NAICS_3344:Country_Chile | -21.55762 | 22.04665 | -0.977818 | 0.328189 |
| NAICS_3345:Country_Chile | -17.4835 | 22.03222 | -0.793543 | 0.427481 |
| NAICS_3346:Country_Chile | -20.30544 | 22.15557 | -0.916494 | 0.359431 |
| NAICS_3351:Country_Chile | -21.68294 | 22.13304 | -0.979664 | 0.327277 |
| NAICS_3352:Country_Chile | -22.76666 | 22.09859 | -1.030231 | 0.302927 |
| NAICS_3353:Country_Chile | -24.40376 | 22.07917 | -1.105284 | 0.269064 |
| NAICS_3359:Country_Chile | -23.81874 | 22.04515 | -1.080453 | 0.279968 |
| NAICS_3361:Country_Chile | -16.00677 | 22.5148 | -0.710944 | 0.477136 |

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| NAICS_3362:Country_Chile | -22.48051 | 22.43465 | -1.002044 | 0.316348 |
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| NAICS_3364:Country_Chile | -22.99681 | 22.05705 | -1.042606 | 0.297157 |
| NAICS_3365:Country_Chile | -14.08087 | 22.5708 | -0.623853 | 0.532739 |
| NAICS_3366:Country_Chile | -20.71314 | 22.2858 | -0.929432 | 0.352689 |
| NAICS_3369:Country_Chile | -18.24119 | 22.346 | -0.816307 | 0.414345 |
| NAICS_3371:Country_Chile | -22.39742 | 22.03524 | -1.016436 | 0.309447 |
| NAICS_3372:Country_Chile | -21.81466 | 22.0613 | -0.98882 | 0.322776 |
| NAICS_3379:Country_Chile | -21.22292 | 22.60379 | -0.93891 | 0.347801 |
| NAICS_3391:Country_Chile | -21.67229 | 22.11595 | -0.979939 | 0.327141 |
| NAICS_3399:Country_Chile | -18.36671 | 22.02613 | -0.83386 | 0.404381 |
| NAICS_5112:Country_Chile | -22.23781 | 23.10346 | -0.962532 | 0.335807 |
| NAICS_9100:Country_Chile | -27.90689 | 22.02095 | -1.267288 | 0.205083 |
| NAICS_9200:Country_Chile | -7.876216 | 22.4171 | -0.351349 | 0.725335 |
| NAICS_9300:Country_Chile | -35.79699 | 22.80143 | -1.569945 | 0.116461 |
| NAICS_9800:Country_Chile | -33.04769 | 23.99287 | -1.377396 | 0.168422 |
| NAICS_9900:Country_Chile | -24.96027 | 21.98295 | -1.135438 | 0.25622 |
| NAICS_1111:Country_Singapore | -17.97527 | 22.1148 | -0.812816 | 0.416344 |
| NAICS_1112:Country_Singapore | -15.00738 | 22.67353 | -0.66189 | 0.508058 |
| NAICS_1113:Country_Singapore | -18.43389 | 22.12241 | -0.833268 | 0.404714 |
| NAICS_1114:Country_Singapore | -24.2722 | 22.20326 | -1.093182 | 0.274341 |
| NAICS_1119:Country_Singapore | -21.40044 | 22.13007 | -0.96703 | 0.333553 |
| NAICS_1121:Country_Singapore | -16.57163 | 23.47753 | -0.70585 | 0.480298 |
| NAICS_1122:Country_Singapore | -16.20141 | 23.54082 | -0.688226 | 0.491327 |
| NAICS_1123:Country_Singapore | -18.98465 | 23.20769 | -0.818033 | 0.413359 |
| NAICS_1124:Country_Singapore | -14.39721 | 23.55542 | -0.611206 | 0.541078 |
| NAICS_1125:Country_Singapore | -28.452 | 22.31806 | -1.274842 | 0.202396 |
| NAICS_1129:Country_Singapore | -21.43345 | 22.33297 | -0.959722 | 0.337219 |
| NAICS_1132:Country_Singapore | -24.50791 | 22.06567 | -1.11068 | 0.266734 |
| NAICS_1133:Country_Singapore | -17.47204 | 22.29566 | -0.783652 | 0.433264 |
| NAICS_1141:Country_Singapore | -23.03054 | 22.02172 | -1.045811 | 0.295675 |
| NAICS_2111:Country_Singapore | -12.15581 | 22.47083 | -0.54096 | 0.588548 |
| NAICS_2121:Country_Singapore | -14.31321 | 22.94851 | -0.62371 | 0.532833 |
| NAICS_2122:Country_Singapore | -17.72929 | 22.66535 | -0.78222 | 0.434105 |
| NAICS_2123:Country_Singapore | -19.67193 | 22.16316 | -0.887596 | 0.37478 |
| NAICS_3111:Country_Singapore | -15.26749 | 22.26261 | -0.685791 | 0.492862 |
| NAICS_3112:Country_Singapore | -21.57054 | 22.01102 | -0.979988 | 0.327117 |
| NAICS_3113:Country_Singapore | -25.23958 | 22.00554 | -1.146965 | 0.251425 |
| NAICS_3114:Country_Singapore | -18.62943 | 22.07458 | -0.843931 | 0.398729 |
| NAICS_3115:Country_Singapore | -5.55741 | 22.02322 | -0.252343 | 0.800781 |
| NAICS_3116:Country_Singapore | -19.12241 | 22.36707 | -0.854936 | 0.392608 |
| NAICS_3117:Country_Singapore | -23.86387 | 22.12142 | -1.078768 | 0.280719 |
| NAICS_3118:Country_Singapore | -23.78796 | 22.04207 | -1.079208 | 0.280522 |
| NAICS_3119:Country_Singapore | -15.72475 | 21.98042 | -0.715398 | 0.474381 |
| NAICS_3121:Country_Singapore | -13.88844 | 22.03885 | -0.63018 | 0.528592 |
| NAICS_3122:Country_Singapore | -19.02575 | 22.11889 | -0.860159 | 0.389723 |
| NAICS_3131:Country_Singapore | -28.18097 | 22.27887 | -1.264919 | 0.205931 |

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| NAICS_3132:Country_Singapore | -22.65799 | 22.0681 | -1.026731 | 0.304573 |
| NAICS_3133:Country_Singapore | -22.85064 | 22.2104 | -1.028826 | 0.303587 |
| NAICS_3141:Country_Singapore | -21.87157 | 22.07012 | -0.991004 | 0.321709 |
| NAICS_3149:Country_Singapore | -24.32271 | 22.06497 | -1.102322 | 0.270349 |
| NAICS_3151:Country_Singapore | -28.38638 | 22.31965 | -1.271811 | 0.203471 |
| NAICS_3152:Country_Singapore | -22.30044 | 22.00901 | -1.013241 | 0.31097 |
| NAICS_3159:Country_Singapore | -20.59857 | 22.10068 | -0.932033 | 0.351343 |
| NAICS_3161:Country_Singapore | -23.01708 | 22.14558 | -1.039353 | 0.298667 |
| NAICS_3162:Country_Singapore | -22.41085 | 22.09119 | -1.01447 | 0.310384 |
| NAICS_3169:Country_Singapore | -19.26389 | 22.05852 | -0.873308 | 0.382517 |
| NAICS_3211:Country_Singapore | -21.62052 | 22.11097 | -0.977819 | 0.328189 |
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| NAICS_3219:Country_Singapore | -21.44777 | 22.09031 | -0.970913 | 0.331616 |
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| NAICS_3222:Country_Singapore | -19.76126 | 21.98997 | -0.898649 | 0.368862 |
| NAICS_3231:Country_Singapore | -25.17202 | 21.96874 | -1.145811 | 0.251902 |
| NAICS_3241:Country_Singapore | -23.65459 | 21.96123 | -1.077107 | 0.28146 |
| NAICS_3251:Country_Singapore | 0.119408 | 21.95785 | 0.005438 | 0.995661 |
| NAICS_3252:Country_Singapore | -27.59622 | 21.96155 | -1.25657 | 0.20894 |
| NAICS_3253:Country_Singapore | -16.03815 | 22.22962 | -0.721477 | 0.470634 |
| NAICS_3254:Country_Singapore | -27.66907 | 21.97767 | -1.258963 | 0.208074 |
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| NAICS_3259:Country_Singapore | -9.995701 | 21.96126 | -0.455151 | 0.649011 |
| NAICS_3261:Country_Singapore | -12.21568 | 21.96662 | -0.556102 | 0.578154 |
| NAICS_3262:Country_Singapore | -15.76904 | 21.98838 | -0.717153 | 0.473297 |
| NAICS_3271:Country_Singapore | -17.81337 | 22.05155 | -0.807806 | 0.419222 |
| NAICS_3272:Country_Singapore | -25.40471 | 22.00638 | -1.154425 | 0.248355 |
| NAICS_3273:Country_Singapore | -23.0044 | 22.24733 | -1.03403 | 0.301148 |
| NAICS_3274:Country_Singapore | -16.17585 | 22.70106 | -0.712559 | 0.476136 |
| NAICS_3279:Country_Singapore | -17.79574 | 22.0465 | -0.807191 | 0.419576 |
| NAICS_3311:Country_Singapore | -23.83057 | 22.00867 | -1.082781 | 0.278933 |
| NAICS_3312:Country_Singapore | -18.003 | 22.19365 | -0.811178 | 0.417284 |
| NAICS_3313:Country_Singapore | -24.07547 | 22.05053 | -1.091832 | 0.274935 |
| NAICS_3314:Country_Singapore | -23.88085 | 21.96906 | -1.087022 | 0.277054 |
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| NAICS_3321:Country_Singapore | -17.80915 | 22.14479 | -0.804214 | 0.421293 |
| NAICS_3322:Country_Singapore | -15.81949 | 22.01508 | -0.718575 | 0.47242 |
| NAICS_3323:Country_Singapore | -26.68553 | 22.04542 | -1.21048 | 0.226125 |
| NAICS_3324:Country_Singapore | -22.362 | 22.03674 | -1.01476 | 0.310246 |
| NAICS_3325:Country_Singapore | -24.65353 | 22.02541 | -1.119322 | 0.263031 |
| NAICS_3326:Country_Singapore | -25.05194 | 22.02793 | -1.137281 | 0.255449 |
| NAICS_3327:Country_Singapore | -23.7736 | 22.01049 | -1.080103 | 0.280123 |
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| NAICS_3332:Country_Singapore | -20.42072 | 21.959 | -0.929948 | 0.352422 |
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| NAICS_3334:Country_Singapore | -26.20965 | 21.96834 | -1.193065 | 0.232874 |
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| NAICS_3336:Country_Singapore | -4.318415 | 21.97459 | -0.196519 | 0.844208 |
| NAICS_3339:Country_Singapore | 12.72963 | 21.95859 | 0.579711 | 0.562123 |
| NAICS_3341:Country_Singapore | 15.59312 | 21.96193 | 0.710007 | 0.477717 |
| NAICS_3342:Country_Singapore | 29.2148 | 21.95594 | 1.330611 | 0.183349 |
| NAICS_3343:Country_Singapore | -12.83612 | 21.97119 | -0.584225 | 0.559083 |
| NAICS_3344:Country_Singapore | 8.882418 | 21.96577 | 0.404375 | 0.685946 |
| NAICS_3345:Country_Singapore | 63.496 | 21.95818 | 2.891678 | 0.003841 |
| NAICS_3346:Country_Singapore | -18.60472 | 21.96505 | -0.847015 | 0.397008 |
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| NAICS_3352:Country_Singapore | -22.55551 | 21.98664 | -1.025873 | 0.304977 |
| NAICS_3353:Country_Singapore | -2.603877 | 21.95855 | -0.118581 | 0.905609 |
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| NAICS_3372:Country_Singapore | -21.94484 | 22.03912 | -0.995722 | 0.31941 |
| NAICS_3379:Country_Singapore | -23.56143 | 22.23444 | -1.059682 | 0.289316 |
| NAICS_3391:Country_Singapore | -19.38928 | 21.9572 | -0.883049 | 0.377232 |
| NAICS_3399:Country_Singapore | 15.52434 | 21.96178 | 0.70688 | 0.479659 |
| NAICS_5112:Country_Singapore | -29.55232 | 22.89157 | -1.290969 | 0.196746 |
| NAICS_9100:Country_Singapore | -28.34006 | 22.03367 | -1.286216 | 0.198399 |
| NAICS_9200:Country_Singapore | -7.878288 | 22.4372 | -0.351126 | 0.725501 |
| NAICS_9300:Country_Singapore | -35.71492 | 22.81805 | -1.565205 | 0.117568 |
| NAICS_9800:Country_Singapore | -34.9914 | 24.172 | -1.4476 | 0.147762 |
| NAICS_9900:Country_Singapore | -26.24809 | 21.95846 | -1.195352 | 0.231979 |
| NAICS_1111:Country_SouthKorea | 30.09851 | 22.12403 | 1.360444 | 0.173721 |
| NAICS_1112:Country_SouthKorea | 1.495509 | 22.00984 | 0.067947 | 0.945829 |
| NAICS_1113:Country_SouthKorea | -3.311471 | 21.93595 | -0.150961 | 0.88001 |
| NAICS_1114:Country_SouthKorea | -7.508828 | 22.06858 | -0.34025 | 0.733676 |
| NAICS_1119:Country_SouthKorea | 1.711344 | 22.00047 | 0.077787 | 0.937999 |
| NAICS_1121:Country_SouthKorea | -16.05842 | 23.00009 | -0.698189 | 0.485076 |
| NAICS_1122:Country_SouthKorea | -27.1746 | 22.99521 | -1.181751 | 0.237334 |
| NAICS_1123:Country_SouthKorea | -27.80251 | 23.00784 | -1.208393 | 0.226926 |
| NAICS_1124:Country_SouthKorea | -42.55285 | 23.28443 | -1.827524 | 0.067652 |
| NAICS_1125:Country_SouthKorea | -12.84659 | 22.08355 | -0.581726 | 0.560765 |
| NAICS_1129:Country_SouthKorea | 1.325741 | 22.05837 | 0.060102 | 0.952076 |
| NAICS_1132:Country_SouthKorea | -13.60995 | 22.02798 | -0.617848 | 0.53669 |
| NAICS_1133:Country_SouthKorea | -11.40116 | 22.80742 | -0.499888 | 0.617165 |
| NAICS_1141:Country_SouthKorea | 38.93943 | 21.92407 | 1.776104 | 0.075748 |
| NAICS_2111:Country_SouthKorea | -1.117176 | 21.97267 | -0.050844 | 0.959451 |

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| NAICS_2121:Country_SouthKorea | -14.64982 | 22.90358 | -0.63963 | 0.522428 |
| NAICS_2122:Country_SouthKorea | -7.181697 | 22.25245 | -0.322737 | 0.746901 |
| NAICS_2123:Country_SouthKorea | 2.024126 | 21.99169 | 0.09204 | 0.926668 |
| NAICS_3111:Country_SouthKorea | -12.8943 | 22.06825 | -0.584292 | 0.559038 |
| NAICS_3112:Country_SouthKorea | 50.20448 | 21.95526 | 2.286672 | 0.022237 |
| NAICS_3113:Country_SouthKorea | 8.470852 | 21.97058 | 0.385554 | 0.699835 |
| NAICS_3114:Country_SouthKorea | 23.73107 | 21.93179 | 1.08204 | 0.279262 |
| NAICS_3115:Country_SouthKorea | 227.4088 | 21.95591 | 10.35752 | 5.24E-25 |
| NAICS_3116:Country_SouthKorea | 70.16845 | 22.03336 | 3.184646 | 0.001454 |
| NAICS_3117:Country_SouthKorea | 9.920123 | 21.99836 | 0.450948 | 0.652037 |
| NAICS_3118:Country_SouthKorea | 26.83684 | 21.97083 | 1.221476 | 0.221936 |
| NAICS_3119:Country_SouthKorea | 121.0708 | 21.92196 | 5.522808 | 3.42E-08 |
| NAICS_3121:Country_SouthKorea | 116.1807 | 21.93988 | 5.295411 | 1.21E-07 |
| NAICS_3122:Country_SouthKorea | 18.05026 | 22.02257 | 0.819625 | 0.41245 |
| NAICS_3131:Country_SouthKorea | 2.041676 | 22.06344 | 0.092537 | 0.926274 |
| NAICS_3132:Country_SouthKorea | 20.48677 | 21.95552 | 0.933103 | 0.35079 |
| NAICS_3133:Country_SouthKorea | 38.16306 | 21.99503 | 1.735077 | 0.082759 |
| NAICS_3141:Country_SouthKorea | -6.617376 | 21.98736 | -0.300963 | 0.76345 |
| NAICS_3149:Country_SouthKorea | -5.18414 | 21.96807 | -0.235985 | 0.813449 |
| NAICS_3151:Country_SouthKorea | -10.22623 | 22.11917 | -0.462324 | 0.643859 |
| NAICS_3152:Country_SouthKorea | 27.59764 | 21.95824 | 1.256824 | 0.208848 |
| NAICS_3159:Country_SouthKorea | 21.60979 | 21.99741 | 0.982379 | 0.325938 |
| NAICS_3161:Country_SouthKorea | 4.056918 | 21.97541 | 0.184612 | 0.853538 |
| NAICS_3162:Country_SouthKorea | 23.09825 | 21.96646 | 1.051524 | 0.293045 |
| NAICS_3169:Country_SouthKorea | 24.59911 | 21.95326 | 1.120522 | 0.26252 |
| NAICS_3211:Country_SouthKorea | -11.53532 | 22.14898 | -0.520806 | 0.602514 |
| NAICS_3212:Country_SouthKorea | 19.08766 | 22.02899 | 0.866479 | 0.386249 |
| NAICS_3219:Country_SouthKorea | 13.6273 | 21.98888 | 0.619736 | 0.535446 |
| NAICS_3221:Country_SouthKorea | 189.537 | 21.91753 | 8.647739 | 6.10E-18 |
| NAICS_3222:Country_SouthKorea | 63.97554 | 21.93154 | 2.917056 | 0.003542 |
| NAICS_3231:Country_SouthKorea | 2.983221 | 21.93871 | 0.13598 | 0.89184 |
| NAICS_3241:Country_SouthKorea | 30.5699 | 21.92801 | 1.394103 | 0.163319 |
| NAICS_3251:Country_SouthKorea | 267.2165 | 21.92439 | 12.18809 | 6.42E-34 |
| NAICS_3252:Country_SouthKorea | 6.890546 | 21.91753 | 0.314385 | 0.753235 |
| NAICS_3253:Country_SouthKorea | 36.17764 | 21.95272 | 1.64798 | 0.09939 |
| NAICS_3254:Country_SouthKorea | 18.12913 | 21.91887 | 0.827102 | 0.4082 |
| NAICS_3255:Country_SouthKorea | 156.9734 | 21.941 | 7.154341 | 9.03E-13 |
| NAICS_3256:Country_SouthKorea | 96.82306 | 21.92065 | 4.416979 | 1.01E-05 |
| NAICS_3259:Country_SouthKorea | 249.7657 | 21.92235 | 11.3932 | 7.04E-30 |
| NAICS_3261:Country_SouthKorea | 182.8804 | 21.92552 | 8.340981 | 8.39E-17 |
| NAICS_3262:Country_SouthKorea | 92.63979 | 21.96278 | 4.218036 | 2.49E-05 |
| NAICS_3271:Country_SouthKorea | 66.04561 | 21.95124 | 3.008742 | 0.00263 |
| NAICS_3272:Country_SouthKorea | -3.33624 | 21.92931 | -0.152136 | 0.879083 |
| NAICS_3273:Country_SouthKorea | 74.74962 | 22.04849 | 3.390237 | 7.01E-04 |
| NAICS_3274:Country_SouthKorea | -2.697282 | 22.28057 | -0.12106 | 0.903646 |
| NAICS_3279:Country_SouthKorea | 84.71802 | 21.93521 | 3.862193 | 1.13E-04 |
| NAICS_3311:Country_SouthKorea | 11.05286 | 21.95303 | 0.503478 | 0.61464 |

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| NAICS_3312:Country_SouthKorea | 28.78358 | 22.01994 | 1.30716 | 0.19119 |
| NAICS_3313:Country_SouthKorea | 9.330895 | 21.92999 | 0.425486 | 0.670492 |
| NAICS_3314:Country_SouthKorea | 52.10666 | 21.91591 | 2.377573 | 0.017447 |
| NAICS_3315:Country_SouthKorea | -9.908315 | 21.98633 | -0.450658 | 0.652246 |
| NAICS_3321:Country_SouthKorea | 31.85148 | 22.06357 | 1.443623 | 0.148878 |
| NAICS_3322:Country_SouthKorea | 101.5819 | 21.95079 | 4.627712 | 3.75E-06 |
| NAICS_3323:Country_SouthKorea | 6.670374 | 21.96236 | 0.303719 | 0.761349 |
| NAICS_3324:Country_SouthKorea | 60.82592 | 21.93653 | 2.772814 | 0.005568 |
| NAICS_3325:Country_SouthKorea | 12.43429 | 21.9665 | 0.566057 | 0.571368 |
| NAICS_3326:Country_SouthKorea | -8.259269 | 21.99342 | -0.375534 | 0.707272 |
| NAICS_3327:Country_SouthKorea | 4.933107 | 21.95485 | 0.224693 | 0.822223 |
| NAICS_3329:Country_SouthKorea | 16.15474 | 21.91736 | 0.737075 | 0.461095 |
| NAICS_3331:Country_SouthKorea | 28.46256 | 21.92326 | 1.298281 | 0.194222 |
| NAICS_3332:Country_SouthKorea | 108.43 | 21.92114 | 4.946364 | 7.69E-07 |
| NAICS_3333:Country_SouthKorea | 263.9023 | 21.91562 | 12.04174 | 3.72E-33 |
| NAICS_3334:Country_SouthKorea | 1.140792 | 21.92744 | 0.052026 | 0.958509 |
| NAICS_3335:Country_SouthKorea | 51.85134 | 21.93008 | 2.364393 | 0.01808 |
| NAICS_3336:Country_SouthKorea | 277.7597 | 21.91728 | 12.67309 | 1.64E-36 |
| NAICS_3339:Country_SouthKorea | 377.2778 | 21.9171 | 17.21385 | 2.01E-65 |
| NAICS_3341:Country_SouthKorea | 508.3471 | 21.92324 | 23.18759 | 9.10E-116 |
| NAICS_3342:Country_SouthKorea | 897.9247 | 21.94574 | 40.91567 | 0 |
| NAICS_3343:Country_SouthKorea | 307.1319 | 21.93725 | 14.00047 | 4.21E-44 |
| NAICS_3344:Country_SouthKorea | 325.455 | 21.94483 | 14.8306 | 3.26E-49 |
| NAICS_3345:Country_SouthKorea | 1029.374 | 21.91873 | 46.96322 | 0 |
| NAICS_3346:Country_SouthKorea | 98.14608 | 21.95957 | 4.469399 | 7.93E-06 |
| NAICS_3351:Country_SouthKorea | 240.8608 | 21.95373 | 10.97129 | 7.69E-28 |
| NAICS_3352:Country_SouthKorea | 52.06467 | 21.95699 | 2.371212 | 0.01775 |
| NAICS_3353:Country_SouthKorea | 220.4133 | 21.91989 | 10.0554 | 1.14E-23 |
| NAICS_3359:Country_SouthKorea | 224.3389 | 21.91783 | 10.23545 | 1.84E-24 |
| NAICS_3361:Country_SouthKorea | 281.6334 | 21.97178 | 12.81796 | 2.64E-37 |
| NAICS_3362:Country_SouthKorea | 50.47484 | 22.01648 | 2.292594 | 0.021893 |
| NAICS_3363:Country_SouthKorea | 42.78745 | 21.93307 | 1.950819 | 0.051108 |
| NAICS_3364:Country_SouthKorea | 191.9843 | 21.92677 | 8.755702 | 2.37E-18 |
| NAICS_3365:Country_SouthKorea | 40.88317 | 21.99281 | 1.858934 | 0.063067 |
| NAICS_3366:Country_SouthKorea | 32.72216 | 22.03515 | 1.484998 | 0.137577 |
| NAICS_3369:Country_SouthKorea | 51.71534 | 21.93834 | 2.357305 | 0.018428 |
| NAICS_3371:Country_SouthKorea | 27.46152 | 21.966 | 1.250183 | 0.211263 |
| NAICS_3372:Country_SouthKorea | 48.27138 | 21.99739 | 2.194414 | 0.02823 |
| NAICS_3379:Country_SouthKorea | 10.63475 | 22.08387 | 0.481562 | 0.630128 |
| NAICS_3391:Country_SouthKorea | 122.574 | 21.91672 | 5.592716 | 2.30E-08 |
| NAICS_3399:Country_SouthKorea | 521.1671 | 21.92211 | 23.77358 | 1.99E-121 |
| NAICS_5112:Country_SouthKorea | -16.29104 | 22.84878 | -0.712994 | 0.475867 |
| NAICS_9100:Country_SouthKorea | -1.883404 | 21.94497 | -0.085824 | 0.931608 |
| NAICS_9200:Country_SouthKorea | 12.91498 | 22.34083 | 0.578089 | 0.563218 |
| NAICS_9300:Country_SouthKorea | -73.26888 | 22.97784 | -3.188676 | 0.001434 |
| NAICS_9800:Country_SouthKorea | -34.71771 | 24.20342 | -1.434413 | 0.151487 |

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| NAICS_9900:Country_SouthKorea | NA | NA | NA | NA |
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