Rowan Bittner

Dr. Pereira

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Free International Trade

Introduction

International trade can be seen as an adverse agreement between nations, saying that trading and relying on other nations to stimulate the economy is a reliance that overall takes jobs away from the home country but also gives the appearance of weakness and instability. On the other side international trade is a way to boost the economy by keeping the local production in its specialty where they have the comparative advantage and outsourcing the production where they have less of the advantage. Trade can also bolster international relations, increase alliances, and limit the needs of direct conflicts. Over our recent history of trade wars have become the preferred way of an indirect conflict as no direct blood is shed but a crippling blow can still be dealt. However it is possible that trade wars only increase tensions and the possibility of a direct conflict.

Arguments against international free trade usually come in the form of saying that domestic industries are crippled by outsourcing, that the greed of countries causes and increase in dirty production having negative impacts on our environment, or that countries abuse the idea of free trade to better themselves while hurting or stagnating those they trade with.

The question becomes, does limiting international trade by creating barriers with strict regulations or tariffs, save American jobs here at home or does it pass a more expensive price for the everyday consumer and if not why are so many people still against trade? These questions are addressed in four different papers analyzed below, evaluation the start of the idea of Free Trade, How Trade affects individual States, A debate that leans more towards being against trade, A debate that leans to the positives of trade, and an indepth look at how a free trade affects a country's efficiency.

The Free Trade Philosophy of Sir George Paish

George Paish was an English economist, journalist, and political advisor who wrote numerously on economics and international finance with David Lloyd George. Paish believed heavily in the idea of free trade as a mutually beneficial philosophy to all nations. Starting at a young age he worked directly with popular financing magazine, The Statist, starting in the world of economics and gaining connections to bankers and investors. Since the 1896 US presidential election George Paish has been pushing for a free uniform international trade as a promotion of peace between nations.

Following the Industrial Revolution isolationism had been the norm of European nations, but as their farms shrunk and population grew there was no way for a country to feed their newly expanding people. So trades began to happen between European nations that allowed a natural form of comparative advantage to appear. Where countries that have revolutionized can export their goods while importing food and raw materials. This early form of trade benefited the smaller populated countries into developing their own infrastructure, industries, and wailways.

> "The welfare of the individual, wherever located, is now largely bound up in the well-being of the whole of mankind" Paish, 1913

During this time nations needed the support of each other if they were to grow, and attempting to grow independently was a difficult task that few could achieve. Business was to be conducted at an international level making the conditions of the world matter just as much as conditions of an individual.

During the outbreak of the Great War Paish was able to interview many European banks realizing that if anyone decided to withdraw a large sum of their money the banks would collapse. With European nations at their necks the Banke looked towards the United States and US Treasury William McAdoo. Arguing that America needed to lend out to Europe in order to keep the ability of trade with the US stable caused the American's to agree with Paish and supply Europe monetarily. After the end of the war Paish was hopeful that the near economic collapse caused by the war and all the trade barriers would show how necessary the idea of free trade really was and prevent any further ideas of isolationism. Before the war there were policies put in place that said to have allowed individual countries to supply themselves with the necessities in case of war and a cut off from international trade, however those failed miserably and if not corrected would have resulted in mass starvation and economic collapse of most of Europe. This caused Paish to go on a tour of the now recovering Europe promoting free trade. The current world economy was in shambles as it was disorganized and running mostly off of credit owed. High tariffs were put in place to protect recovering domestic industries while crippling those industries that seemed positive, but in the long run failed at producing any positive results in trade, incomes, or repayments. At this point the ruins of Europe meant that they could not buy American products any longer, and if Americans could not export their international business were in danger.

To repair one's nation they must look to the advancement of its neighbors. Without the ability for an economy to export its goods and services the domestic economy will fail to grow, and without the ability to import necessary goods and services the domestic economy will likewise fail to grow. However countries ignored these warnings causing the Great Depression to arrive with the slow of global trade, massive unpaid war debts, and rising unemployment. Paish believed that under an open free trade policy the war recovery would have never lasted this long and avoided the lasting depression entirely. Paish showed the fact that the United States was able to grow so well as an effect of the Constitution stating that tariffs were not allowed among the various states, as an example of how free trade worked and wished for this to be implemented at a grander world scale. Great Britain was another example of successful free trade policies as they allowed all nations to export products without issue. Britain also heavily invested in foreign projects, advancing its neighbors, to encourage further international trade. Paish credits the advancement of the nation as a result of these free trade ideals including removing tariffs.

Nationalism is a highly limiting factor to world trade. This is shown through the tariff between Russia and Germany under Bismarck. If Germany traded freely with Russia instead of seeking to meet its own needs the alliance between Russia and France would not have needed to happen and the entire war might have been avoided. However, as the 1930s came to an end and the fear of war began to rise. The self sufficient isolationist countries of Germany and Japan began to expand in an effort to broaden its scope of natural resources. Something that might have been avoided if those countries had no trade barriers. Even with their depreciating currency countries could have been loaned gold to stabilize themselves and soon be fully recovered with the removal of barriers afterwards. However with the deaf ears of allies combined with the need of power over the need of people by the axis, war was inevitable.

Paish’s long life seeing both World Wars and unique political and economical occupations allowed an excellent opportunity to observe developing, disabled, and thriving economies during both times of war and times of peace. He believed that the key to global prosperity and peace is the absolute free trade between nations. Citing trade restrictions as responsible for both World Wars, the Great Depression, and the prolonged economic recovery of many nations. Pushing that with free trade and interdependence between nations, one nation couldnt substantially thrive over the others as the wellbeing of every nation is needed for the wellbeing of one to rise. Paish's ideals would later go on to influence modern day economic policies as those who support free trade refer back to his philosophy.

The Economic Effects of the 2018 U.S. Trade Policy

In 2018, the recommendation by the current U.S. Administration, which was originally proposed in 2017, to impose tariffs on select goods was implemented, with the intention that they would protect national security and alleviate negative impacts that local producers have been facing. These tariffs enacted by the United States caused reactory tariffs by both China, the European Union, and Canada on steel, aluminum, and agricultural products. Coke, petroleum, Motor vehicles, and trailers are the most exposed sectors to trading while Mining and quarrying and Forestry, fishing, and logging are the sectors least exposed. Focusing attention to quarterly growth rates of employment and output between 2018 and 2019 three conclusions can be derived. (i) There is a negative correlation between initial start to trade and economic activity. (ii) The negative correlation is stronger with employment growth than it is with output growth. (iii) The negative correlation is stronger with import exposure than it is with export exposure.

States more exposed to trade experienced lower increases or even decreases in output growth and employment growth between 2018 and 2019.These findings reflect that firms operating in states very exposed to trade adjusted their employment and production decisions after announcements of tariff increases.

Figure 1: Equation derived for the ratio of total imports in a sector

$$E^{j}_{\mathrm{US,W}} = \frac{X^{j}_{\mathrm{US,W}}}{GO^{j}_{\mathrm{US}}},$$

Using Figure 1 we can calculate the amount of trade before tariffs, after the announcements of tariffs, and once tariffs are put in place on specific sectors. $X^j_{US,W}$ is total trade in sector j, $E^j_{US,W}$ the ratio of total imports or exports of intermediate goods in a sector to U.S. gross output in that sector. GO^j_{US} is the gross output of the United States in sector j. After compiling the numbers for the top imported and exported sectors across the US. Coke and petroleum have the top import exposure to the world while Transport Equipment has the top export exposure to the world. Altering this equation slightly by adding the parameter of value added per state we can identify individual state's import and export exposures as depicted in Figure 2. From this figure we can confirm that states do have different reliances on imports and exporting. The purpose of these calculations are to derive the most popular import and export exposures, and also curating a map of the highest import and export exposure per state to identify the states that would be most affected by changes to trade regulations.

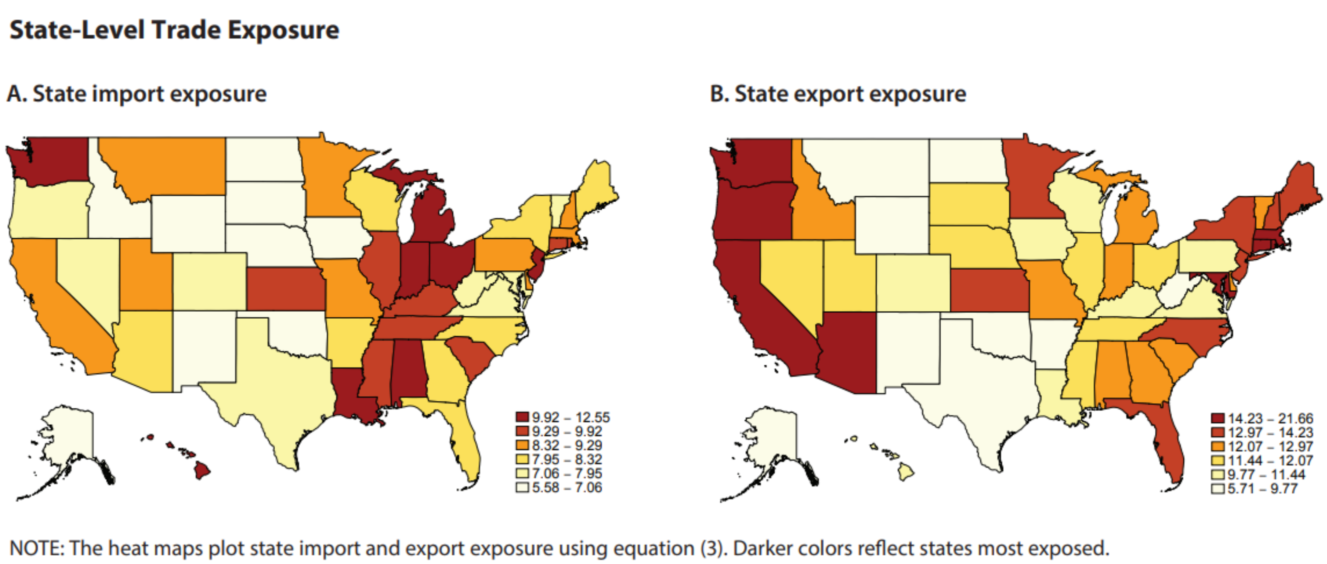

Figure 2: State level exposure to import and exports between the U.S. and the entire World

The previous data all depicts data based before the US Trade War with China and with no restrictions on the trading countries. Moving in to narrowing the scope of the data to just China as this was the intended target of the trade tariffs and were the greatest opponent in retaliatory tariffs. Comparing tariff data from the Iowa State University Center for Agricultural and Rural Development tariff levels the exposure to imports and exports with China are very similar to the overall exposure. Figure 3 depicts the correlation of total exposure to China for individual states after the Trade War and both GDP and Employment. These figures show a negative correlation between both GDP and Employment growth with states that were at a high level of trade exposure with China. States that were more exposed to trade with the world have performed worse in terms of employment and output growth than have states that were less exposed.

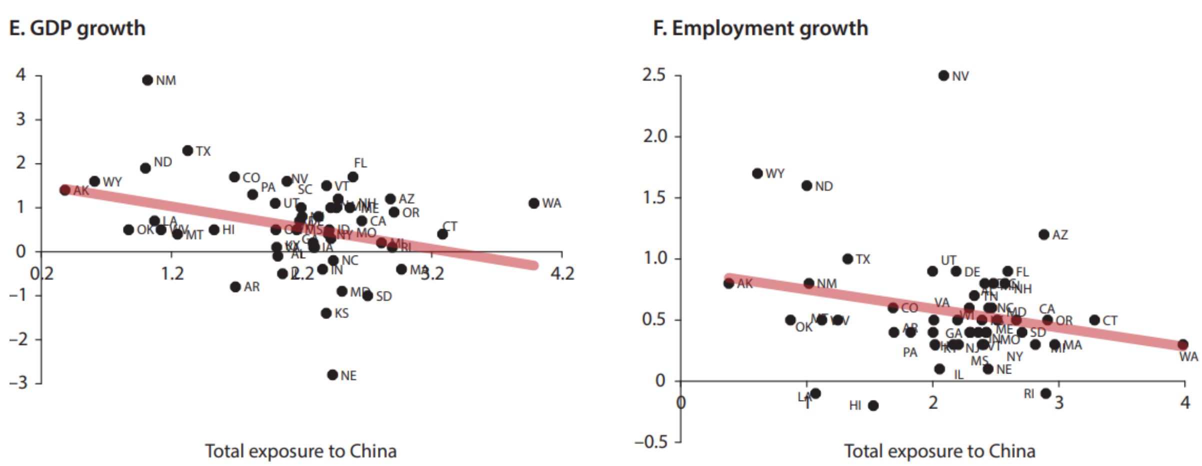

Figure 3 The correlation between GDP growth and total trade exposure to China on the left. The correlation between Employment growth and total trade exposure with China on the right.

Debating Free International Trade

Free international trade seems to be largely agreed upon by economists. The wide spread definition of free trade is that where monopolistic or discriminatory tarrifs, laws, duties, taxes, or quotas are removed. Free trade pushes to properly utilize and competitively allocate scarce resources to maximize the possible utility of all entities involved. The idea of free trade has been prevalent throughout history since the ability to do so was made possible, starting in the 18th century with Adam Smith's argument in favor of free trade based on the principles of division of labor, specialization, and trade in a competitive market. The idea of free trade was not also accepted especially in the years between the World Wars however with the introduction of the World Trade Organization (WTO) which implemented a system of nondiscriminatory and tariff-light international trade.

The classical case for free trade is to achieve comparative advantage between nations. That is to specialize in the most optimal industry for a nation as to achieve the lowest possible waste and the highest possible utility. This form of trade sets up an economic interdependence on each state involved, allowing those to grow and develop together. In the case where a nation is developed further than those it trades with, the idea that the introduction to trade will allow for the expansion of the lesser developed nation's technology allowing it to grow quicker than if left independent. These trade alliances lead to general alliances that promote nations involved to remain peaceful with each other and discourage direct conflict between them.

Criticisms of a free trade system are not only those who are critical of any policy not from their party, but also those who believe in favor of protectionism. Generally, to those opposed, free trade is regarded as a way to promote capitalist elites and serve large corporations all at the expense of poorer developing countries. Usually pointing to the fact that the richer developed countries in the North tend to continue to grow while leaving Southern countries behind. This leads to the idea that free trade actually leads to unfair trade. There is also the argument that international trade will harm local economies by outsourcing productions and therefore monetary flow to other countries.

The classical case against free trade argues that trade doesn't lift both nations up, but instead raises the already wealthy and pushes the poor down creating a large inequality gap. Two theories have emerged against free international trade, those being Dependency Theory and the Theory Of Unequal Exchange. Unequal Exchange surfaced around the time of the World Wars and the later formation of the Organization for Economic Co-Operation and Development (OECD) in 1961. Claims of asymmetric patterns of value distribution in trade have divided the North from the rest of the world, as OECD countries dominate knowledge and high tech sectors and in turn high value goods. While non-OECD countries must rely on low value added specialties, such as providing raw materials, leaving them lower on the international chain of value. Dependency school theorists argue that it is in fact not a "win win" situation that the classical theory argues but instead an "unequal international exchange. Building off of unequal exchange, the equal if not diminishing terms of trade traps these low countries and does not allow them to advance. The argument isn't that the global trade value doesn't advance, it's that the development of lower countries is halted as a result of a global increase.

As a middle ground Friedrich List introduced the idea of a slight protectionism. This would focus on advancing a nation's new industries while the state made efforts to increase labor productivity and widen long term supply side performance. These ideas would be known as Listian and were used by the United States and Germany in the 19th century as an effort to repeal Britain's competitive dominance.

Over the years as international trade and globalization has grown the emergence of global corporations have also increased. As free international trade has grown the amount of global corporations from developing nations have also grown and is now much more evenly distributed than at the beginning of globalization. This is in part to many state owned corporations challenging OECD dominance. This increase of global corporations has enabled a massive increase to the global economy while also lowering the inequality gap.

Overall the argument for free trade has remained the same since its inception, that is that it's a rational division of labor and specialization meeting a competitive equilibrium. While those who argue say that in the real world this isn't the case. In the real world free trade causes large inequality gaps between nations and has forced those nations into a trap while the developed nations continue to gain from trade.

True Free Trade Is Still True

Trade isn't always as simple as answering the question of "who can produce what the best?" as the process and resources have to be taken into account. If a trade of a finite resource is made that country selling that resource needs to take any gains on trade and invest and diversify into other industries as when that resource eventually is depleted a new industry must be able to take its place. With free trade it would be up to the state to responsibly distribute both its exports and its gains from exports.

Arguments against absolute free trade would use trade barriers against a country as a temporary tool to persuade them. However these temporary barriers come with the possibility of being pointless on the political side, losing market connections, and disrupting prices as global market conditions change during the temporary barrier. For example the Trump era 25 percent tax on foreign steel in March of 2018 actually caused the domestic price to increase, increasing production and investment, eventually resulting in a low global demand and lower steel prices hurting those firms domestically. Introducing trade barriers also opens up the possibility of relation tariffs. These are tariffs implemented as a result of trade restrictions that might seem unfair or unjust to the receiving nation.

Another common argument against free trade is the necessity to protect domestic infant industries. These are industries that do not hold any advantage at the moment and would otherwise be put out of business by international trade. However a less disruptive way of protecting these industries is with direct subsidies instead of imposing tariffs. As there is no guarantee that the domestic industry will become more efficient, a subsidy would allow for an equal opportunity while also not straining the international relationship. An issue with graninting these subsidies however is the fact that if one industry is given special treatment it comes at the cost of another having to face those higher costs and taxes. There is also the opportunity for political corruption as those who set those subsidies may only invest them into industries that further their own financial goals, however the same could be said with imposing tariffs.

As argued by Henry George, the argument of free trade at a foreign level should be looked at as the same as the domestic level. This is in the sense that if foreign protection is good so would be protection of goods from another state, however few seem to believe they need to enlist tariffs against other states within the United States. Arguments against this say that it does matter as its two different political entities, however at an individual level this argument falls apart. For example if someone loses their job in New York because of outsourcing, it doesn’t matter whether it's outsourced to California or Canada as they still lose their job.

Labor and the fear of a reduction in wages is a genuine concern of those in favor or a restricted trade. As the Stolper-Samuelson theorem points out an increase in price of the output will cause an increase in price of the input and vice versa. This is given a constant return to scale, two inputs and two outputs, an increase in imports equals an increase in exports, and a case of perfect competition. Given these assumptions that have to be in place Donald Davis and Prachi Mishra argue that this is an unrealistic standard that doesn’t hold in any real world scenarios. A reduction in barriers to trade can expand marginal products of labor meaning. So even though some firms may decline in size and be removed entirely, other firms grow in response to trade. This leaves the labor supply to have to shift from the dead industry to the new thriving ones, only leaving behind those who can not or will not shift. As this is an admitted downfall, policies to assist the shifting of workers can be implemented. There is no doubt that with free trade an economy becomes more productive but the distribution of income also comes into question. George points out that the average income does not mean that there will be a blanket increase in wages. This isn't necessarily a trade issue but instead an individual policy issue or corruption at a firm level.

Can trade liberalization promote green production? Evidence from China's manufacturing enterprises

The concern that free international trade has caused irreversible environmental damages for the fortune of those profiting off of trade. This is because it is believed that countries that have loose environmental standards are able to produce ecologically costley products at a cheaper rate than those with more rigorous rules. However there have been numerous studies showing that free trade has led to introducing new inputs, raising quality and productivity, and adopting new technologies that would better suit countries to still produce these goods while reducing carbon footprints and promoting a greener economy. Pollution levels in respect to trade liberalization can be measured in three key components, scale, composition, and technique effects.

Scale is the environmental impact of increased market entry and upscaling due to liberalization, keeping technology of production and inputs constant. Composition effect is holding all other causes of pollution demand and supply constant, that emissions will increase the freer trade is for a dirty exporter while they decrease for the importer of the polluting goods. While technique effect is the ability to update the technology used to produce a good to make the environmental impact less harmful.

When China, the world's second largest economy, joined the World Trade Organization (WTO) trade barriers reduced causing a large increase of imports and exports. This opening to a freer trade with China has led to the availability of domestic materials at a lower price, higher gross exports, and higher export prices. However there is fear that this ramp up in production has caused negative effects on the environmental impact over China. Figure 4 depicts the SO_2

emissions of China over the past 20 years. Even though China has numerous environmental laws put in place there has been a lack of enforcement caused from the lack of quality legislation. The obvious spike of emissions after joining the WTO in 2002 has caused a national concern for health pressuring the Chinese government to enforce pollution control, as seen with the rise in 2002 and the fall of pollution in 2006.

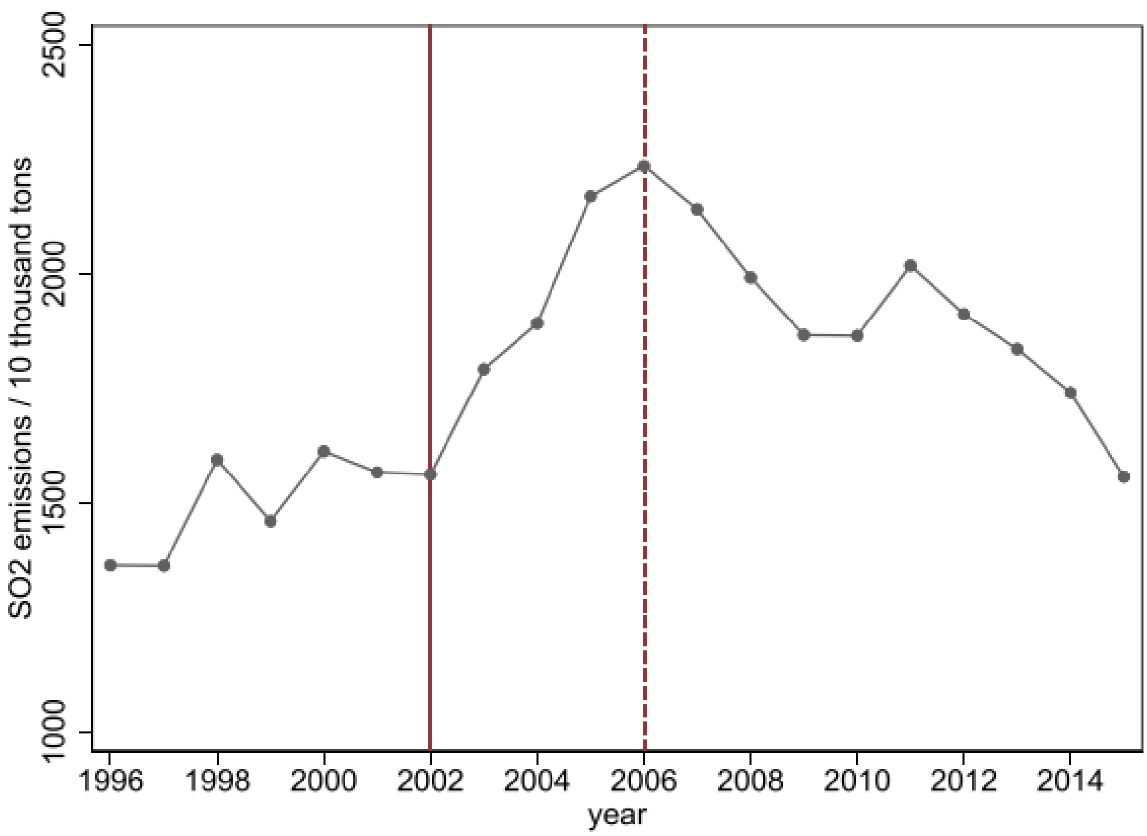

Figure 4: Industrial SO_2 emissions in China from 1996 to 2015

If we compute the proposition that trade liberalization has an effect on environmental performance we can come to the following equation for pollution emissions, like in Figure 5. Where φ is the share of X in the total output,e is the emission intensity, and S measures the output of scale.

$$z = \mathrm{ex} = e\varphi S,$$

Figure 5: Equation for pollution emissions

From this the following conclusions can be made (i) keeping the product inputs and technology the same free trade can lead to economic expansion resulting in an increase in pollution and (ii) keeping demand and supply of pollution unchanged, as free trade increases emissions from exporters increase while the emissions from importers decrease finally (iii) freer trade could increase environmental performance by changing technology, due to the increased demand for higher quality goods.

Running a regression on SO_2 emissions, tariff data we can directly estimate the impact of trade liberalization on clean production.

As shown in Figure 6 the decrease of import tariffs reduced SO_2 emissions overall. This is the result of even the most polluting firms increasing their technology to be more efficient which in turn lowers the carbon footprint of their manufacturing process.

Effects of import tariffs on corporate SO_2 intensity.

	(1) ln(SO_2 intensity) FE-IV	(2) ln(SO_2 intensity) FE-IV
Input tariff (lagged)	− 0.930	− 0.468
	(0.830)	(0.769)
Output tariff (lagged)	0.582**	0.407**
	(0.241)	(0.206)
Year fixed effects	YES	YES
Firm fixed effects	YES	YES
Province-year fixed effects	NO	YES
Observations	151,872	151,872

1. Instrument from 2001 onward is the maximum allowable tariff under the WTO agreement.
2. Standard errors in parentheses are clustered at the industry-year level.
3. $*p < 0.1$, $**p < 0.05$, $***p < 0.01$.

Figure 6 A Regression made to calculator the effect of import tariffs on emissions

Putting to test the composition effect we can see that with a decrease in import tariffs the output of high and medium value goods increase and polluting goods decrease (Figure 7).

Effects of import tariffs on production composition between high and low polluting industries.

	(1) ln(Output) OLS-IV	(2) ln(Output) OLS-IV
Input tariff (lagged) × High	− 0.154	0.238
	(2.214)	(2.248)
Output tariff (lagged) × High	− 2.698***	− 2.472***
	(0.737)	(0.744)
Input tariff (lagged) × Medium	− 2.419	− 3.370
	(2.366)	(2.450)
Output tariff (lagged) × Medium	− 1.690**	− 1.548*
	(0.769)	(0.808)
Input tariff (lagged)	− 0.154	0.238
	(2.214)	(2.248)
Output tariff (lagged)	1.852***	1.776***
	(0.637)	(0.646)
High	− 0.311	− 0.131
	(0.195)	(0.193)
Middle	0.178	0.265
	(0.181)	(0.185)
Year fixed effects	YES	YES
Province fixed effects	NO	YES
Observations	170,032	170,032

Figure 7 A regression on the effects of import tariffs on production of both high and low pollution industries

From these regressions the conclusion can be made that reducing import tariffs result in a higher average emissions which can be due to the change of composition among various industries. We can also see that an increase in competition to importers may cause a technology increase which assists in reducing pollution. Overall we can see a decrease in pollution generated with the freer the trade as a result of lowering pollution generated in the production process itself. These results highlight the need to analyze the data from multiple perspectives, as if just looking at the chart (Figure 4) the conclusion that entering free trade with the WTO causes an increase in emissions when in reality the increase is caused by comparative advantage of the Chinese industries.

Conclusions

From the research conducted and compared an argument for or against free trade can be made. There are theoretical arguments outlined by Ulrich sitting the ideas of George Paish stating that World Wars and depressive episodes in the economy could have been avoided if the world operated under a free trade standard. While this is a thought out theory, unfortunately this is a theory and would be difficult to actually measure the conflicts diverted by free trade.

Santacreu and Peake have shown that states, within the United States, that rely heavily on international trade are negatively affected by trade barriers put in place. The immediate negative effect to a domestic industry is greatly inflated while in reality the long term effects much outweigh the short term in terms of employment and economic wellbeing of a country.

Strange had the argument that free trade is negative as while there is an increase in the global economy, this is at the expense of less developed nations. He states that the belief of a free trade system is outdated in our modern world, unrealistic. Countries that are already part of world trade deals take advantage and abuse those who are not by keeping them in a version of the poverty trap. As these more developed nations prosper under free trade regulations the lesser developed are left behind, forced to provide their raw materials for a measly return.

Foldvary argues against those who oppose international trade by saying it is mutually beneficial to all parties involved. Trade barriers introduced usually lead to relations and direct conflicts as seen with the recent Trade War between the United States and China. While the need to protect domestic industries are impractical as it is a waste of domestic resources, can cause political tensions, and are usually outweighed by the gains from trade.

Finally Liu, Zhang, and Liao put the numbers to the test to see if free trade causes an increase in environmental harm at the point of production. Their findings support that overall long term emissions are reduced as free trade promotes the increased efficiency of technology.

In conclusion, given the data gathered we can support the idea that international free trade has a positive effect on the overall wellbeing of those involved. Those who oppose the idea are likely only looking at a narrow or short term conflict that can arise instead of looking at the greater long term effects.

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