The Effect of International Trade on Rule of Law

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In this paper, we look at the relationship between international trade and the rule of law, using the World Justice Project Rule of Law Index, which include index figures on human rights, limits on government powers, transparency and regulatory efficiency. Based on regression analyses using the rule of law index figures and international trade figures (merchandise trade, service trade, exports and imports as percentage of GDP,) international trade and basic human rights seem to have little relationship; but trade has a close positive relationship with strong order and security. Somewhat surprisingly, regulatory transparency and effective implementation seems to have little or no effect on international trade and vice versa. International trade shows a clear positive relationship with the country's criminal justice system, but the relationship with the civil justice system is not as clear as such. For regulatory implementation and civil justice, services trade positively affect these institutions, but these institutions in turn affect exports more strongly than services trade. Finally, the effect of trade on rule of law is stronger on a medium to long term (10-20 year) time horizon.

I. Introduction

The relationship of international trade and investment with human rights, democracy and regulatory efficiency have been examined for hundreds of years. In the recent era of "globalization," whether increased international trade and investment hurt or help domestic political and economic institutions related to human rights, democracy, regulatory transparency and efficiency as well as economic growth, has been a controversial question fraught with ambiguities. While it is generally agreed that economic growth and higher economic living standards usually lead to better human rights, it is less clear that more political participation, democracy and higher regulatory efficiency, the role of international trade and investment would foster these beneficial effects. Some observers argue

that more globalization, including more international trade and investment will lead to better institutions; other "anti-globalization" advocates argue that globalization hurts human rights and democracy due to excessive powers and influence given to multinational corporations or multilateral organizations such as IMF and WTO[1].

In this paper, we try to see whether international trade has positive effect on human rights, democracy and regulatory efficiency as measured by the World Justice Project (WJP) Rule of Law Index. While the two pillars of economic globalization are international trade and foreign investment, and both pillars can potentially affect institutions such as human rights, democracy and regulatory transparency and efficiency, this paper looks only at international trade to the extent of keeping the length and the subject of the paper manageable. Foreign direct investment will be considered in a separate paper. For convenience we will refer to the political and economic institutions examined in this paper as "rule of law" following the conventions of WJP (2012). We note that the concept of rule of law by WJP is wider than most usage of that term. Following WJP (2012), the rule of law includes limiting government powers, absence of corruption, maintaining order and security, fundamental human rights, open government (transparency), effective regulatory enforcement, effective civil justice system and effective criminal justice system. More details are available below in <Table 3-1>.

In Section II of this paper, we look at the motivation behind this paper in more detail and take a short survey of past literature, including a short description of WJP Rule of Law Index. In Section III, we look at the individual regression results detailing the relationship between international trade and the various elements of rule of law. Section IV looks at the overall picture drawn from the individual regressions, and Section V is a short conclusion.

II. Motivation and Past Literature

While there are numerous papers on international trade or globalization and rule of law (including human rights), most of these papers have dealt with the use and efficacy of economic sanctions: Using international trade as a tool to coerce countries into establishing better human rights or labor rights. Trade and investment sanctions have been often used to induce countries to change their

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[1] Many examples exist such as Stiglitz (2002) and Weiss, Thurbon and Mathews (2005).

behaviors and institutions, and have been politically popular in many countries. Since the Uruguay Round and NAFTA negotiations, provisions for countries to maintain minimum labor and human rights have also been popular. Many free trade agreements (FTAs) or regional trade agreements (RTAs) now include conditions on human rights or labor rights[2]. Economists and businessmen, however, usually point out that using economic sanctions to achieve political goals or enforcement of human and labor rights through multilateral trade organizations such as WTO is not the best way to impose these rights, no matter how desirable they may seem[3]. Rather, they argue that less restricted globalization, by promoting economic growth and through demonstration effects, will lead to stronger human rights, democracy and rule of law[4].

In various technical and non-technical literature on globalization, many observers and scholars have argued about how globalization affects human rights, democracy and regulations. Many observers have argued that globalization hurts democracy in developing countries (or even advanced countries) because it gives too much power to multilateral international organizations, while others have argued that increasing globalization helps democracy through a rise in gross and per-capita income in developing countries, and through a demonstration effect where the institutions of developed economies are transplanted (directly or with appropriate modifications) to developing countries.

Several NGOs and organizations, most notably the UN Commissioner on Human Rights have published several reports on the relationship between globalization (including trade and investment liberalization) and human rights. However, these reports are legal in nature and do not deal with empirical analyses. Rather, they examine global rules and regulations, such as WTO Agreements, and give examples on how they can affect human rights and what the international organizations can do to make these rules more friendly to human rights. Also, these reports tend to take a very wide view of human rights, which seems to include elements such as gender equality, food security, political participation, and so on, without describing precisely what they consider to be core human rights. However, these papers do give several examples on how globalization and trade liberalization can affect several aspects of human right[5].

As globalization accelerated in 1990s, and as growing economic growth

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[2] Aaronson (2011)

[3] For example, Srinivasan (1996)

[4] For example, Bhagwati (2004) pp. 92-96

[5] For example,: UN-ESC(2002a), UN-ESC(2002b), UN-HCR(2003) UN-ESC(2004),

literature have shown that proper institutions, including strong rule of law, are crucial for countries to develop economically, many observers have argued that globalization, including economic globalization of international trade and foreign investment, can help establish the proper institutions crucial for economic development and growth[6]. While there is no set agreement on what should be included as part of "proper institution," proper rule of law, that includes basic human rights, well-defined property rights, proper oversight of government and restraints on improper use of government powers, transparency, consideration of regulatory efficiency, institutions of conflict resolution is usually included in the list of properties that should be a part of "good institutional structure.[7]" Wilson, Mann and Otsuki have issued a series of papers trying to empirically estimate the role of good institutional structure on trade. The authors use the gravity model augmented with indices summarizing regulatory customs environments that incorporate elements of transparency and lack of corruption. They find that, using dataset of 75 countries, if countries with index numbers below the global average improve their environments to a level halfway between their current numbers and the global average, the improvement will result in USD 83 billion increase in trade for regulatory environment (which includes transparency), and USD 33 billion increase for customs environment (which includes lack of corruption)[8]. Their regressions of the gravity model showed that regulatory environment of exporters are significant at 99% level, while customs environment of importers are significant at 95% and 90% level depending on the model used, but regulatory environment of importers were significant only at 90% level in one model and not significant in their second model[9]. Lee, Lim, Park and Yang (2004) also found similar results. These papers deal with aspects of rule of law dealing directly with regulations and economic activities, and not with the human rights or judicial aspects of the rule of law: and they assume that the rule of law exogenously affect trade, but not the other way around.

   Some observers have argued that globalization (trade and investment) and some aspects of laws and regulations have a positive feedback effect. Countries with better laws, regulation, and rule of law will attract more trade and investment and have more productive economies which will lead to more trade

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[6] For example, Helpman (2007)

[7] Rodrik (2007) Chapter 5.

[8] Wilson, Mann and Otsuki (2004) p.21

[9] Wilson, Mann and Otsuki (2004) Table 3

and investment and in turn, further lead to better laws, regulation and rule of law. This point was made forcefully with regards to rule of law dealing with property rights. DeSoto (2003) had argued that successful development requires "dead" capital to become "live" capital that can be used to raise liquid funds for useful investment. Such process requires strong property rights (which can be formal or informal), and a judicial system (civil, criminal and informal) which will enforce these rights. Parts of the original "Washington Consensus," before it became politicized, also recognized the need for strong and effective property rights[10]. These papers include implicit indications that better institutions will help economic growth, which in turn will facilitate further improvement of these institutions, in part through increased international trade and investment.

Conversely, Mann (2007), writing about China, has suggested that there may be little relationship between globalization (trade and investment) and human rights or better government. He argues that, because trade and investment under the single-party Chinese government increases per-capita income and wealth of the Chinese people, it may actually strengthen the undemocratic position of the Chinese government. Thus, "trade has not brought an end to political repression or the Chinese Communist party's monopoly on power, and there is not the slightest reason to think that it will do in the future, either. In fact, it is possible that our trade with China is merely helping its autocratic regime to become richer and more powerful.[11]" Under this argument, international trade may actually retard some elements of rule of law[12].

However, there is a dearth of papers which deal with these claims in an empirical fashion. Sykes (2003) has argued that there is a positive correlation between human rights as measured through various indices, and lower tariff barriers on imports[13]. However, since tariff barriers usually have a negative correlation with GDP per capita, it is not entirely clear whether the correlation is due to tariffs and other barriers to trade, or whether it is a spurious relationship that reflects the lower GDP per capita[14]. There are a few more papers such as Li and Resnick (2003) and Aisedu and Lien (2011) which look at the

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[10] Williamson (2004)

[11] Mann (2007) p.110

[12] Bhagwati (2004) finds such arguments not very convincing. See pp.92-96

[13] Sykes (2003) Table 1 and p.8.

[14] For the 97 countries used in this paper, the correlation between per-capita GDP (average of figures for 2002 to 2011, measured in 2005 constant PPP dollars) and simple average tariff rates (average of figures for 2002 to 2011) was -0.55.

relationship between human rights and foreign direct investment. They generally find that more FDI indicates better human rights, with possible exceptions for natural resource-rich countries.

In this paper, we examine the relationship between international trade and the rule of law, including human rights, aspects of democracy, legal and regulatory efficiency, and transparency. In the next section, we will report results from various regressions which include trade and rule of law variables. The first set of regressions will treat trade as dependent variable and rule of law as independent variable. The second set of regressions will treat rule of law as dependent variables and trade as dependent variables. We take this approach because, depending on the aspect of rule of law involved, rule of law will "cause" more trade, while for some aspects, trade will "cause" higher rule of law. Also, it explicitly considers the possibility of feedback effects[15]. However, before we move on to the regression results, a short discussion on the rule of law index used in this paper is warranted.

For this paper, as a relatively objective measure of the degree of human rights, limits on government power, regulatory transparency and efficiency, and the judicial system, we use the rule of law index from the World Justice Project (WJP). In WJP (2012), the organization's described goal is "to advance the rule of law around the world." The organization has developed a rule of law index, which is "a quantitative tool designed to offer a comprehensive picture of the extent to which countries adhere to the rule of law in practice." The index is derived by looking at 48 rule of law indicators around nine conceptual dimensions, which is listed in <Table 2-1>. The index numbers are constructed from over 400 variables drawn from a General Population Poll (GPP) and a series of Qualified Respondent's Questionnaires (QRQ). Since the first attempt at calculating the index in 2008, the countries in the survey has grown to 97. To date, over 97,000 people and 2,500 experts from around the world have participated in the project[16]. Like the other rule of law measures such as the Law and Order Index of the Political Risk Services, International Country Risk Guide, and Corruption Perception Index of Transparency International, or the human rights indices such as Freedom House ratings and the Humana Ratings of the 1991 World Human Rights Guide, the data on WJP Rule of Law Index

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[15] Strictly speaking, since regressions examine correlation and not causality, the latter approach may be unnecessary, but we use different additional regressors in the second approach to distinguish the results.

[16] WJP (2012) p.1

<Table 2-1> WJP Rule of Law Index

Code	Factor	Sub-Factors
F1	Limited Government Powers	• Government powers are defined in the fundamental law • Government powers are effectively limited by the legislature • Government powers are effectively limited by the judiciary • Government powers are effectively limited by independent auditing and review • Government officials are sanctified for misconduct • Government powers are subject to non-government checks • Transition of power is subject to the law
F2	Absence of Corruption	• Government officials in the executive branch do not use public office for private gain • Government officials in the judicial branch do not use public office for private gain • Government officials in the police and the military do not use public office for private gain • Government officials in the legislative branch do not use public office for private gain
F3	Order and Security	• Crime is effectively controlled • Civil conflict is effectively limited • People do not resort to violence to redress personal grievances
F4	Fundamental Rights	• Equal treatment and absence of discrimination • The right to life and security of the person is effectively guaranteed • Due process of law and rights of the accused • Freedom of opinion and expression is effectively guaranteed • Freedom of belief and religion is effectively guaranteed • Freedom from arbitrary interference with privacy is effectively guaranteed • Fundamental labor rights are effectively guaranteed
F5	Open Government	• The laws are publicized and accessible • The laws are stable • Right to petition the government and public participation • Official information is available on request
F6	Regulatory Enforcement	• Government regulation is effectively enforced • Government regulations are applied and enforced without improper influence • Administrative proceedings are conducted without unreasonable delay • Due process is respected in administrative hearings • The government does not expropriate without adequate compensation
F7	Civil Justice	• People can access and afford civil justice • Civil justice is free of discrimination • Civil justice is free of corruption • Civil justice is free of improper government influence • Civil justice is not subject to unreasonable delays • Civil justice is effectively enforced • Alternative Dispute Resolutions (ADRs) are accessible, impartial and effective.
F8	Criminal Justice	• Criminal investigation system is effective • Criminal adjudication system is timely and effective • Correctional system is effective in reducing criminal behavior • Criminal system is impartial • Criminal system is free of corruption • Criminal system is free of improper government influence • Due process of law and rights of the accused
F9	Informal Justice	• Informal justice is timely and effective • Informal justice is impartial and free of improper influence • Informal justice respects and protects fundamental rights (Index number for this category is not officially calculated or reported)

<Data> World Justice Project (2012) p.11

is based on expert survey data. However, WJP goes beyond those indices by asking more detailed questions, many of which try to get "hard" data such as whether family members have experienced violence in the past year. Further, survey of experts are supplemented by surveys of general population, and the areas covered by WJP are wider than other rule of law or human rights indices. The 2012 index figures were derived from QRQ sent to experts and knowledgeable people in each surveyed country during 2011-2012. And GPP has been taken from general population in three major cities of the surveyed countries between 2009-2012.[17]

As shown in the table, the index encompasses wide areas related to rule of law. F4, F7 and F8 deal with "fundamental human rights" as described by Aaronson (2011) while F1, F2 and F3 deal with limitations on powers of the state. And F5 and F6 are areas that deal with regulatory transparency, regulatory reform and regulatory effectiveness to raise economic productivity[18]. WJP gathers information on informal justice (F9), but it does not provide any index calulation for that, since it has not yet found an effective method to weigh and consolidate the relevant information. For convenience, we will refer to the eight institutional areas covered in the WJP study as "rule of law" and the eight indices collectively as "rule of law index." The list of 97 countries covered by the WJP study is listed in <Appendix 1>. The index numbers for each of eight categories are calculated to be between 0 and 1, with the higher number indicating better rule of law.

The factors in the rule of law index can be affected by globalization. For example, trade facilitation deals with transparency and the possibility local and foreign interested parties to contribute to customs rule forming process[19]. Trade facilitation also deals with absence of corruption. More trade is likely to lead to more political pressure to increase transparency and reduce corruption. International investment is thought to be related to the strength of protection for foreign investors, which includes issues in limitation of government powers, especially confiscation of property and repatriation of capital, the availability

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[17] QRQ is carried out annually, while GPP is carried out once every three years for each surveyed country. More details about WJP and the rule of law index are available in WJP (2012), or Yang (2012) in Korean.

[18] In fact, in my first plan for this paper, I had intended to deal with regulations and its relationship with trade only, but realized that the categories of Rule of Law Index allows much wider scope of analyses to include human rights and government transparency.

[19] See Yang (2006)

of fair criminal and civil judicial systems, fairness and nondiscrimination in regulatory enforcement, and maintenance of order and security. In recent years, the human rights have played a major part on the success of export endeavors in some developing countries. Thus, some observers have claimed that globalization can play a positive role in improving the institutions related to the rule of law.

III. Data and Regression Results

1. Effects of Trade on Rule of Law

In this section, we look at the effect of trade on human rights, limited government and regulatory structure as measured in the WJP Rule of Law Index. For this section, we take the approach that globalization can cause improvements in the rule of law. The basic regression equation for this section is the following:

$$f_i = c + \alpha x + \delta y + \epsilon$$

where f_i = rule of law index (one index among F1 through F8) (2012 figures)
      c = constant
      x = trade (total merchandise trade, service trade or exports or import) as a percentage of GDP (average for 2002-2011)
      y = GDP per capita in constant US dollars (in thousands) (average for 2002-2011)
      ϵ = error

The f_i variable is from the 2012 Rule of Law Report, while GDP per capita figures are averages of the 2002-2011 figures. The average figures were used so that we could get a medium-term indications, and any short-term business cycle effects, including the recent global financial crisis, would be reduced. The GDP per capita data is included in the regression because GDP per capita seems to be the best single economic indicator in predicting the level of rule of law[20]. The data for GDP per capita in constant US dollar terms was taken from the World Bank website.

For the first set of regressions, we used the total amount of merchandise trade (i.e. exports plus imports) as a percentage of GDP for x. The percentages were

[20] See, for example, Yang (2012).

averaged over 1992 to 2001 for each country, under the assumption that there is a medium to long term delay of ten to twenty years for trade to have effect on the rule of law. The regression results are reported in <Table 3-1>. As expected, GDP per capita strongly affected the index figures. Depending on the particular index number, an increase of $1000 in GDP per capita raised the index figure by 0.008 to 0.016. Order and security (F3) was least affected by GDP per capita, and absence of corruption was affected the most. However, trade did not affect the index figures at all. Thus, trade, when exports and imports are summed together, does not seem to affect rule of law in any category.

<Table 3-1> Effect of Merchandise Trade (1992-2001 average) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.475*** (0.019)	0.395*** (0.020)	0.633*** (0.017)	0.547*** (0.019)	0.427*** (0.016)	0.459*** (0.015)	0.492*** (0.013)	0.429*** (0.017)
Trade9201	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
GC0211	0.012*** (0.001)	0.016*** (0.001)	0.008*** (0.001)	0.009*** (0.001)	0.012*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.545	0.666	0.408	0.449	0.658	0.670	0.575	0.585
F-stat	57.30	94.78	33.43	39.36	91.41	96.59	64.58	67.38
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; Trade9201: Merchandise trade (exports and imports) as percentage of GDP averaged over 1992-2001
<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable).
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

Next, instead of merchandise trade, we used services trade. The variable x in this case is services trade (exports plus imports) as a percentage of GDP averaged over 1992 to 2001. Services are sometimes thought to be more sensitive to legal and regulatory structure, since many services depend crucially on legal framework and environment. The regression results are reported in <Table 3-2>. For services, criminal justice (F8) showed significance at 99% confidence level, absence of corruption (F2) and civil justice (F7) showed significance at the 95% confidence level, and regulatory enforcement showed significance at 90% level. When services trade increases by 1% of GDP, F2 rises by 0.003, F6

and F7 by 0.002, while F8 rises by 0.004. Thus, criminal justice framework seems most sensitive to services trade. However, we should note that the effects do not seem to be large. The effect of per-capita GDP on rule of law seems roughly compatible to <Table 3-1>.

<Table 3-2> Effect of Services Trade (1992-2001 average) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.460*** (0.024)	0.365*** (0.026)	0.588*** (0.021)	0.530*** (0.023)	0.414*** (0.019)	0.0430*** (0.018)	0.459*** (0.016)	0.398*** (0.022)
Svc9201	0.001 (0.001)	0.003** (0.001)	0.004 (0.001)	0.001 (0.001)	0.001 (0.001)	0.002* (0.001)	0.002** (0.001)	0.004*** (0.001)
GC0211	0.012*** (0.001)	0.016*** (0.001)	0.007*** (0.001)	0.010*** (0.001)	0.013*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.577	0.674	0.474	0.500	0.705	0.695	0.616	0.596
F-stat	61.65	93.14	41.05	45.45	107.44	102.52	72.53	66.52
Obs	90	90	90	90	90	90	90	90

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; Svc9201: Services trade (exports and imports) as percentage of GDP averaged over 1992-2001
<Note> Observations include all countries in <Appendix I> except Belgium, Lebanon, Liberia, Serbia, UAE, and Uzbekistan (whose service trade data were unavailable), and Zimbabwe (whose per-capita GDP figures were unavailable).
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

Exports and imports each may have different effect on different aspects of rule of law. For example, intuitively, more efficient regulatory system may impact exports more than imports since governments are more likely to reform their regulations to improve export performance rather than import performance. <Table 3-3> reports the regression results using exports (goods and services) as a percentage of GDP (average of 1992 to 2001 figures). Past exports have effect on F3 (order and security) and F8 (criminal justice) at the 99% confidence level; and F2 (absence of corruption) and F7 (civil justice) at the 90% confidence level. However, when exports increase by 1% of the GDP, the rule of law index only seem to rise by 0.001, so the effect of exports on the rule of law index is very small compared to GDP per capita, or the effect of services trade.

<Table 3-3> Effect of Exports (1992-2001) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.485*** (0.021)	0.379*** (0.021)	0.612*** (0.018)	0.549*** (0.020)	0.420*** (0.017)	0.432*** (0.016)	0.470*** (0.014)	0.410*** (0.018)
X9201	-0.000 (0.000)	0.001* (0.001)	0.001*** (0.000)	-0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	0.001* (0.000)	0.001*** (0.000)
GC0211	0.012*** (0.001)	0.015*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.012*** (0.001)	0.011*** (0.001)	0.008*** (0.001)	0.010*** (0.001)
adj R2	0.547	0.676	0.449	0.448	0.660	0.678	0.591	0.609
F-stat	58.31	100.32	39.75	39.55	93.25	100.83	69.76	74.93
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; X9201: Exports of goods and services as percentage of GDP averaged over 1992-2001
<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable)
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

Finally, <Table 3-4> examines the regression results when imports (goods and services) as a percentage of GDP (average of 1992 to 2001 figures) are used as regressors. Again, F2, F3, F7 and F8 are shown to have positive effect.

<Table 3-4> Effects of Imports (1992-2001) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.480*** (0.024)	0.370*** (0.025)	0.588*** (0.020)	0.536*** (0.023)	0.417*** (0.020)	0.430*** (0.018)	0.467*** (0.016)	0.396*** (0.021)
M9201	-0.000 (0.001)	0.001** (0.001)	0.002*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	0.001* (0.000)	0.001*** (0.000)
GC0211	0.012*** (0.001)	0.016*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.012*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.546	0.677	0.480	0.449	0.661	0.675	0.588	0.614
F-stat	58.14	100.38	44.89	39.64	93.41	99.79	68.91	76.70
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; M9201: Imports of goods and services as percentage of GDP averaged over 1992-2001
<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable)
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

In the regressions reported above, it was assumed that there is a medium to long term delay for trade to affect the rule of law variables. In the next set of regressions, we try to see whether the rule of law variables are affected with shorter time delay. In <Table 3-5>, we repeat the regression of <Table 3-1>, but use trade as a percentage of GDP averaged over 2002 to 2012. As seen in the table, only F8 (criminal justice) is affected.

<Table 3-5> Effects of Merchandise Trade (2002-2011) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.492*** (0.021)	0.384*** (0.022)	0.605*** (0.018)	0.553*** (0.021)	0.431*** (0.018)	0.444*** (0.016)	0.480*** (0.015)	0.409*** (0.019)
Trade0211	-0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001** (0.000)
GC0211	0.012*** (0.001)	0.015*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.012*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.549	0.672	0.464	0.449	0.659	0.670	0.579	0.607
F-stat	58.89	98.15	42.10	39.77	92.95	97.35	66.32	74.45
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; Trade0211: Merchandise trade (exports and imports) as percentage of GDP averaged over 2002-2011
<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable)
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

<Table 3-6> uses service trade as a percentage of GDP (averaged over 2002-2012) as regressors. Only F6 (regulatory enforcement) shows service trade having a significant effect, but in the negative, so that higher percentage of service trade as a percentage of GDP leads to lower level of regulatory enforcement.

<Table 3-7> and <Table 3-8> uses exports and imports as percentage of GDP, averaged over 2002-2012 respectively. F3 (order and security) and F8 (criminal justice) are shown to be affected by trade.

<Table 3-6> Effects of Services Trade (2002-2011) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.485*** (0.017)	0.410*** (0.019)	0.641*** (0.016)	0.555*** (0.015)	0.434*** (0.014)	0.466*** (0.014)	0.495*** (0.012)	0.443*** (0.017)
Svc0211	0.000 (0.000)	0.000 (0.001)	0.001 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.001** (0.000)	-0.000 (0.000)	0.000 (0.001)
GC0211	0.012*** (0.001)	0.016*** (0.001)	0.008*** (0.001)	0.010*** (0.001)	0.013*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.585	0.663	0.397	0.526	0.712	0.692	0.600	0.567
F-stat	65.15	90.51	31.00	51.56	113.36	103.07	69.28	60.23
Obs	92	92	92	92	92	92	92	92

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)

<Note> c: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; Svc0211: Services trade (exports and imports) as percentage of GDP averaged over 2002-2011

<Note> Observations include all countries in <Appendix I> except Iran, UAE, Uzbekistan and Zimbabwe (whose service trade data were unavailable), and Zimbabwe (whose per-capita GDP figures were unavailable).

<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

<Table 3-7> Effects of Exports (2002-2011) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.492*** (0.020)	0.386*** (0.021)	0.612*** (0.017)	0.554*** (0.020)	0.428*** (0.017)	0.442*** (0.016)	0.478*** (0.014)	0.415*** (0.018)
X0211	-0.000 (0.000)	0.001 (0.000)	0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001** (0.000)
GC0211	0.012*** (0.001)	0.015*** (0.001)	0.007*** (0.001)	0.010*** (0.001)	0.012*** (0.001)	0.011*** (0.001)	0.008*** (0.001)	0.010*** (0.001)
adj r2	0.550	0.671	0.455	0.450	0.659	0.671	0.581	0.604
F-stat	59.09	98.20	40.62	0.111	92.81	97.73	66.89	73.34
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)

<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; X0211: Exports (goods and services) as percentage of GDP averaged over 2002-2011

<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable)

<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

<Table 3-8> Effects of Imports (2002-2011) on 2012 Rule of Law Indices

	F1	F2	F3	F4	F5	F6	F7	F8
C	0.490*** (0.023)	0.382*** (0.025)	0.592*** (0.019)	0.546*** (0.023)	0.428*** (0.019)	0.446*** (0.018)	0.480*** (0.016)	0.406*** (0.020)
M0211	-0.000 (0.000)	0.001 (0.000)	0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001** (0.000)
GC0211	0.012*** (0.001)	0.016*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.012*** (0.001)	0.012*** (0.001)	0.009*** (0.001)	0.011*** (0.001)
adj R2	0.548	0.670	0.476	0.448	0.659	0.669	0.578	0.604
F-stat	58.55	97.45	44.11	39.49	92.80	97.03	66.12	73.35
Obs	96	96	96	96	96	96	96	96

<Note> Dependent variable: Rule of Law Index 2012 (F1 through F8, respectively)
<Note> C: constant; GC0211: GDP per capita in thousands of US current dollars, averaged over 2002-2011; M0211: Imports (goods and services) as percentage of GDP averaged over 1992-2001
<Note> Observations include all countries in <Appendix I> except Zimbabwe (whose per-capita GDP figures were unavailable)
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level; All F statistics show validity at 99% confidence level

2. Effects of Rule of Law on Trade

In this section, we look at the feedback effects, namely the effect of rule of law on trade. For this section, the working interpretation is that rule of law has an effect on trade. The basic regression equation is the following:

$$x = c + \alpha f i + \beta l + \gamma t + \delta y + \epsilon$$

where   x = trade (total merchandise trade, service trade or exports or import) as a percentage of GDP (average for 2002-2011)
   fi = rule of law index (one index among F1 through F8) (2012 figures)
   c = constant
   l = landlock dummy (l=1 if landlocked, l=0 other wise)
   t = simple average (across industries) MFN tariff rates (average for 2002-2011)
   y = GDP in constant PPP dollars (in billions) (average for 2002-2011)
   ϵ = error

The fi figures are again from the 2012 Rule of Law Report, while landlock values were taken from the World Bank list of landlocked developing countries,

supplemented by the Wikipedia list of landlocked countries for developed countries. Tariff and GDP figures were taken from the World Bank database. Taking the lead from gravity models and unlike the regressions in the previous section, we use the countries' total GDP figures (in constant 2005 PPP dollars) rather than GDP per capita figures as one of the additional independent variables. We also attempted regressions with GDP per capita and the population instead of total GDP, but both were unsatisfactory - the former because it was highly correlated with the rule of law indices, and the latter because it usually did not show any significance and led to slightly lower adjusted R^2 without showing significant differences in results for the significance of the rule of law indices, so we do not explicitly report them here. Further taking lead with gravity models, we include a landlock dummy variable as an independent variable.

We note that, overall, this set of regressions show a significantly lower adjusted R^2 and F-statistic[21], so that these regressions have much less explanatory power. As to be expected, all regressions show that tariff rates have negative effect on merchandise trade and imports. However, somewhat surprisingly, tariff rates also have a negative effect on services trade[22] and exports.[23] Very surprisingly, whether the country is landlocked or not seems to have little effect on trade, at least as a proportion of GDP[24]. The landlocked countries included in the regressions are indicated in Appendix 1. Regression results also show that larger countries have lower percentages of trade as GDP[25]. If GDP rises by a billion dollars (in constant PPP terms), merchandise trade as a percentage of GDP drops by roughly 0.007%, services trade drops by around 0.0025%, exports of goods and services drop by 0.004%, and imports of goods and services drop by 0.005%.

We also note that, in this set of regressions, we used the rule of law index for the year 2012 as an independent variable, but used average trade figures for 2002-2011 as a dependent variable. Thus, literally, the timing of these

[21] Though F-statistics are still valid at 99% confidence level

[22] Perhaps countries with high tariffs on goods trade tend to be protectionist so they have strong non-tariff barriers for goods and services as well

[23] Arguments can be made that weak domestic producers (who find it difficult to export) demand high import tariff barriers.

[24] Perhaps the landlocked countries are very dependent on directly neighboring countries, so they show very high proportion of trade with the surrounding countries, but not with countries further off-distance.

[25] though traditional gravity models of trade tends to show that larger countries have higher volume (amount) of trade.

variables can be interpreted as that future variable affects the past, which is contrary to the laws of physics as known at this time. However, we use these variables under the argument that rule of law usually takes time to change, and that survey data for the rule of law variables were taken between 2009 and 2011, so that the two variables give a picture of the economy and the rule of law over roughly a similar period of time. More practically, using older rule of law index figures for independent variables was ruled out because the index numbers are only available from 2009, the sample size of countries becomes significantly smaller, and the method of calculation in the first set of index figures were slightly different from the current index figures. Using a shorter period average for trade figures was ruled out because the trade figures may have been distorted due to the global financial crisis which began in 2008.

While the equations are framed in terms of "independent" variables ("cause")

<Table 3-9> Effect of Rule of Law (2012) on Merchandise Trade (2002-2012)

	Fi=F1	Fi=F2	Fi=F3	Fi=F4	Fi=F5	Fi=F6	Fi=F7	Fi=F8
C	100.95***	68.340***	-6.296	139.89***	88.333***	75.374***	64.856**	46.420*
	25.858	21.517	32.990	35.74	26.575	27.509	30.309	24.775
Fi	2.825	51.251*	136.98***	-43.748	24.860	43.589	61.475	87.444**
	33.245	26.551	38.820	42.861	36.607	37.591	43.724	33.863
Landlock	0.196	4.521	-3.168	-4.070	2.266	2.575	2.370	3.658
	12.542	12.052	11.326	12.603	12.519	12.187	0.197	11.720
GDP0211	-0.007**	-0.008**	-0.008**	-0.007**	-0.007**	-0.007**	-0.007**	-0.007**
	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Tar0211	-3.319***	-2.261**	-1.643*	-3.911***	-2.831***	-2.604**	-2.607***	-1.961**
	0.994	0.996	0.943	1.143	1.026	1.015	0.972	0.982
adj R2	0.117	0.152	0.225	0.127	0.121	0.130	0.136	0.178
F-stat	4.07	5.17	7.75	4.37	4.20	4.46	4.65	6.04
Obs	94	94	94	94	94	94	94	94

<Note> Dependent variable: Merchandise trade (exports and imports) as percentage of GDP averaged over 1992-2001

<Note> C: constant; Fi: Rule of Law variable (2012); Landlock: landlock dummy variable; GDP0211: GDP in constant 2005 PPP dollars averaged over 2002-2012; Tar0211: Simple average MFN tariff rates averaged over 2002-2011.

<Note> Observations include all countries in <Appendix I> except Liberia and Sierra Leone (tariff data unavailable) and Zimbabwe (GDP data unavailable).

<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level. All F statistics show validity at 99% confidence level

and "dependent" variables ("results"), the statistical relationship does not necessarily infer causality. Thus, we expect that the rule of law indices which were shown to have effects on trade in the previous section to also show significant effects in the regressions listed in this section as well, and that is what we see. However, there are some interesting differences.

<Table 3-9> shows the regression results using merchandise trade as a percentage of GDP averaged over 2002-2012 as the dependent variable. F3 (order and security) and F8 (criminal justice) show significance at 99% confidence level while F2 (absence of corruption) show significance at the 90% confidence level. While it may not be surprising that order and security have such an important effect on trade, we note that the degree of its importance seems wildly high - indicating that for every 0.01 point increase in F3[26], the

<Table 3-10> Effect of Rule of Law (2012) on Services Trade (2002-2012)

	Fi=F1	Fi=F2	Fi=F3	Fi=F4	Fi=F5	Fi=F6	Fi=F7	Fi=F8
C	24.687***	22.472***	2.323	31.631***	25.496***	25.985***	19.771**	17.089**
	7.392	6.311	10.044	10.559	7.703	8.060	8.392	7.255
Fi	5.475	8.476	32.019***	-3.821	4.557	3.771	13.284	17.160*
	9.484	7.695	11.722	12.666	10.464	10.852	12.678	9.875
Landlock	-3.451	-3.274	-4.416	-4.315	-3.534	-3.771	-3.455	-3.360
	3.601	3.525	3.353	3.667	3.631	3.551	3.505	3.450
GDP0211	-0.002***	-0.003***	0.003***	-0.002***	0.002***	-0.002***	-0.002***	-0.003***
	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Tar0211	-0.794***	-0.703**	-0.464	-0.926***	-0.798**	-0.809**	-0.722**	-0.618**
	0.294	0.304	0.296	0.339	0.308	0.311	0.299	0.300
adj R2	0.123	0.132	0.190	0.121	0.122	0.121	0.131	0.150
F-stat	4.16	4.42	6.28	4.09	4.12	4.10	4.39	4.96
Obs	91	91	91	91	91	91	91	91

<Note> Dependent variable: Service trade (exports and imports) as percentage of GDP averaged over 1992-2001

<Note> C: constant; Fi: Rule of Law variable (2012); Landlock: landlock dummy variable; GDP0211: GDP in constant 2005 PPP dollars averaged over 2002-2012; Tar0211: Simple average MFN tariff rates averaged over 2002-2011

<Note> Observations include all countries in <Appendix I> except Liberia and Sierra Leone (tariff data unavailable), Iran, UAE and Uzbekistan (service trade data unavailable) and Zimbabwe (service trade data and GDP data unavailable).

<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level. All F statistics show validity at 99% confidence level

[26] Note that the rule of law index is calculated to be between 0 and 1.

share of trade in GDP rises by 1.4% (making it more influential than the GDP), and the constant term for that regression is effectively zero.

In <Table 3-10>, we repeat the same regression, but replacing the dependent variable with services trade as percentage of GDP, averaged over 2002-2012. Only F3 (order and security) and F8 (criminal justice) are shown to be significant, though F8 at only 90% confidence level. The coefficient for F3 has come down greatly compared to merchandise trade.

<Table 3-11> uses exports of goods and services as percentage of GDP, averaged over 2002-2012, as dependent variable. Many more variables are now shown to be significant. F6 (regulatory enforcement) is significant at 90% confidence level, F2 (absence of corruption) and F7 (civil justice) is significant at 95% level, and F3 (order and security) and F8 (criminal justice) at 99% level. At least in terms of estimated coefficient, F3 is shown to have the highest effect, but as with Merchandise Trade in <Table 3-9>, the effect seems excessive.

<Table 3-12> uses imports of goods and services as percentage of GDP,

<Table 3-11> Effect of Rule of Law (2012) on Exports (2002-2012)

	Fi=F1	Fi=F2	Fi=F3	Fi=F4	Fi=F5	Fi=F6	Fi=F7	Fi=F8
C	56.561*** 15.968	34.508** 13.146	-10.248 20.213	78.314*** 22.151	43.800*** 16.325	35.560** 16.849	27.443 18.521	22.208 15.169
Fi	3.741 20.529	39.444** 16.222	89.800*** 23.785	-19.569 26.567	28.245 22.488	39.973* 23.024	54.031** 26.719	60.472*** 20.733
Landlock	-3.404 7.745	-0.758 7.363	-6.325 6.940	-6.089 7.812	-1.626 7.691	-1.861 7.464	-2.143 7.366	-1.715 7.176
GDP0211	-0.004** 0.002	-0.005** 0.002	-0.005** 0.002	-0.004** 0.002	-0.004** 0.002	-0.004** 0.002	-0.004** 0.002	-0.004** 0.002
Tar0211	-1.851*** 0.614	-1.261** 0.608	-0.961 0.578	-2.294*** 0.709	-1.574** 0.630	-1.441** 0.622	-1.466** 0.594	-1.126* 0.601
adj R2	0.112	0.166	0.233	0.116	0.126	0.140	0.150	0.188
F-stat	3.94	5.63	8.08	4.05	4.35	4.77	5.09	6.39
Obs	94	94	94	94	94	94	94	94

<Note> Dependent variable: Exports (goods and services) as percentage of GDP averaged over 1992-2001
<Note> C: constant; Fi: Rule of Law variable (2012); Landlock: landlock dummy variable; GDP0211: GDP in constant 2005 PPP dollars averaged over 2002-2012; Tar0211: Simple average MFN tariff rates averaged over 2002-2011
<Note> Observations include all countries in <Appendix I> except Liberia and Sierra Leone (tariff data unavailable) and Zimbabwe (GDP data unavailable).
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level. All F statistics show validity at 99% confidence level

averaged over 2002-2012, as dependent variable. Again, F3 and F8 are shown to be the only significant variables.

<Table 3-12> Effect of Rule of Law (2012) on Imports (2002-2012)

	Fi=F1	Fi=F2	Fi=F3	Fi=F4	Fi=F5	Fi=F6	Fi=F7	Fi=F8
C	71.079***	53.271***	7.463	90.440***	63.582***	58.924***	52.304***	42.338***
	14.225	12.006	18.302	19.198	14.671	15.244	16.811	13.891
Fi	-8.004	16.940	71.300***	-31.394	2.681	9.504	20.036	34.411*
	18.288	14.816	21.536	23.505	20.209	20.832	24.251	18.986
Landlock	0.091	2.450	-0.675	-1.927	1.178	1.506	1.728	2.401
	6.899	6.725	6.283	6.912	6.911	6.754	6.685	6.571
GDP0211	-0.004***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***
	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Tar0211	-1.981***	-1.574***	-1.078**	-2.403***	-1.389***	-1.751***	-1.691***	-1.398**
	0.547	0.556	0.523	0.627	0.566	0.562	0.539	0.551
adj R2	0.154	0.165	0.245	0.169	0.153	0.154	0.159	0.183
F-stat	5.24	5.58	8.56	5.73	5.19	5.24	5.39	6.19
Obs	94	94	94	94	94	94	94	94

<Note> Dependent variable: Imports (goods and services) as percentage of GDP averaged over 1992-2001
<Note> C: constant; Fi: Rule of Law variable (2012); Landlock: landlock dummy variable; GDP0211: GDP in constant 2005 PPP dollars averaged over 2002-2012; Tar0211: Simple average MFN tariff rates averaged over 2002-2011
<Note> Observations include all countries in <Appendix I> except Liberia and Sierra Leone (tariff data unavailable) and Zimbabwe (GDP data unavailable).
<Note> *: 90% confidence level; **: 95% confidence level; ***: 99% confidence level. All F statistics show validity at 99% confidence level

IV. Discussion

The regression results of the previous section are summarized in <Table 4-1> and <Table 4-2>. Overall, trade has positive effect on civil justice (F7) and criminal justice (F8), as well as order and security (F3) and absence of corruption (F2). However, trade has no effect on areas related to human rights: Limited government powers (F1) and fundamental rights (F4). Somewhat surprisingly, trade does not have much effect on regulatory enforcement (F6) and no effect on open government and transparency (F5). Numerically, according to the estimates of the coefficients, all the estimated coefficients with significance has the value of less than 0.002 with three exceptions: services trade has relatively

strong effect on absence of corruption and criminal justice system in the long term. Unusually, regulatory enforcement has a positive effect in the long term, but negative effect in the short term. It is not clear why regulatory enforcement has such contradictory results. It may be spurious, or it may be due to the characteristics of regulatory enforcement: The index looks at how the regulations are applied and enforced, and not whether those regulations are pro- or anti-trade, or leads to efficient outcomes.

<Table 4-1> Summary of Results: Where Rule of Law is the Dependent Variable

			Independent Variable							
			Merchandise Trade		Service Trade		Exports		Imports	
			Long term delay	Short term delay	Long term delay	Short term delay	Long term delay	Short term delay	Long term delay	Short term delay
Dependent Variable	F1	Limited Government Powers	-	-	-	-	-	-	-	-
	F2	Absence of Corruption	-	-	**	-	*	-	**	-
	F3	Order and Security	-	-	-	-	***	***	***	***
	F4	Fundamental Rights	-	-	-	-	-	-	-	-
	F5	Open Government	-	-	-	-	-	-	-	-
	F6	Regulatory Enforcement	-	-	*	^^	-	-	-	-
	F7	Civil Justice	-	-	**	-	*	-	*	-
	F8	Criminal Justice	-	**	***	-	***	**	***	**

<Note> *: positive coefficient at 90% confidence level; **: positive coefficient at 95% confidence level; ***: positive coefficient at 99% confidence level.; ^^ negative coefficient at 95% confidence level.

Conversely, when the rule of law indices are used as independent (explanatory) variables, the adjusted R^2 of the regressions drop considerably. F3 (order and security) shows the strongest effect on trade variables, though in some regressions, the effect seems exaggerated. F8 (criminal justice) also shows strong

effect on all trade variables. On the other hand, F6 (regulatory enforcement) and F7 (civil justice) only seems to affect exports; and F2 (absence of corruption) seems to be affected mostly by merchandise exports. In other words, strong order and security and good criminal justice system affects both exports and imports, but absence of corruption, good regulatory enforcement and civil justice systems affect exports only. The result the regulatory environment affects only exports is consistent with Wilson, Mann and Otsuki (2004, Table 3). Basic human rights and government transparency as measured by F1, F4 and F5 do not affect trade at all.

<Table 4-2> Summary of Results: Where Rule of Law is the Independent Variable

			Dependent Variable			
			Merchandise Trade	Service Trade	Exports	Imports
Independent Variable	F1	Limited Government Powers				
	F2	Absence of Corruption	*		**	
	F3	Order and Security	***	***	***	***
	F4	Fundamental Rights				
	F5	Open Government				
	F6	Regulatory Enforcement			*	
	F7	Civil Justice			**	
	F8	Criminal Justice	**	*	***	*

<Note> *: positive coefficient at 90% confidence level; **: positive coefficient at 95% confidence level; ***: positive coefficient at 99% confidence level.;

In all, there is little if any direct relationship between international trade and human rights (F1 and F4). Trade does not seem to be a good way to influence human rights. Surprisingly, regulatory reform variables (F5 dealing with transparency and F6 dealing with regulatory enforcement) do not have much relationship with trade either, though regulatory enforcement does affect exports,

and the services trade does affect regulatory enforcement. Thus, services trade, imports and regulatory enforcement may have an asymmetric relationship. While services trade improves the regulatory regime, its pro-trade effects may not be reflected in further services trade, but rather on exports[27]. Similar interpretation can be made for civil justice (F7), where services trade has long term positive influence on civil justice, but the positive effects from improved civil justice are shown through exports rather than further services trade.

The strongest effects are shown by order and security (F3) and criminal justice (F8). Thus, the ability of government to maintain order seems to be most crucial to increased trade, and increasing trade has the strongest effect on maintaining order.

One of the more interesting results is that criminal justice system shows significance strongly while civil justice usually does not. The difference may show that international traders depend on the government to enforce various provisions related to trade, such as international trade agreements, and prefer not to use the civil justice system to address any problems which may arise. However, more work is needed in both theory and empirics.

V. Conclusion

While there had always been interest in the relationship between international trade and investment with rule of law, which include human rights, limited government, transparency and regulatory efficiency, the acceleration of globalization in the past two decades have emphasized this issue even more. The influence of WTO and FTA negotiations, as well as the opening of China have brought more attention to this issue.

In this paper, we looked at the relationship between international trade and the rule of law, using the WJP Rule of Law Index, which include index figures on human rights, limits on government powers and regulatory efficiency. Perhaps unsurprisingly, international trade and basic human rights seem to have little relationship. Also unsurprisingly, strong order and security have a close positive relationship with international trade. However, somewhat surprisingly, regulatory transparency and effective implementation seem to have little or small effect on international trade and vice versa. International trade shows a clear positive relationship with the country's criminal justice system, but the relationship with

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[27] While our export figures do include service exports, services usually form only a small part of total exports in most countries.

the civil justice system is not as clear. Finally, the effect of trade on rule of law is stronger on a medium to long term (10-20 year) time horizon.

Taking these results in consideration, as many economists have recognized, international trade does not seem to be a good tool for directly influencing human rights, limited government powers or regulatory transparency - whether through economic sanctions which cuts off international trade, or through encouraging more trade. Order and security as well as criminal justice system are important institutions to facilitate international trade and could be improved through more trade. The relationship between regulatory implementation and civil justice system with international trade may be more complex. Services trade seems to influence these elements of rule of law more, but the positive effects from these elements may affect merchandise exports more than services trade. In other words, regulatory implementation and civil justice system have asymmetric relationship with international trade, and opening service trade may help the country to improve merchandise exports in the long run.

Finally, these rule of law variables have weak effect on international trade and vice versa. In terms of improving rule of law related institutions, GDP per capita have much stronger effect than international trade, so that to improve the rule of law, the first priority for governments and multilateral organizations should be to focus on raising GDP per capita. Trade seems to be mostly ineffective in raising the quality of most aspects of rule of law.

\<Appendix I\> List of Countries Included in WJP Rule of Law Index

	High Income	Upper Middle Income	Lower Middle Income	Low Income
East Asia & Pacific	Australia Hong Kong Japan Korea New Zealand Singapore	China Malaysia Thailand	Indonesia Mongolia^ Philippines Vietnam	Cambodia
South Asia			India Pakistan Sri Lanka	Bangladesh Nepal^
Eastern Europe & Central Asia	Croatia Czech Republic^ Estonia Hungary^ Poland Slovenia	Belarus^ Bosnia & Herzegovina Bulgaria Kazakhstan^ Macedonia^ Romania Russia Serbia^ Turkey	Albania Georgia Moldova^ Ukraine Uzbekistan^	Kyrgyzstan
Middle East & North Africa	United Arab Emirates	Iran Jordan Lebanon Tunisia	Egypt Morocco	
Sub-Saharan Africa		Botswana^ South Africa	Cameroon Cote d'Ivoire Nigeria Senegal Zambia^	Burkina Faso^ Ethiopia^ Ghana Kenya Liberia Madagascar Malawi^ Sierra Leone Tanzania Uganda^ Zimbabwe^
Western Europe & North America	Austria^ Belgium Canada Denmark Finland France Germany Greece Italy Netherlands Norway Portugal Spain Sweden United Kingdom United States			
Latin America & Caribbean		Argentina Brazil Chile Colombia Dominican Republic Ecuador Jamaica Mexico Panama Peru Uruguay Venezuela	Bolivia^ El Salvador Guatemala Nicaragua	

\<Note\> ^: Landlocked country
\<Data\> WJP (2012)

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