

University of Ottawa

Free Aid Agreement

The Effect of Free Trade Agreements on Canadian Bilateral Aid
Donations

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Abstract: In this paper I expand work done by de Silva (2002) in order to determine the effects of Free Trade Agreements between Canada and other nations on Canadian bilateral aid donations. A panel data set is created and analyzed in order to capture both time and cross sectional effects. I conclude that Free Trade Agreements with Canada result in an increase in bilateral aid donations from Canada of between 0.76% - 1.31%

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1. Introduction

Free trade agreements are frequently associated with benefits from trade but they can have a large influence on political factors, such as to government credibility and to furthering political and other links between two or more participating countries (Fernandez and Portes, 1998). One issue that has arisen during past free trade agreement talks concerns environmental and human rights standards of the countries in question. Free trade agreements signed by Canada have not been immune to this concern. When Canada and the United States looked to expand their bilateral free trade agreement to include Mexico many were concerned about the low environmental standards and the poor working conditions that occurred in Mexican businesses (Fernandez and Portes, 1998). A decade later these issues still remain in the forefront of the Canadian free trade talks as we discuss the potential free trade agreement with China. Many believe that beginning free trade talks will benefit Canada by increasing the export of resources and diversifying away from our dependency on the United States for imports. Conversely, many Canadians are concerned about associating with a country that has problems with human rights and argue that we should forgo creating a free trade agreement with China until these problems are resolved (Ching, 2004).

In addition to determining our participation in free trade agreements the Canadian government provides foreign aid to developing countries around the world. The Canadian International Development Agency (CIDA) is responsible for allocating Canada's foreign aid donations according to three main objectives: increasing food security, securing the future of children and youth, and stimulating economic growth (CIDA, 2011). Through bilateral and multilateral aid Canada distributed approximately \$5.6 billion in foreign aid assistance in 2010-

2011 to combat humanitarian issues around the world (CIDA, 2012). Canada first started to give foreign aid in 1945 with the creation of the United Nations. The United Nations made foreign aid a priority and subsequently founded the Development Assistance Committee (DAC) whose mission was to assist developing nations by coordinating aid assistance from the wealthiest countries of the world. With the help of the International Monetary Fund and the World Bank, foreign aid became a commitment that developed countries undertook to help those less fortunate (Morrison, 1998). Aid continues to be given for altruistic, political and economic reasons, depending on donor preferences (Maizels and Nissanke, 1984).

Official foreign aid can be distributed in two main ways, either through bilateral donations or multilateral donations. Multilateral aid donations consist of aid that is donated from Canada through the use of an intermediary institution to the recipient country. By contrast, bilateral aid donations consist of aid that flows from Canada directly to the recipient country, and does not go through an intermediary source (World Bank, 2012).

The main contribution of this research paper is to analyze the additional effect that having a trade agreement may have on the distribution of foreign aid from Canada. By including trade agreements into the analysis we will be able to better understand where and why aid is allocated to certain countries and not others. Further it will help policy makers understand the implications that free trade agreements can have on not only Canada but our trading partners. This paper contributes to the literature by extending the one paper that focuses specifically on Canada's foreign aid, de Silva (2002) to include trade agreements and to employ more appropriate regression techniques. Furthermore this paper will include the most recent data available to expand the analysis of the previous literature on aid and trade relations.

I find that Canadian aid is allocated altruistically with respect to recipient country income level, corroborating the findings of Alesina and Dollar (2000). While aid is shown to respond to political factors, foreign aid from Canada increases only slightly when a trade agreement is in place; about 0.76%. Adding a trade agreement variable appears to have the most impact on of aid allocation by region.

The paper proceeds as follows. In section 2 I discuss a brief overview of aid literature and summarize previous work on aid allocation. Section 3 discusses my empirical work followed by section 4 providing information on my data. Section 5 contains the results of my empirical analysis. The last section concludes my findings.

2. Literature Review

2.1 History of Aid

The literature regarding aid is vast and covers topics from types of aid, to how to procure money for the aid to aid to what is that most effective way to donate. The following literature review only scratches the surface of this vast literature. I focus my literature review on foreign aid in order to provide a detailed background on how aid is allocated, how trade impacts aid and the difference between trade agreements and trade flows. Previous work completed in the aid literature has examined if foreign aid is actually a beneficial method for promoting growth in a developing country. Boone (1996) focused on aid from 1971-1990 and argues that aid does not cause economic growth or increased investment but instead increases the size of government agencies. Conversely, Burnside and Dollar (2000) argue that foreign aid programs can have an impact on growth and investment if accompanied by good policies in the recipient country. Other work has gone into how foreign aid policies concerning democracy and corruption affect aid to

recipient countries. It is shown that donating countries respond differently to corruption and democracy depending on their main concerns, for example the United States is more concerned with democracy than corruption when allocating aid and Scandinavian countries tend to give less when a country has a higher corruption index (Alesina and Weder, 1999). Another area of interest in the aid literature is what makes aid effective once it reaches developing countries (such as Collier and Dollar, 2001). Most economists now believe that aid can be effective at increasing growth and alleviating poverty if correct policies are in place.

Foreign aid is given for many different reasons. Maizels and Nissanke (1984) find that developed countries have three main reasons for providing foreign aid to less developed countries. Donors give for political and security interests, donor investment interests and donor trade interests. Donor investment interests can be interpreted as introducing banking and financial infrastructure so that it is easier for multinational corporations to operate within the recipients borders whereas donor trade interests consist of increasing the infrastructure of a developing country in order to gain access to a useful resource.

A fraction of the donor trade and investment interest aid that is given can be classified as tied aid. Tied aid refers donor countries providing aid to less developed recipient countries under the condition that the recipient country spends the aid money on the donor country's goods. Kemp and Kojima (1985) discuss the possibility that in some situations this may make the recipient country worse off and the donor country better off. This is because the recipient country may not be using aid money to purchase the goods with the highest welfare benefits. Tied aid provides an interesting setting in which aid and trade are connected however not to the benefit of the developing country. If we are in the presence of a tied aid agreement than it may

be possible to see that a correlation between aid and a measure of openness that is not based on a mere connection between two countries but in fact aid is a function of the tied aid agreement.

2.2 How aid is allocated

A major topic in the literature on foreign aid is how the aid is distributed throughout the developing world. By understanding how aid dollars are allocated one can determine the policy implications of future increases or decreases in Canadian funds to the developing world. Dudley and Montmarquette (1976) suggest that in order to determine how foreign aid is allocated one should not look at which country is in need of aid most but instead should interpret aid as a function of the donor country's utility. In their model, the donor has two goods, a consumption good and good that is a result of the indirect utility of donating. The first question asked is, will the donor country choose to give? If yes, the second question asked is, how much are they willing to give? The authors determine that a developing country's willingness to give is a function of economic and political factors as well as determined by the aid choices of other countries. They conclude that the willingness to give is a decreasing function of recipient incomes. In answering their second question, Dudley and Montmarquette (1976) determined that countries with small populations do not receive more aid than those with larger populations, previously thought of as small-country bias. In fact, the authors determined that there is a strong decreasing return from the indirect utility of donating.

Trumbull and Wall (1994) extend Dudley and Montmarquette's (1976) model to include multiple donors. Donors give based on a weighted sum of the total impact that aid has on the recipient country subject to the ODA budget of the donor country. The authors use the same weights for every country determined by a variety of aspects such as strategic, political and

historic factors. The authors find that a donor will give where the marginal impact of their aid dollar is the highest. Further, their findings suggest that aid is allocated based on civil rights and infant mortality instead of the recipient's national income. Moreover, the donors consider the effect of bad government policies when allocating aid so individuals with poor governments may be experiencing not only a reduction in aid dollars but also the social effects of a sub-standard government.

MacDonald and Hoddinott (2004) provide the analysis with a theoretical model for the Canadian landscape from 1984 – 2000 to analyze the effects that foreign policy and political considerations have on aid donations. The model was derived using both a Cobb-Douglas and a Kolm - Pollak welfare function. They argue that aid is provided until the marginal increase in the recipient nations income is equivalent to the marginal returns that the donor receives as a function of the welfare of the recipient nation. To test the model the authors use a data set of 124 countries between 1984 and 2000. The initial regression analyzes the effects of Canadian aid donations on countries that were in the Commonwealth or part of the La Francophonie. Their regression shows that countries that have a Canadian connection (either Commonwealth or La Francophonie) do not have a change in aid as income of the recipient country changes but for countries that do not have the political connection aid does fall as income rises. They estimate that a Commonwealth country receives 60% more aid than a Francophonie country but a Francophonie nation receives twice as much as those countries with no historical connection (MacDonald and Hoddinott, 2004, pp. 306)

Macdonald and Hoddinott (2004) also test the impact of foreign policy and political consideration by using an index of 22 factors varying from civil liberties to political rights. Their results imply Canadian aid is motivated by altruistic factors and political factors. For countries

that are not politically connected Canadian aid is allocated in altruistic ways but for countries that have a political connection with Canada aid levels remain unchanged or increase as the recipient countries income increases. These findings give rise to the possibility that greater political connections imply more consistent aid flows.

An empirical study by Lloyd et al. (2000) uses data of 26 European donor countries and African recipient countries to show that the direction of correlation of aid and trade depends greatly on not only the donor but also the recipient country. This finding helps give reason as to why studying Canada will give better information to Canadian governments when trying to implement trade and aid agreements.

Alesina and Dollar (2000) have tried to gain insight into the reasons why aid is allocated as well as how aid is allocated throughout the developing world. By focusing on a panel data set from the United States, Germany, France and Japan, the authors were able to control for various factors which are believed to effect aid allocations, such as openness, democracy, colonial past and initial income of the recipient country. In doing so, they find that those countries with more openness and those countries who operate a democratic state receive more foreign aid. Interestingly, it is also noted that if the recipient country is a colony it also receives more foreign aid. They found that the United States gives mostly to the Middle Eastern countries according to the US's own political needs. Conversely, the Nordic countries give based on the recipient countries national incomes, while France gives to countries with former political associations. Canada is unlike any of these countries in that Canada was found to give based on altruistic factors as well as political ones. Additionally, for many other countries most of the aid donations go to previous colonies and as Canada does not have colonies a large proportion of the foreign aid is able to go elsewhere. Overall Alesina and Dollar (2000) determine that political

connections between two countries have a larger impact on foreign aid received than the state of the recipient country's political institutions. Their findings imply that aid donations are not solely altruistic but rely on political incentives as well.

Alesina and Dollar (2000) provide an excellent overview of the complexities of aid allocation. As previously mentioned their analysis focuses on four main countries and not specifically Canada. Since Canada has a different landscape than those studied in depth by Alesina and Dollar (2000), much can be learned from taking a narrower look into the differences Canada experiences from its peers. However, I will employ their methodologies to my regression, in particular their use of ordinary least squares with panel data.

Similar findings were observed by de Silva (2002) who focuses on possible political indicators, such as a member of the Commonwealth, Francophonie and openness to trade as well as altruistic motivations in an attempt to determine how Canadian aid is allocated. Unlike MacDonald and Hoddinott (2004) who were more theoretical in their discussion, de Silva (2002) focuses on a regression in order to determine how policy variables effect aid allocation. Using a pooled regression of up to 732 observations the data suggests that Canada does not provide aid based on the policy environment of the recipient country but instead finds that the natural logarithm Canadian bilateral aid is positively correlated to aid donated by other countries. They also note similar findings to Macdonald and Hoddinott (2004) in that aid allocation depends on if the recipient country is commonwealth and based on population. The analysis in section 5 will be building off of de Silva's (2002) to include trade agreements and to use data until 2010. Further my analysis includes panel data for up to 2124 observations. Discussion of specific similarities and differences can be found in Section 5.1.

We can see that aid donations are not solely determined by altruistic reasons but also political motives. However, the direction of correlation between the aid donations and trade flows are not clear cut. The previous literature has provided opposing views as to the direction of the correlation we should expect between trade flows and aid donations. Empirical evidence of both European and United States data has implied that trade between two countries has had a significantly positive relationship with aid donations (Osei, Morrissey, Lloyd, 2004 and McGillivray, 2003). However, in the long run increasing trade with a recipient country will theoretically result in an increase in income of the less developed country because it will be exporting more to the donor country. In this scenario, the recipient country would be less in need of aid donations from its bilateral aid partner. Therefore increasing trade flows with the recipient will decrease the aid donations allocated to the recipient (Arvin et al., 2000). One way the previous literature amends the problem of causality is to use lagged values of trade flows in order to provide a better understanding of the direction of correlation. I will implement this technique in order to eliminate the potential causality and bidirectional problems.

2.3 Trade flows and Trade Agreements

One of the innovations of this paper is to include trade agreements in the analysis of aid flows. Previous literature has included, instead, trade flows. The question is, then, why might the inclusion of trade agreements as well as trade flows help us to better understand aid allocations. It is therefore important to discuss if additional information may be embedded in trade agreements that is not available from data on trade flows. Previous literature has shown that the implementation of trade agreements has had a positive effect on the amount of trade flows between the countries involved. Carrère (2006) used regional trade agreements (RTA), such as the North American Free Trade Agreement (NAFTA), to determine that RTAs resulted

in increased trade flows beyond predicted levels and a reduction in imports from the rest of the world. Similar results were found when looking at African RTAs as well as trade agreements with Japan (Korinek and Melatos, 2009, Manager, 2005).

Trade agreements have many other implications for the economic and political landscape that possibly affect foreign aid donations. Fernandez and Portes (1998) looked at several benefits that arise from RTA that are outside of the traditional benefits of increased trade flows. In addition to trade benefits, the authors argue that RTAs provide benefits in the form of bargaining power. That is, the RTA does not only include agreements in lowering trade barriers but also insures that policies such as labour and environmental standards are improved in the countries in question. For NAFTA, the US and Canada provided more openness to Mexico and in return Mexico was required to continue to improve environmental and labour standards. NAFTA was a mechanism used to apply the Canadian and American desires onto the Mexican productive sector.

Fernandez and Portes (1998) also found that participating in a trade agreement can help increase the participating government's credibility in the private sector. They argue that by developing an RTA the government provides a political signal to the private sector that domestic policy will remain stable for the duration of the agreement. As shown later in my analysis, a stable domestic policy can be linked to increased aid donations flowing into the recipient country.

Similar benefits of trade agreements were found by Whalley (1998) who attempted to determine the possible reasons to enter into a regional trade agreement. As expected, one reason for trade agreements is that lowering trade barriers will provide benefits for all parties. Similarly RTAs were put in place to increase bargaining power between countries. In the case of the

European Commission (EC), a regional trade agreement was created partially in order to create more leverage than individual countries would have in negotiating with NAFTA countries. The author shows that the benefits from a trade agreement surpass the basic implications of increasing trade flows but an agreement also increases political connectedness. RTAs provide links for strategic reasons. In the past trade agreements provided more ties between countries in hopes to prevent a future war from breaking out. For this reason strategic linkages were thought to be more important for European RTAs than North American (Whalley, 1998). However, we are unsure of what may occur in the future, so this may be a reason to increase trade agreements with Canada and other countries.

Lastly, the most important determinant of why trade agreements are different from trade flows when determining aid allocation is the effect of the agreement on domestic policy reform. According to Whalley (1998), in the case of NAFTA, the Mexicans were more concerned with insuring domestic policy could not be reversed in the future. The implications of domestic stabilization after a free trade agreement were shown by Fernandez and Portes (1998) above. A stable domestic economy can have a large impact on the decision of where to allocate aid. Burnside and Dollar (2000) used empirical studies to determine if 'good' or 'bad' policies will effect aid donations. The policies were indexed based on their correlation with growth in order to determine if the policy was deemed as good or bad. In doing so, the authors determined that good policies had no effect on bilateral aid donations. However, the regression found that good policies are positively correlated with multilateral aid donations.

The positive correlation between recipient policies and aid donation allocation is very important as to why trade agreements should be studied along with trade flows. Trade agreements provide an increase in political connectedness between the participating countries.

They also allow for more stabilized domestic policies of recipient countries, both of which are seen to be positively correlated with aid donations in the previous literature.

3. Methodology

I analyze the allocation of Canadian foreign aid using a panel regression of 150 countries from 1992 to 2010 obtained from the World Bank (World Bank, 2012). Given the nature of the data set, the analysis could be conducted using a pooled regression or using a panel data set technique. Previous literature, notably Silva (2002), utilizes the pooled data technique and Alesina and Dollar (2000) use a panel data technique. Pooled data does not allow for independent cross sectional effects, in this case, country effects. Pooled data sets are often used instead of panel data when you have a small number of observations to allow for an increased data size. A panel data set allows for individual effects so it fixes problems with omitted variables that are constant over time but are correlated with the observed explanatory variables. Panel data allows for a more consistent estimate of the observed explanatory variables than pooling allows.

There are two methods for regressing panel data: fixed effects and random effects. The main difference between the two models revolves around the individual specific effects. The fixed effects model allows the individual specific effects to be correlated with the explanatory variables whereas the random effects model assumes that the individual specific effects are uncorrelated with the explanatory variables in all time periods.

The dependent variable for my regression is the natural log of bilateral aid from Canada. I choose to use bilateral aid donations for two reasons. First as mentioned earlier, bilateral aid data provides more information as to which country receives aid, than multilateral aid. Second,

previous work by de Silva (2002) and Alesina and Dollar (2000) also use bilateral aid in their respective analysis of Canadian aid allocations. By utilizing the same definition of aid I am able to compare and contrast my results to the previous work done by these authors. The use of the natural logarithm in the regression allows me to remain in line with de Silva (2002) as well it allows me to interpret the estimated coefficients as elasticities.

The independent variables mirror those used in de Silva (2002), which constitute my base model. To this base model I then add a dummy variable denoting the presence of trade agreements. The main regression of interest is:

$$\begin{aligned}
 \lnaidcanada_{it} = & \beta_0 + \alpha_1 tradeagreement_{it} + \beta_1 \ln GNIpercapita_{it} + \beta_2 GNIgrowth_{it-1} \\
 & + \beta_3 GNIgrowth_{it}^2 + \beta_4 \ln population_{it-1} + \beta_5 \ln lifeexp_{it-1} \\
 & + \beta_6 \ln aidworld_{it-1} + \beta_7 Commonwealth_{it} + \beta_8 Francophonie_{it} \\
 & + \beta_9 inflation_{it-1} + \beta_{10} govconsumption_{it-1} + \beta_{11} openness_{it-1} \\
 & + \beta_{12} \ln aidcanada_{it-1} + \beta_{13} Region_{it} + \varepsilon_{it}
 \end{aligned}$$

The variables for GNI per capita, GNI growth and GNI growth squared are all included in order to investigate any altruistic motivations of Canadian foreign aid allocations (de Silva, 2002). If the estimated coefficient on these variables is negative that implies that Canadians give those with a lower income, and therefore altruistically. GNI growth squared is included in order to take into account possible non-linearity of growth on aid. Openness, inflation, government consumption and government debt have been included in order to depict the policy environment of the recipient countries. The dummy variables for Francophonie and Commonwealth are in

place to capture their estimated effect on ODA received if the recipient country being a member of one of these political groups. Both variables are included as a measure of the impact of political connectedness in Canada.

The variable of most interest to this paper, trade agreements, can also be interpreted as an additional measure of a connection between two countries. As mentioned in the literature review, trade agreements allow for an additional connection between countries because of their influences on environmental and labour standards in the recipient country, as well as the historical strategic linkages during war times (Whalley, 1998). As previous literature has shown, trade agreements can have an effect on the policy environment of the countries involved. Exact measurements and descriptions of the variables are explained further in the Table 1. The variable for Region represents a series of regional dummies that are included to control for various areas of interest such as Sub-Saharan Africa, North Africa and South America. Openness is a measure of the trade openness between Canada and the recipient country. It is calculated as imports plus exports as a percentage of the total each year, consistent with de Silva (2002) measurement. Openness, along with trade, inflation and government consumption were included to replicate de Silva (2002) and to be used as a control for recipient countries policy environment. As shown by Burnside and Dollar (2000) the policy environment can impact bilateral aid donations.

4. Data

I use bilateral aid flows as calculated by the World Bank, as are many of the independent variables. To measure Canada's foreign aid donations I use the data for Official Development Assistance (ODA) provided by the World Bank. The term was coined by the DAC to be "[f]lows of official financing administered with the promotion of the economic development and welfare

of developing countries as the main objective... By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries (“bilateral ODA”) and to multilateral institutions” (IMF, 2003). A full description of the sources is included in the Appendix A.

In order to give an idea of the distribution of Canadian bilateral aid flows throughout the period of 1992 – 2000, I have included Table 2. I have converted all monetary values into constant 2005 Canadian dollars for the entire period covered utilizing the CPI to convert to 2005 dollars and the Canada Revenue Agency calculations of exchange rate between the United States and Canada. This table provides a brief summary of the data set by including the total aid distributed by Canada throughout the period. I think determine the average aid per country in order to establish potential trends and further comprehend the data.

Table 2 shows that aid denoted by Canada greatly depends on the year in question and can change quite dramatically year over year. The largest change in aid between years was moving from 2004 to 2005, where Canada increased aid by over \$893 million. Additionally, 2005 marked the first time that Canadian aid reached over \$2 billion since 1992. Total aid hit a low of only \$800 million in 2003, which was spread amongst 150 countries resulting in the lowest average aid per country in the data set. Overall, Canada provided the most bilateral aid in 2010, with \$3.1 billion.

The number of countries receiving aid varies from only 123 in 1996 to 153 in 2004. There were no dramatic changes in the number of countries receiving aid aside from 1996 when there were 15 fewer countries than the year prior and 20 fewer countries receiving aid than the following year.

That being said the data values that overlap are the years (1992-2000). In using a different data set, a questionnaire from the DAC, they quote fewer countries as receiving aid than are included in my data set. For example in 1992, the data I have collected from the world bank reports 126 countries receiving aid, whereas MacDonald and Hoddinott's (2004) only reports 108 countries. This difference continues for the entire overlapping periods and the difference remains in 2000 where the World Bank reports 142 countries receiving aid and MacDonald and Hoddinott (2004) only report 119.

The analysis relies on an unbalanced panel data set covering the year 1992 to 2010 for 76 to 150 countries depending on the independent variables included. This allows for a range of 784 to 2104 observations contingent on the regression.

It is important to note that of the eleven trade agreements in place at the time of writing, two were completed in 2011, so they were not included in the analysis and three were implemented in 2009 and one in 2010. The longest trade agreement in place is with the United States who initially signed the Canada – US trade agreement in 1989 and later expanded to include Mexico in NAFTA in 1994. The United States is a unique country in the data set because they also account for up to 78% of the share of imports plus exports, openness, to Canada. Future regressions may come to a different conclusion as more trade agreements come into effect and those in place already reach their full potential.

The correlation of all variables in the regression to the natural log of bilateral aid is shown in Table 3. The correlation matrix can help to identify areas of potential concerns about the data for the regression, such as multi-collinearity issues. Bilateral aid has a strong negative relationship with the natural log of GNI per capita and aid donated by other countries. This relationship is consistent with Alesina and Dollar (2000), with respect to their findings that the

US tends to give for political reasons. If a country chooses to give based on other reasons, such as political or colonial, it is possible that the correlation between GNI per capita and aid can be positive. Alesina and Dollar's (2000) findings also suggest that each country is different in their motivations for giving, allowing the direction of correlation to be different between countries.

That being said, aid from Canada had a large correlation, -0.75, with GNI per capita. This is not unexpected given that Alesina and Dollar (2000) find that Canada gives somewhat based on altruistic reasons, measured as GNI per capita. Openness was also highly correlated with both population and GNI per capita with values of 0.59 and 0.58, respectively. The latter correlation makes intuitive sense in that Canada would have more trade with countries that are richer in per capita terms. There is also a slight negative relationship between aid and the proportion of GNI the recipient country uses for consumption.

La Francophonie and Commonwealth variables show a surprisingly low correlation with aid from Canada given that both MacDonald and Hoddinott (2004) and de Silva (2002) find these variables to have an influence on Canadian aid allocation. Both variables had low correlations with all of the other independent variables as well. The variable for trade agreement does not appear to have a large correlation with any of the independent variables, including openness. The lack of correlation with openness comes as a surprise given the nature of trade agreements and their goal of increasing trade between two nationalities.

Variables for country characteristics are commonly used in the aid literature to control for political and regional differences (de Silva, 2002, Alesina and Dollar, 2000 and MacDonald and Hoddinott, 2004). As we can see in Table 4, countries that are in the Commonwealth have, on average, consistently received more money than those in La Francophonie. This trend is consistent with the regression findings of MacDonald and Hoddinott (2004) in their analysis of

the median aid flow per capita. I am only able to compare the trend because I have calculated a different statistic than these authors. The means in all three categories have varied from year to year with the lowest value in 2000. The low averages in 2000 appear to be consistent with the results in table 2 in that both 2000 and 2001 experienced the lowest average aid of all years in the data sample. Both La Francophonie and Commonwealth were below the mean aid for all countries, in every year.

When looking at the various regions of the world it is interesting to note that the mean aid to North Africa, East Asia and Oceania has decreased considerably from 1992 to 2010, while the mean aid to Sub-Saharan Africa and the Caribbean has increased over time. The most interesting variable to mention is the decline in aid donations in East Asia from 35 million in 1992 to only 2.56 million in 2010. We could be seeing this result because of the rise of income that occurred in East Asia over the time period, given that Canada has been shown to give altruistically by both de Silva (2002) and Alesina and Dollar (2000).

5. Results

5.1 Pooled Regression Results

I began by replicating as much as possible de Silva's (2002) empirical work. In an attempt to provide robustness, I have completed a pooled regression as was done in de Silva's paper but with my data set from the World Bank (2012). As mentioned above in the Methodology section, a pooled regression does not allow for cross sectional effects and does not allow for constant over time but are correlated with the observed explanatory variables. The results from my replication of de Silva's pooled regression are reported in Table 5. Column (1) of Table 5 replicates de Silva (2002), as described and acts as the base model for my paper.

I have used a different data set from de Silva (2002), acquiring information about both the independent and dependent variables from the World Bank data set as shown in Table 1. De Silva (2002) obtained his bilateral aid information from CIDA's Statistical Report on Official Development Assistance, and his independent variables are from the UN Human Development Report. I choose not to use the same data set as de Silva (2002) because CIDA only provides information for the last 10 years and thought that I would capture more of the long term effects of trade agreements by including a longer time period than what was available through the UN database. In order to be as consistent as possible to de Silva (2002), I have used the natural logarithm of bilateral aid from Canada as my dependent variable. Further, I have included the lagged variables for population, life expectancy, aid from the rest of the world, government debt, inflation, trade openness and aid from Canada, as was done by de Silva (2002) in order to combat potential causal issues. One major change from de Silva is that I have excluded the variable for literacy for lack of observations (if included the total observations would be reduced to 85) and for the same reason have excluded the independent variable for government debt in all scenarios, except model (1) of Table 6. I do not see this exclusion to be a problem as the coefficient on government debt was not significant and does not seem to add to the explanatory power of the regression.

In comparison to de Silva (2002), the pooled regression using the World Bank data set yielded larger magnitudes on the estimated coefficients for all variables included. Similar to de Silva (2002) my pooled regression showed that the estimated coefficients for GNI per capita, Commonwealth, and the lagged value of aid donated from Canada were all positive and significant factors of aid allocation. Contrary to de Silva (2002), my regressions do not find population to be a statistically significant factor in increasing aid donations, whereas de Silva's

regressions do. Another area that my pooled regression varies from de Silva's (2002) is when looking at the estimated coefficients for aid from the rest of the world. Table 5, columns (1) and (2) show aid from Canada to be negatively correlated with the aid allocations of the rest of the world, whereas de Silva's (2002, pp. 59) shows Canadian aid to be positively correlated with aid from the rest of the world. The previous literature, as reflected by Alesina and Dollar (2000), implies that Canadian aid is given for different reasons than countries in Scandinavia as well as the US. Therefore it is not unexpected that the regression results reported in Table 5 show that Canadian bilateral aid allocation is negatively correlated with the aid received by other donating nations.

The inclusion of a trade agreement variable in Table 5 column (2) does not significantly change any of the estimated coefficients of the variables of interest in the pooled regressions. The pooled regression indicates that the presence of a trade agreement increases the bilateral aid from Canada 0.71%, significant at the 0.1% level. A more detailed discussion of the estimated coefficient on the trade agreement variable is included in section 5.3 with the implementation of the panel procedure.

5.2 Base Model Results

Rather than using the pooled-data approach of de Silva, I am choosing to use a panel procedure instead. The estimated coefficients from using this procedure and still replicating de Silva are found in columns (1)-(3) of Table 5. The only difference from column (3) of Table 6 is that I am now estimating the model using a random effects panel data set instead of a pooled data set. Similarly, column (2) of Table 5 is a pooled version of column (4) in Table 6.

As seen in de Silva (2002), both the estimated coefficient on the lagged value of Canadian aid as well as the estimated coefficient on the aid distributed by the rest of the world were significant at the 0.01 level. The negative estimated coefficient on world aid in all three scenarios may be indicative of a difference in preferences held by Canada in comparison to the rest of the world. As was shown in Alesina and Dollar (2000), Canada's donor preferences differ from that of the Scandinavian countries and also differ from the United States in that Canada prefers to donate based on both political and altruistic reasons and not based on only one or the other. The negative estimated coefficient on bilateral aid from Canada implies that Canada's aid does not give aid to the same countries as the rest of the world but instead decides to base their aid on their own criteria. As seen in the mission statement of CIDA the Canadian Government chooses to give ODA based on increasing food security, securing the future of children and youth, and stimulating economic growth (CIDA, 2011). In all three reproductions Canada's aid is positively related to the Canadian ODA given in the period prior, as was found by de Silva (2002).

After dropping the government debt variable for lack of observations, the estimated coefficients on the dummy variables representing both the Commonwealth and for La Francophonie became statistically significant. This was the case because dropping government debt allowed for the inclusion of 48 more countries into the analysis, many of which were in either La Francophonie or the Commonwealth, allowing for a more complete analysis. The estimated coefficients went from being insignificant to significant at the 0.01 confidence level for Commonwealth and at the 0.1 level for La Francophonie. The positive coefficient implies similar results as seen in both de Silva (2002) and MacDonald and Hoddinott (2004), showing that Canada allocates 39% more aid to the Commonwealth than to similar countries that belong

to La Francophonie, both of which receive significantly more than countries not a member of either group, *ceteris paribus*. MacDonald and Hoddinott (2004) showed a slightly larger impact than my data set implying that the Commonwealth received 60% more aid than La Francophonie, both of which received twice as much as countries not members of either group.

Model (3) shown in Table 5 adds dummy variables to represent different regions of the world consistent with the work of de Silva (2002). The estimated coefficients on North Africa, Sub-Saharan Africa and South America are all statistically significant showing that they receive 0.86%, 0.60% and 1.26%, respectively, more aid than those not represented by a regional dummy. When including these controls, the coefficient on life expectancy became significant to the 0.01 level, showing that as life expectancy increases by 1% the recipient country will receive 2.5% more aid from Canada in the following year. This may occur because the regression is now controlling for areas that commonly have lower life expectancies, by controlling for the regions of interest I am able to see the actual effect of a percentage change in the life expectancy.

The policy variables included in the base regression show similar results to those of de Silva (2002) in that inflation and government debt are not significant factors in the allocation of aid. However, unlike de Silva (2002) my regression using panel data shows that increasing openness by 1% significantly increases the ODA received in the next year by 0.69%. This finding is in line with Alesina and Dollar's (2000) results for Canada, as well as results from Osei, Morrissey and Lloyd (2004) and McGillivray (2003) that trade in Europe and the United States have been positively correlated with aid donations. The positive correlation found in my regression gives rise to the possibility that trade agreements, given their political nature, may in fact have an added impact on aid flows from Canada.

5.3 Results Including Trade Agreements

Columns (4) and (5) of Table 5 extend the basic model of column (3) by adding a dummy variable to indicate whether or not a free trade agreement with Canada exists. The final model, (5), eliminated growth squared because of possible correlation problems.

We can see from the results reported in Table 5 that the presence of a trade agreement exerts a statistically significant effect on the amount of aid provided bilaterally from Canada. From both column (4) and (5), I find that a free trade agreement in place increases the aid received from Canada by some 0.76%, in addition to the benefits to bilateral aid donations of high trade flows between countries. The introduction of the trade agreement variable had very little effect on many of the other variables included. The coefficients on the natural log of GNI per capita, aid from Canada, aid from the rest of the world and life expectancy remained significant at the 0.01 level and practically unchanged. The impact of being a Commonwealth country on the amount of Canadian aid received increased by 0.02 percentage points, while the impact of aid to countries in La Francophonie remained unchanged.

The most notable effects that arise from the inclusion of the free trade agreement dummy in the analysis of aid flows are found in the coefficients on the Caribbean and Oceania. The Caribbean regional dummy variable went from being insignificant to significant at the 0.01 level, suggesting that those in the Caribbean region receive 0.9% more aid. Likewise, the Oceania regional dummy is now significant at the 0.01 level indicating that countries in Oceania receive 1.08% less aid. The trade agreement variable also effected both North and Sub-Saharan Africa, increasing the North African coefficient to 0.65% from 0.60% and reducing the coefficient on Sub-Saharan Africa to 0.8% from 0.86%. The reason that we see a change in the

estimated coefficients when introducing a trade agreement is because of an omitted variable bias. When trade agreements are not included the regression the regional dummies are incorrectly measured. This is evidenced most when looking at South America because two of Canada's trade agreements are located in the South America region and therefore experience the most omitted variable bias.

When comparing the results to the pooled regression, only the significance levels of the estimated coefficients for the lagged value of inflation and the lagged value of government consumption changed when the panel regression technique was employed, as can be seen from the results presented in columns (1) and (2) of Table 5. Both of the variables estimated coefficients decreased in significance level when analyzed under a panel regression. Neither of the coefficients is significant for the pooled regression for de Silva (2002). The difference may be due to the fact that my data set has more observations in comparison to the one used by de Silva (2002).

The most noticeable development is that the estimated value of the constant variable decreased dramatically when using the panel regression, falling from values of 3.47 and 3.37 in columns (1) and (2) of Table 5, to 0.58 and 0.68 in columns (3) and (4) of Table 6, respectively. This large decrease is attributable to the lack of control for the cross sectional country effects in the pooled regression. Without controlling for the country effects the constant term must absorb the missing observations. De Silva (2002) also had larger constant terms, spanning from -4.37 to -7.02, than in my panel analysis suggesting that the reason for this difference lies in the methodology employed.

5.4 Results of Interaction Terms

Finally, I introduced some interactive terms into the model in order to establish if there was an additional effect of a trade agreement with a few of the observed explanatory variables. Given that MacDonald and Hoddinott (2004) and de Silva (2002) both found the explanatory variables for Commonwealth and La Francophonie to exert a significant impact on how much Canadian aid is allocated, I wanted to investigate if any additional effects occur when a recipient is both a member of one of these two groups and has a trade agreement with Canada. However, there was too much collinearity between the presence of the agreement and either membership in the Commonwealth or La Francophonie and hence I was unable to complete the analysis without a statistically biased estimator.

The second interaction analysis I undertook was to examine the additional effect on bilateral aid donations from Canada of a trade agreement and the openness variable. The results of this regression are shown in Table 7. The results can be interpreted as an extension of Table 5 column (5) to include the interaction term Trade Agreement X Openness. When including the new interaction term, the estimated coefficient on the trade agreement dummy became significant at the 0.01% level, and also increased in magnitude from an estimated coefficient of 0.76 without the interaction term to 1.31 with the interaction term. This result can be interpreted such that a trade agreement with Canada increases the aid received by a recipient country by 1.31%. In addition, the interaction term is significant at the 0.01% level and implies that if the additional effect of a 1% increase in openness and having a trade agreement results in a reduction of Canadian bilateral aid by 2.96%. One possible reason we are seeing this result is that many of the countries with trade agreements and high trade levels, such as the United States, are not in need of bilateral aid from Canada. In the future you may see a different result as Canada signs more trade agreements with low income nations, or as currently signed trade agreements provide

a longer panel data set. The remainder of the estimated coefficients did not see a significant change in their magnitude or significance levels with the introduction of the interaction term.

6. Conclusion

Trade agreements have historically exerted influence far greater than that arising from the presence of trade flows between nations. In the past they have also helped to create policy changes in recipient countries, ensure domestic policy stabilization and help prevent wars between the countries involved (Whalley, 1998). I began this discussion talking about how human rights issues and environmental standards have plagued Canadian free trade discussions. It was the hope of this paper to determine if a FTA could influence the amount of bilateral aid Canada donates to these countries in an attempt to add to future policy and free trade discussions. Given that a free trade agreement can influence aid donations from Canada, the discussion surrounding free trade agreements can move from a debate between human rights and environmental standards, and increased trade flows, to a discussion of how can a trade agreement increase aid to assist those with human right issues via ODA from Canada. As shown above trade agreements allow for increased connectedness between countries and this increased connectedness allows for more aid to be given to help those countries battle human rights concerns.

The main contribution of this study is the inclusion of trade agreements in the analysis of bilateral aid flows from Canada. This study used the fact that trade agreements can provide a greater linkage between countries than basic trade relations, in order to expand previous work on the allocation of bilateral aid donations. Trade agreements allow for increased bargaining power between countries, political influence on foreign policy and can act as a domestic policy

stabilizer (Fernandez and Portes, 1998, Whalley, 1998). In order to analyze the effect of trade agreements on bilateral aid flows from Canada, I expanded de Silva's (2002) work to include a dummy variable for trade agreements. I altered the analysis by using panel data instead of pooling the time series data. Further I used the most current data available so to cover from 1992 to 2010.

Of the eleven trade agreements in effect at the time of writing only nine were within the time period in question, meaning that I may have not captured all of the influence trade agreements have on aid allocation because three were implemented in 2009 and one in 2010. Given that trade agreements are an indication of increased political connectedness between two countries, the longer the trade agreement has been in place may have a stronger influence on the flow of aid from Canada. As more trade agreements come into effect we may see a different or more significant result in future analysis.

This paper finds that Canada does in fact provide aid for altruistic reasons as shown by the negative relationship between recipient income and aid, corroborating the work of Alesina and Dollar (2000). Most policy variables that are used do not significantly affect the allocation of Canadian ODA however including the independent variable for openness shows that increasing the share of trade by 1% results in a 0.15% increase in aid from Canada. Openness is not affected by the addition of the trade agreement variable. Adding trade agreements shows that the agreement increases the amount of aid donated by 0.76%. The regional variables were most affected by the addition of trade agreements into the data set showing that Sub-Saharan and Northern Africa received significantly more aid. In all scenarios the Commonwealth and La Francophonie countries experienced preferential treatment.

When comparing the panel data regression to a pooled regression, I found that there was little change in the estimated coefficient on the trade agreement variable and no change in the estimated coefficients on the other observed variables. The only impact that occurred was a change in the constant term because of the lack of cross section controls.

The final analysis was an introduction of various interactive terms into the regression. The only interaction term that resulted in a change in the findings was a trade agreement, openness term. The inclusion of this term resulted in an increase in the estimated coefficient for trade agreement to 1.31. Interestingly, the interactive term was significant and showed that in the presence of a trade agreement and increased openness the bilateral aid donations from Canada actually decrease 2.96%. I believe that the negative relationship found here has to do with the trade agreements that are currently in place, in particular the United States. In this database trade with the United States is accountable over 70% of the trade openness, further they are our longest trade agreement spanning the entirety of the time series. It will be interesting to see how this interaction variable changes in the future given the implementation of more trade agreements and the increasing global economic world.

Since Canadians are more likely to give aid to countries to which Canada has political connections, policy makers should be aware of the possible implications of new trade agreements. As time passes and free trade agreements are expanded to include smaller and a more diverse set of countries it will be interesting to monitor the effect on ODA allocations, both in amount and where the foreign aid is sent.

Variable	Definition	Source
aidcanada	Net bilateral aid flows from Canada to the recipient country (constant in 2005 CDN\$)	The World Bank ¹
Aidworld	Net bilateral aid flows from all countries except Canada (constant in 2005 CDN\$)	The World Bank
gnipercapita	Gross National Income per capita (constant 2005 CDN\$)	The World Bank
gnigrowth	Annual % GNI growth	The World Bank
gnigrowthsquared	Annual % GNI growth, squared	The World Bank
population	Total population of the recipient country	The World Bank
Lifeexp	Total life expectancy at birth of the recipient country	The World Bank
Lit	Total adult literacy rate (% of people ages 50 and above) of the recipient country	The World Bank
Govdebt	Total central government debt as % of GDP of the recipient country	The World Bank
Inflation	Annual consumer price inflation (in percentages) of the recipient country	The World Bank
openness	Addition of Imports and Exports between Canada and the recipient (in constant 2005 CDN\$)	Government of Canada: Industry Canada ²
openGNI	Addition of Imports and Exports between Canada and the recipient divided by GNI	Government of Canada: Industry Canada
tradeagreement	A dummy variable, 1 if the recipient has a trade agreement with Canada, 0 otherwise	Government of Canada: Foreign Affairs and International Trade Canada ³
commonwealth	A dummy variable, 1 if the recipient is a member of the Commonwealth, 0 otherwise	Commonwealth Secretariat ⁴
francophonie	A dummy variable, 1 if the recipient is a member of the francophonie, 0 otherwise	International Organization of La Francophonie ⁵
Hdi	The value of the human development index	The World Bank
Pc	Poverty headcount ratio (% of rural population)	The World Bank
Gc	Government consumption expenditure as a percentage of GDP	The World Bank

¹ All data from The World Bank was gathered from <http://data.worldbank.org/indicator> by selecting the indicator and exporting the file.

² Trade flows were compiled from http://www.ic.gc.ca/sc_mrkti/tdst/tdo/tdo.php#tag by selecting Canada and All Countries (detailed).

³ Foreign Affairs and International Trade Canada lists all of the official free trade agreements of Canada as well as detailed information of each agreement. Information was compiled from <http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/index.aspx?view=d>.

⁴ A complete list of Commonwealth countries is found at the official site of the Commonwealth Secretariat <http://www.thecommonwealth.org/Internal/191086/142227/members/>.

⁵ A complete list of official members of La Francophonie is found at <http://www.francophonie.org/English.html>.

Table 2. Correlation of natural log of aid per capita and other variables of 195 countries

	Aidcanada	Trade agreement	GNI/capita	Gnigrowth	Population	Aidworld	Common wealth	La Francophonie	Inflation
Openness	-0.39	0.28	0.58	-0.05	0.59	0.54	-0.16	-0.18	-0.04
Government consumption	-0.42	0.03	0.44	-0.15	-0.27	0.18	0.04	-0.12	-0.10
Inflation	0.03	-0.01	-0.07	-0.14	0.03	-0.03	-0.03	0.03	
La francophonie	0.09	-0.05	-0.14	-0.07	-0.09	0.02	-0.12		
Common Wealth	0.09	-0.11	-0.06	0.02	-0.21	-0.17			
Aidworld	-0.59	0.05	0.44	-0.09	0.28				
Population	0.14	-0.12	-0.19	0.07					
Gnigrowth	0.17	-0.02	-0.17						
GNI/capita	-0.75	0.18							
Trade agreement	-0.06								

Table 3: Trends in Canadian ODA Allocations of all countries reported by The World Bank, 1992 – 2010

Years	Total Aid in Millions	Mean aid of countries receiving aid (in millions)	No. Countries Receiving Aid
1992	2261.43	17.95	126
1993	1483.58	10.91	136
1994	1325.16	9.89	134
1995	1528.74	11.08	138
1996	1075.21	8.74	123
1997	1340.63	9.38	143
1998	1276.39	8.74	146
1999	1121.15	7.79	144
2000	968.79	6.82	142
2001	954.40	6.54	146
2002	1191.05	8.10	147
2003	800.13	5.33	150
2004	1756.22	11.48	153
2005	2649.63	19.63	135
2006	2208.27	16.60	133
2007	2865.66	20.77	138
2008	2767.55	20.50	135
2009	2518.04	18.65	135
2010	3131.80	25.05	125

Note: All dollar values converted to constant 2005 CDN dollars. Using the World Bank data base as shown in Table 1.

Table 4: Mean aid flows in millions by country characteristics of 195 countries reported by World Bank Data

Group	Year			
	1992	2000	2005	2010
Commonwealth	16.0	4.34	11.48	23.4
La Francophonie	9.99	3.63	11.97	11.1
Neither	17.2	5.85	9.89	12.3
Sub-Saharan Africa	15.8	5.33	15.98	26.8
North Africa	20.7	5.54	15.59	3.31
South Asia	50.9	11.1	14.24	56.2
East Asia	35.1	6.76	4.35	2.45
Caribbean	0.74	1.04	12.04	2.56
South America	11.5	3.58	15.64	8.40
Oceania	0.03	0.01	0	0

Note: All dollar values converted to constant 2005 CDN dollars. Using the World Bank data base as shown in Table 1.

Table 5. Estimated coefficients from Pooled Procedure of 134 countries: Dependent Variable: ln bilateral aid from Canada, 1992-2010

	(1)	(2)
Trade Agreement	--	0.71* (1.88)
lnniperccapitat_1	-1.15*** (6.81)	-1.11*** (6.84)
Gnigrowth	-0.01 (0.7)	-0.01 (0.72)
Gnigrowthsquared	0.0006 (0.72)	0.0006 (0.72)
lnpopulation_1	0.01 (0.90)	0.02 (0.21)
lnlifeexpt_1	2.04 (2.45)	2.00 (2.41)
lnaidworldt_1	-0.2*** (4.6)	-0.19*** (4.36)
Commonwealth	1.19*** (4.47)	1.22*** (4.52)
Francophonie	0.61** (2.31)	0.61** (2.32)
Niethercorf	0.88*** (2.77)	0.84*** (2.64)
Ssafrica	0.73*** (2.67)	0.66** (2.4)
Nafrika	0.63 (1.45)	0.67 (1.56)
Sasia	-0.43 (0.76)	-0.43 (0.74)
Easia	-1.49 (0.91)	-0.38 (0.68)
Caribbean	0.91*** (2.71)	0.95*** (2.8)
Samerica	1.27*** (5.88)	1.34*** (6.02)
Oceania	-1.00* (1.85)	-1.02* (1.89)
inflationt_1	-7.9E-05* (1.83)	-7.81E-05* (1.81)
lngct_1	-.34** (2.07)	-0.33** (2.01)
lnopennesst_1	0.16** (2.14)	0.14* (1.74)
lnaidcanadat_1	0.68*** (23.25)	0.68*** (23.17)
Constant	3.46 (0.86)	3.37 (0.87)
R2 (adj)	0.85	0.85
Observations	2104	2104

Note: Standard errors calculated with White's correction for heteroskedasticity. t-statistics in parentheses. Coefficients on time dummies not reported. *p<0.1,**p<0.05,***p<0.01.

Table 6. Estimated Coefficient from Panel Data Procedure of 134 countries: Dependent Variable: ln bilateral Aid from Canada, 1992-2010

	(1)	(2)	(3)	(4)	(5)
Trade Agreement	--	--	--	0.77*	0.77*
				(1.73)	(1.73)
lnniperccapitat_1	-1.19***	-0.92***	-1.12***	-1.12***	-1.12***
	(3.67)	(4.83)	(5.49)	(5.47)	(5.48)
Gnigrowth	-0.03	-0.009	-0.006	-0.007	-0.004
	(0.86)	(0.56)	(0.42)	(0.44)	(0.31)
Gnigrowthsquared	0.001	2.10E-04	5.11 E-04	5.2E-04	--
	(0.63)	(0.21)	(0.52)	(0.53)	
lnpopulationt_1	-0.17	-0.042	0.005	0.01	0.01
	(1.09)	(0.44)	(0.05)	(0.14)	(0.15)
lnlifeexpt_1	1.03	0.03	2.51***	2.50***	2.47***
	(0.65)	(0.04)	(2.68)	(2.66)	(2.65)
lnaidworldt_1	-0.29***	-0.21***	-0.19***	-0.18***	-0.18***
	(3.11)	(3.96)	(3.85)	(3.72)	(3.71)
Commonwealth	0.53	1.03***	1.15***	1.17***	1.16***
	(1.21)	(3.17)	(3.43)	(3.41)	(3.36)
Francophonie	0.55	0.74**	0.542*	0.54*	0.54*
	(1.47)	(2.46)	(1.89)	(1.84)	(1.82)
Niethercorf	0.75*	1.00	0.84**	0.79**	0.79**
	(1.66)	(2.80)	(2.39)	(2.24)	(2.22)
Ssafrica	--	--	0.87***	0.80**	0.08**
			(2.59)	(2.37)	(2.35)
Nafrica	--	--	0.61*	0.66**	0.65**
			(1.82)	(1.97)	(1.95)
Sasia	--	--	-0.43	-0.42	-0.43
			(0.75)	(0.75)	(0.76)
Easia	--	--	-0.54	-0.41	-0.41
			(1.16)	(0.89)	(0.86)
Caribbean	--	--	0.87	0.91***	0.91***
			(2.98)	(3.09)	(3.13)
Samerica	--	--	1.26***	1.34***	1.34***
			(4.59)	(4.79)	(4.79)
Oceania	--	--	-1.06	-1.09***	-1.09***
			(3.38)	(3.33)	(3.34)
lngovdebt_1	0.04	--	--	--	--
	(0.33)				
inflationt_1	-2.38E-04***	-8.23E-05*	-7.54E-05	-7.53E-05	-6.84E-05
	(2.78)	(1.75)	(1.52)	(1.51)	(1.30)
lnget_1	-0.90**	-0.36*	-0.33*	-0.32	-0.32
	(2.23)	(1.94)	(1.66)	(1.61)	(1.63)
lnopennesst_1	0.32**	0.17**	0.18**	0.15**	0.15**
	(2.21)	(2.24)	(2.34)	(2.00)	(1.99)
lnaidcanadat_1	0.67***	0.73***	0.69***	0.69***	0.69***
	(11.01)	(20.75)	(17.73)	(17.51)	(17.53)
Constant	13.27*	10.34***	0.84	0.58	0.68
	(1.86)	(2.76)	(0.21)	(0.14)	(0.17)
R2 (adj)	0.8732	0.8525	0.8558	0.8561	0.8561
Observations	784	2104	2104	2104	2104

Note: Standard errors calculated with White's correction for heteroskedasticity. Z-statistics in parentheses. Coefficients on time dummies not reported. *p<0.1,**p<0.05,***p<0.01.

Table 7. Estimated Coefficient from Panel Data Procedure of 134 countries adding tradeXopenness interaction: Dependent Variable: ln bilateral Aid from Canada, 1992-2010

Trade Agreement	1.31*** (6.02)
tradeXopen	-2.96*** (6.21)
lngnipercapitat_1	-1.13*** (5.48)
Gnigrowth	-0.003 (0.27)
Gnigrowthsquared	--
Inpopulationt_1	0.02 (0.22)
Inlifeexpt_1	2.37** (2.53)
Inaidworldt_1	-0.19*** (3.73)
Commonwealth	1.19*** (3.26)
Francophonie	0.54* (1.72)
Niethercorf	0.83** (2.21)
Ssafrica	0.84** (2.46)
Nafrica	0.65* (1.94)
Sasia	-0.46 (0.79)
Easia	-0.49 (1.04)
Caribbean	0.95*** (3.23)
Samerica	1.34*** (4.83)
Oceania	-1.12*** (3.46)
Ingovdebt_1	--
inflationt_1	-7E-05 (1.32)
lnget_1	-0.34* (1.72)
lnopennesst_1	0.17** (2.19)
Inaidcanadat_1	0.69*** (17.23)
Constant	1.22 (0.29)
R2 (adj)	0.8566
Observations	2104

Note: Standard errors calculated with White's correction for heteroskedasticity. Z-statistics in parentheses. Coefficients on time dummies not reported. *p<0.1, **p<0.05, ***p<0.01.

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