

Would Rich Country Trade Preferences Help Poor Countries Grow? Evidence from the Generalized System of Preferences

John Romalis (Chicago GSB) February 2003 (Preliminary)

Abstract

Would new trade preferences by the US, the European Union and other developed countries help the world's poorest countries grow? This paper concludes that they would. It empirically examines this issue by studying the impact of the Generalized System of Preferences on the growth of developing countries. In the 1970s most developed countries reduced or eliminated tariffs on thousands of products exported by most developing countries. The extent to which countries benefited on impact from these tariff reductions varied with the intensity of their trade with the developed world. This paper finds that the growth rate of countries that received the largest tariff reductions accelerated relative to the growth rate of countries that benefited less. But the highest trade barriers maintained by the developed world are still imposed on goods that are disproportionately exported by the world's poorest countries. This paper's results suggest that eliminating these barriers would significantly improve the prospects of some of the world's poorest people. If the US alone were to eliminate tariffs on developing country exports, within 15 years the growth dividend would leave countries from 2 percent wealthier in Eastern Europe to 14 percent wealthier in developing Asia, with Africa and Latin America registering gains over 8 percent.

1 Introduction

How much richer would developing countries become if developed countries adopted the very simple policy of dropping all trade barriers against their exports? This paper finds that many developing countries would become substantially richer. It reaches this conclusion by studying the effect of a previous trade liberalization of this nature, the Generalized System of Preferences (GSP), a scheme of trade preferences granted on a non-reciprocal basis by developed countries to developing countries in the 1970s. Even modest trade preferences appear to have a pronounced impact on growth. Dropping remaining trade barriers, which are almost always highest on products that the poorest countries can produce, may have an even greater effect. While there have been some moves in this direction in both multilateral trade negotiations and through developed countries enhancing the GSP for the least developed countries, there is still a large bias in developed country trade policy.¹

Figures 1A and 1B illustrate the problem by plotting measures of the incidence of US tariffs for each country that exports to the US against how wealthy the exporting country is. In Figure 1A the US tariff revenue collected on imports from each country has been divided by the GDP of the exporting country for the year 2001. This measure of tariff incidence is then plotted against GDP per capita of the exporting country. The US tariff take is usually modest for high-income economies but is often substantial for lower income economies, in many cases exceeding 0.5% of their GDP per annum. Figure 1B measures the US tariff incidence as tariff revenue divided by the imports from each country. The highest average tariffs tend to fall on exports from developing countries. These figures understate the problem because non-tariff barriers such as quotas also fall more heavily on the exports of poor countries.

The Generalized System of Preferences is a set of trade preferences granted on a non-reciprocal basis by developed countries to developing countries. It was discussed during the GATT ministerial meeting in 1963 and proposed by the United Nations Conference for Trade And Development (UNCTAD) in 1964 to encourage developing country exports and investment. It was hoped that this program would thereby

¹Import quotas under the Multi-Fibre Agreement are being phased out following the Uruguay round of trade negotiations. The European Union is extending the GSP to cover “Everything But Arms” for the least developed economies. The US has extended GSP benefits for the poorest economies under schemes such as the African Growth and Opportunity Act.

contribute to economic development. The system was negotiated over the 1964-1971 period with the first major scheme implemented by the EEC in July 1971, with Japan following suit in August 1971, and the US in January 1976 (Baldwin, 1977). All GSP schemes involve tariff concessions to a range of developing country exports. Under the current US scheme, for example, most developing countries may export 6409 articles duty-free, where imports of the same articles from most developed countries would attract a positive tariff. This is out of a total of 15,467 articles listed in US tariff lines (Ozden and Reinhardt, 2002a). There are many limitations to all GSP programs. Not all developing countries are included (Baldwin, 1977). Programs typically exclude products where developing countries have the greatest comparative advantage (Devault, 1996). Export eligibility ceilings are often binding (Macphee and Rosenbaum, 1989). The programs impose strict rules of origin requirements (UNCTAD, 2001) and do not remove non-tariff barriers (Clark and Zarrilli, 1992). Up to 42 countries have been temporarily dropped or permanently “graduated” by the US at some time since 1976 (Ozden and Reinhardt, 2002a). The US has allowed the GSP to lapse on occasions, including one period in excess of a year, increasing uncertainty for exporters. The generosity of the programs has also been eroded as a result of reductions in the general level of tariff protection, although Baldwin (1977) and Grossman (1982) argue that this last effect is small. Despite these limitations, the largest GSP schemes granted tariff preferences to almost \$100 billion of developing country exports in 1997 (UNCTAD, 1999).

Figure 2 captures some of the history of the US GSP program. It measures GSP imports as a fraction of total US imports. From its inception in 1976, beneficiary countries rapidly increased their exports of products under the program until the early 1980s. From then on the scheme begins to decline. Some of the decline is due to reductions in MFN tariffs. But a series of adjustments to the US GSP scheme helped to slowly strangle most of the life out of it. Products were selectively removed from the scheme, “competitive need limits” were adjusted, and key countries were removed from the program. In 1989 four of the biggest exporters under the scheme (Singapore, Hong Kong, Taiwan and Korea) were dropped. Other countries filled the breach, notably Mexico, which was in turn dropped immediately upon entry into NAFTA in 1994. By the end of the 1990’s, using the most favorable measure, the program was only half as important as it was at its inception in 1976. Measured by

tariff revenue forgone, the program today is even less important. The tariff revenue forgone under the GSP in current prices was \$219million in 1976, equivalent to 0.18 percent of US imports. By 1998 this figure was \$439million, equivalent to only 0.05 percent of US imports in 1998, although this figure rises to \$653million or 0.07 percent of US imports if we add in similar US preferences under special schemes for Caribbean and Andean countries.

While the direct effect of the GSP is to increase exports of developing countries (Baldwin, 1977), the effect of such trade liberalization on developing country growth is ambiguous since, for example, poor countries might end up more specialized in commodities that experience slow productivity growth (Young, 1991), or research in the developing country might be dampened (Grossman and Helpman, 1991). But there are many channels through which such a policy could increase growth. Liberalization by wealthy countries may facilitate technological transfers to poor countries and it enlarges the market that the typical developing country firm operates in, potentially though not necessarily spurring innovation (Grossman and Helpman, 1991). Acemoglu *et al.* (2002) suggest that greater access to trade may facilitate growth by inducing the adoption of institutions that protect property rights. The GSP is also equivalent to a positive terms of trade shock to poor countries. Acemoglu and Ventura (2001) suggest that an increase in the terms of trade may encourage factor accumulation and growth by increasing factor prices. Broda (2002) shows empirically that shocks to the terms of trade have prolonged effects on a country's GDP. Since the theoretical prediction is uncertain, empirical evidence can shed light on the effect of the GSP on growth.

2 Previous Literature

This paper is closely related to the trade and growth literature because the GSP exposes developing countries to more trade. The main conclusion of this literature is that countries with lower trade barriers grow faster. Dollar (1992) finds that growth in 95 developing countries over the period 1976-1985 is negatively correlated to two indices of how closed developing economies are to trade; an index of real exchange rate distortion and an index of real exchange rate variability. Sachs and Warner (1995) find that growth is positively related to an openness indicator based on a number of policies that affect international economic integration. Edwards (1998) regresses his

estimates of total factor productivity growth on a range of pre-existing indicators of openness to trade, and finds that most indicators are strongly positively correlated with productivity growth, Greenaway *et al.* (2002) perform a similar analysis for GDP growth rates in developing countries, and finds that growth responds with a lag to trade liberalization. Ben-David (1993) finds that trade liberalization reduces income dispersion amongst the liberalizing countries. Frankel and Romer (1999) find that countries that trade more due to favorable geography grow more quickly after World War II, a result that was extended to the early 20th century by Irwin and Tervio (2002). Dollar and Kraay (2001) find that more trade promotes growth but has no effect on income distribution, therefore trade increases the incomes of the poor. Rodriguez and Rodrik (2000) take issue with all of these papers, arguing that the measures of openness are often poor measures of trade barriers, or are highly correlated with other causes of bad economic performance, or have no link to trade policy.

This paper has one major difference to these papers. It is not examining what would be the consequence of developing countries exposing themselves to more trade by liberalizing themselves, but rather what happens when demand shifts to developing country output as a result of liberalization in developed countries. Developed country liberalization exposes developing countries to more trade, but does not entail adverse effects on often shaky developing country public finances, and it raises rather than lowers their terms of trade. This may have an important effect on growth outcomes. Moreover, since the GSP is mostly a consequence of decisions taken outside of developing countries, this exercise is a little less susceptible to the endogeneity problems that arise when developing countries themselves liberalize trade as part of a package of reforms. The beneficiary countries merely had to be poor and, in the case of the US GSP program, non-communist and non-OPEC also.

Computable General Equilibrium (CGE) models and partial equilibrium models have also been used to analyze the impact of the GSP. Baldwin (1977) estimated the GSP as structured would increase developing country exports of GSP products to developed countries by 27 percent, and that the increase would be close to 50 percent if value limits to GSP trade did not exist. Sapir and Lundberg (1984) use US trade data to calculate that the GSP was responsible for 15 percent of GSP duty-free trade in 1979, although the authors note that 1975-79 may have been too short a period

for the full effects to emerge. Brown (1987) uses a CGE model to analyze the US GSP and estimates similar trade volume effects to Baldwin (1977), with the largest beneficiaries being the relatively high-income developing economies. An advantage of using a CGE model is that terms of trade and welfare effects can be estimated, Brown estimates modest gains for most beneficiary countries, with the largest being 0.5% for Hong-Kong, and 0.3% for Mexico and Israel. The terms of trade of the donor country declines slightly, with the US terms of trade declining by about 0.1%. Brown (1989) performs a similar exercise for the GSP schemes of the EEC and the European Free Trade Association (EFTA), and obtains smaller effects due to extensive pre-existing trade preferences to many former colonies under the Lome Convention. The major new beneficiaries of European preferences were Yugoslavia, Hong-Kong, Singapore and Mexico.

There is also an active political economy literature on the GSP, studying how protectionist forces in developed economies undermine GSP benefits (Ozden and Reinhardt, 2002b), and the impact of unilateral trade liberalization on the trade policy of trading partners. Ozden and Reinhardt (2002a) show empirically that the non-reciprocal preferences under the GSP delayed trade liberalization of recipients. But to date no one has empirically examined the simple question: did the GSP increase the growth rate of the beneficiary developing countries?

3 Empirical Strategy and Data

By far the largest GSP programs were implemented by the EEC in July 1971 and the US in January 1976. These programs were likely to have had an unequal impact across beneficiary countries due to differences in the extent of trade that these countries had with the EEC and the US in products that were eligible for GSP benefits. Countries with large amounts of trade with the US and the EEC in products that became eligible for the GSP were more likely to see a bigger shift in demand towards their output and therefore the largest change in growth. The empirical strategy is to derive a plausible measure to capture how much demand was likely to be shifted to each beneficiary country, and add this variable to a growth regression. The measure used to capture the shift in demand is the reduction in the total value of tariffs that had to be paid on exports to the US and the EEC from each exporting country when the GSP was

initiated, divided by the GDP of the exporting country in that year. The higher this measure, the more important the GSP is likely to be to the beneficiary country. In my sample of countries the US GSP appears to be more important since the EEC's program added very little to the trade preferences already offered to former colonies under the Lome Convention.

3.1 Empirical Specification

I estimate the impact of the GSP on growth using what are essentially simple comparisons of pre-GSP and post-GSP growth rates. I use two main specifications. The first specification is a simple cross-sectional regression of the difference between each country's average growth rate in the pre- and post-GSP period:

$$\overline{\Delta gdppc_{i_POST}} - \overline{\Delta gdppc_{i_PRE}} = \alpha + \gamma GSP_IMPACT_i + \delta X_i + \epsilon_i \quad (1)$$

where $\overline{\Delta gdppc_{i_POST}}$ is the average percentage growth rate of per-capita GDP in country i after 1975; $\overline{\Delta gdppc_{i_PRE}}$ is the average percentage growth rate of per-capita GDP in country i from 1960 to 1975; GSP_IMPACT_i is the country-specific measure of the US and EEC tariff reductions for country i based on the GSP program implemented by the US in 1976 and the EEC in 1971; X_i are country characteristics, specifically an Africa dummy and a variable that captures export composition; and ϵ_i is a random error term. Equation 1 will be estimated over two different sample periods, with four different specifications of δX_i .

I also exploit the panel structure of the data and use the following specification to estimate the impact of the GSP on growth:

$$\Delta gdppc_{it} = \alpha_i + \beta_t + \gamma GSP_IMPACT_{it} + \delta_t X_i + \epsilon_{it} \quad (2)$$

where $\Delta gdppc_{it}$ is the growth rate of per-capita GDP in country i in year t ; α_i and β_t are country and year effects; GSP_IMPACT_{it} is the country-specific measure of the US and EEC tariff reductions for country i based on the GSP program implemented by the US in 1976 and the EEC in 1971; X_i are a set of country characteristics with time-varying coefficients δ_t , and ϵ_{it} is a random error term. A major advantage

of exploiting the panel is that it is easier to exploit some of the subtleties of the GSP programs of the US and the EEC, including different start-dates for countries, different drop-dates and, potentially, other modifications of the programs. Equation 2 is estimated over two different sample periods, with four different specifications of $\delta_t X_i$. To examine robustness to different weighting schemes, six different specifications for the distribution of ϵ_{it} are employed.

3.2 Data

Per-capita GDP data for 1950 to 1998 are sourced from the World Bank World Development Indicators 2000 and the Penn World Tables Version 6.1. US trade data for 1976 classified by country of origin and import program at the tariff-line level was obtained from the Center for International Data at UC Davis. From this data I calculate the Most Favored Nation (MFN) tariff for each product using the customs value of imports from countries enjoying MFN status and the tariffs collected on such imports. I then calculate the dollar value of tariffs that would have been paid on GSP imports from each country if the MFN tariff had applied to the GSP imports observed in 1976. The dollar value of tariff concessions for each country was then divided by that country's GDP in 1976 to get the US component of the variable GSP_IMPACT_{it} for any year in which the US conferred GSP benefits. A similar procedure was adopted for countries that became eligible for the GSP after 1976. Data on when the US conferred GSP benefits for each country is obtained from US Tariff Schedules and Table 1 of Ozden and Reinhardt (2002a). The US component of GSP_IMPACT_{it} is set to zero for any year that country i was not eligible for the US GSP program.

A similar procedure was applied for EEC imports for 1972, the first full year of the EEC's GSP program. EEC trade and MFN tariff data equivalent to the US trade data is available in printed form in Table 3 of Zolltarif-Statistik published by the Statistical Office of the European Communities. Details of the EEC's GSP program were obtained from the publication "EEC Preferences for Imports from India: Tariff Concessions Under Generalised System of Preferences" published by the Indo-German Chamber of Commerce. The EEC already conferred similar trade preferences to many former colonies under the Lome Convention, the EEC's GSP

program therefore provided little or no assistance to these countries, and the value of EEC tariff concessions for these countries is set to zero. The dollar value of EEC tariff concessions under the GSP in 1972 for each exporting country is then divided by that country's GDP to get the EEC component of GSP_IMPACT_{it} . The EEC has been less aggressive than the US in dropping countries from the GSP; Hong Kong, Taiwan, Korea and Singapore were "graduated" in 1998.

4 Results

I run the simple pre-post regressions over two sample periods and report the results in Tables 1 and 2. Table 1 reports results using GDP data from 1960 to 1988 for 120 countries; the end-period is the last year before the US GSP program begins to be wound down. Countries that benefited the most at the outset from the GSP schemes saw their growth rates significantly accelerate relative to other countries (Column 1). The magnitude of the effect is very large. If the reduction in tariffs is equal to 0.25 percent of the exporting country's GDP, that country's growth rate accelerates by 1 percent per annum. If we look back to Figure 1A this suggests that a number of poor countries could benefit substantially from the elimination of tariffs on their exports. This result is not an "Africa effect" (Column 3). There is also a potential concern that since the GSP applies almost exclusively to industrial products other than textiles, clothing and footwear, that even without the GSP, countries that specialized in these products would have seen their growth accelerate relative to countries that specialized in other products, such as commodities. This effect is not driving the results, which are robust to including the proportion of each country's exports to the US that are in products that would have been GSP-eligible had the country been a beneficiary of the GSP program (Column 2).

Of greater concern is the role of outliers in the results. The top panel of Figure 3 shows the basic pre-GSP versus post-GSP regression. Any viewer would be extremely concerned by the presence of two extremely small countries as outliers; St. Kitts and Nevis (KNA) and Kiribati (KIR). Elimination of these outliers does not eliminate the results. The estimated impact of the GSP declines by about 25 percent and it is less precisely estimated but still statistically significant at the 5 percent level. A reduction in tariffs equal to 0.25 percent of the exporting country's GDP causes its growth to accelerate by 0.75 percent per annum.

Table 2 reports results using GDP data from 1960 to 1998 for 120 countries. Since the US GSP program was being wound down over the last decade of this sample (Figure 2) we would expect that the GSP had a much reduced impact on growth over this extended period. This is borne out in the data. The estimated impact for the sample of 120 countries is about 30 percent smaller, and is now much more sensitive to the omission of the two outliers. If we ignore the outliers, the GSP's estimated impact over the longer period is no longer statistically significant.

The panel regressions on Equation 2 give similar results to the simple cross-section regressions. Tables 3A and 3B report results for the period 1960 to 1988. The coefficient estimates on the *GSP_IMPACT* variable range from 1.6 to 5.2. Most estimates are significant, and there is no tendency for the addition of extra controls to depress the estimates. The typical estimate of around 4 again implies that a reduction in tariffs equal to 0.25 percent of the exporting country's GDP caused that country's growth rate to accelerate by 1 percent per annum for the first 13 years of the GSP program. What may be the more reliable estimates are those where a heteroscedastic error structure has been assumed, for these regressions will give the least weight to small countries, which tend to have the most volatile growth rates. Only 8 of these 18 coefficient estimates are significant, and the typical estimate is under 3. Tables 4A and 4B report results for the period 1960 to 1998, which includes a substantial period when the US was running down its GSP program. This shows up in lower coefficient estimates on the *GSP_IMPACT* variable, which range from 1.3 to 3.7. Most estimates are still significant, and again there is no tendency for the addition of extra controls to depress the estimates. Again, only 8 of the 18 coefficients where a heteroscedastic error structure has been assumed are significant. The typical estimate of around 3 implies that a reduction in tariffs equal to 0.25 percent of the exporting country's GDP caused that country's growth rate accelerate by 0.75 percent per annum for the first 23 years of the GSP program.

5 Discussion

These results suggest that even modest preferential trade liberalizations like the GSP could have a meaningful effect on economic outcomes in developing countries, but

how big could this effect be? To get a relatively conservative estimate I use one of the more modest estimates of the coefficient on the *GSP_IMPACT* variable, 2, and ask if this was the true effect, how much richer would developing countries be in 15 years if the US, for example, eliminated all its tariffs on exports from developing countries?² Figure 4 shows the regional distribution of the total value of tariffs that had to be paid on exports to the US in 2001 as a percentage of the GDP of the exporting country in that year, which is the equivalent of the *GSP_IMPACT* variable. The ‘regions’ chosen are, from left to right, Developed Economies, Oil Exporters, Africa, Asia, Eastern Europe, Middle East, and Latin America. A large number of countries stand to benefit greatly from such a policy, especially in Asia, Africa, and Latin America.

The typical predicted growth dividend for each region is shown in Table 5. The first column gives the simple average 15-year growth dividend for countries in each region. Excluding developed countries and oil exporters, the typical African country stands to be 10 percent wealthier in 15 years, Asian countries become 15 percent wealthier, the Middle East gains 3 percent, while the largest gains appear to be in Latin America, which records a 22 percent predicted gain. Weighting by GDP tends to depress these estimates because trade is less important to large countries. The GDP-weighted results show predicted growth in the GDP of each region. The biggest winner is Asia which grows an extra 14 percent. Latin America and Africa also stand to gain substantially, by 9 and 8 percent respectively. Eastern Europe and the non-oil Middle East stand to gain only 2 and 3 percent respectively because they trade little with the US.

This very simple trade policy could therefore have a very positive impact on average income levels in developing countries. If Dollar and Kraay (2001) are correct and increased trade does not substantially affect income inequality, then this policy could help lift many people out of poverty. There appears to have been some conversion of developed country governments towards this view in recent years, at least in relation to the 48 UN-designated Least Developed Countries (LDCs). The most substantial move in this direction is the EU’s ‘Everything But Arms’ initiative approved in 2001 (UNCTAD 2001). The EU eliminated duties and quotas on “essentially all” products in March 2001, though duties and quotas on bananas, rice and sugar will not be

²I am still working on obtaining current EU data.

eliminated until 2009. The US has made more modest reductions of duties under the African Growth and Opportunity Act and the Caribbean Basin Trade Partnership Act. Despite these two initiatives, US tariffs on LDC exports can still be high relative to incomes in those countries. Table 5 suggests that income in LDCs would rise by 12 percent if the US eliminated remaining tariffs on LDC exports.

6 Conclusion

This paper examined whether a simple policy by developed countries could help achieve an important objective; raising the incomes of some of the world's poorest people. The paper concludes that they can. If the developed world drops its trade barriers on exports from developing countries then their growth rate will accelerate. This conclusion was reached by empirically examining the effects of a smaller liberalization of this nature that took place in the 1970s, the GSP. The biggest beneficiaries under this scheme saw their growth rates accelerate relative to other countries. Despite such initiatives, trade policy in developed countries is often still most restrictive on products where developing economies enjoy a comparative advantage. If the US alone were to eliminate remaining trade barriers for developing economies, incomes in some of the world's poorest regions could rise by up to an extra 14 percent within 15 years.

References

- [1] Acemoglu D., S. Johnson and J. Robinson (2002), “The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth”, *mimeo*, MIT, Nov. 25, 2002.
- [2] Acemoglu D. and J. Ventura (2001), “The World Income Distribution”, NBER Working Paper No. 8083.
- [3] Baldwin R. E. and T. Murray (1977), “MFN Tariff Reductions and Developing Country Trade Benefits Under the GSP”, *Economic Journal*, Volume 87, March 1977, pp. 30-46.
- [4] Ben-David D. (1993), “Equalizing Exchange: Trade Liberalization and Income Convergence”, *Quarterly Journal of Economics*, Volume 108(3), pp. 653-679.
- [5] Broda C. (2002), “Terms of Trade and Exchange Rate Regimes in Developing Countries”, forthcoming *Journal of International Economics*.
- [6] Brown, D.K. (1987), “General Equilibrium Effects of the U.S. Generalized System of Preferences”, *Southern Economic Journal*, Volume 54, pp. 27-47.
- [7] Brown, D.K. (1989), “Trade and Welfare Effects of the European Schemes of the Generalized System of Preferences”, *Economic Development and Cultural Change*, Volume 37 (July), pp. 757-776.
- [8] Dollar D. (1992), “Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-1985”, *Economic Development and Cultural Change*, 1992, 523-544.
- [9] Dollar D. and A. Kraay (2001), “Trade, Growth and Poverty”, *mimeo*, The World Bank, March 2001.
- [10] Edwards S. (1998), “Openness, Productivity and Growth: What Do We Really Know?”, *Economic Journal*, Volume 108 (March), pp. 383-398.
- [11] Frankel J. and D. Romer (1999), “Does Trade Cause Growth”, *American Economic Review*, Volume 89(3), pp. 379-399.
- [12] Greenaway D., W. Morgan and P. Wright (2002), “Trade Liberalization and Growth in Developing Countries”, *Journal of Development Economics*, Volume 67, pp. 229-244.
- [13] Grossman G. M. (1982), “Import Competition from Developed and Developing Countries”, *Review of Economics and Statistics*, Volume 64(2), pp. 271-281.
- [14] Grossman G. M. and E. Helpman (1991), *Innovation and Growth in the Global Economy*, Cambridge: MIT Press.

- [15] Irwin D. and M. Tervio (2002), “Does trade raise income?: Evidence from the twentieth century”, *Journal of International Economics*, Volume 58(1), pp.1-18.
- [16] Ozden C. and E. Reinhardt (2002a), “The Perversity of Preferences: GSP and Developing Country Trade Policies, 1976-2000”, mimeo, Emory University, February 15, 2002.
- [17] Ozden C. and E. Reinhardt (2002b), “The Political Economy of US Trade Preferences for Developing Countries, 1976-2001”, mimeo, Emory University, February 15, 2002.
- [18] Rodriguez F. and D. Rodrik (2000), “Trade Policy and Economic Growth: A Skeptic’s Guide to the Cross-National Evidence”, mimeo, University of Maryland and John F. Kennedy School of Government.
- [19] Sachs J. and A. Warner (1995), “Economic Reform and the Process of Global Integration”, *Brookings Papers on Economic Activity*, 1995:1, pp. 1-118.
- [20] Sapir A. and L. Lundberg (1984), “The U.S. Generalized System of Preferences and Its Impacts”, in R. E. Baldwin and A. O. Krueger (eds.) *The Structure and Evolution of Recent U.S. Trade Policy*, University of Chicago Press, pp. 195-236.
- [21] Young A. (1991), “Learning by Doing and the Dynamic Effects of International Trade”, *Quarterly Journal of Economics*, Volume 106(2), pp. 369-405.
- [22] Indo-German Chamber of Commerce (1971 or 2), “EEC Preferences for Imports from India: Tariff Concessions Under Generalised System of Preferences”, Bombay.
- [23] Statistical Office of the European Communities (1972), “Zolltarif-Statistik (1972)”, Table 3.
- [24] UNCTAD (1999), “Quantifying the Benefits Obtained by Developing Countries from the Generalized System of Preferences”, mimeo, October 1999.
- [25] UNCTAD (2001), “Improving Market Access for Least Developed Countries”, mimeo, May 2001.

Table 1: Regressions of Change in Growth on GSP_Impact, 1960-1988

Sample: 1960-1988; All Countries

Variable	(1)	(2)	(3)	(4)
GSP_Impact	4.51 (0.64)	4.60 (0.68)	4.71 (0.75)	4.76 (0.76)
Trade_Pattern		-0.62 (1.54)		-0.53 (1.60)
Africa_Dummy			0.38 (0.66)	0.32 (0.70)
N	120	120	120	120
R ²	0.03	0.04	0.03	0.04

(Robust standard errors in parentheses)

Sample: 1960-1988; Exclude St Kitts

Variable	(1)	(2)	(3)	(4)
GSP_Impact	3.99 (1.72)	4.27 (1.88)	4.44 (1.98)	4.62 (2.05)
Trade_Pattern		-0.61 (1.56)		-0.53 (1.61)
Africa_Dummy			0.37 (0.68)	0.32 (0.71)
N	119	119	119	119
R ²	0.01	0.01	0.01	0.01

(Robust standard errors in parentheses)

Sample: 1960-1988; Exclude St Kitts and Kiribati

Variable	(1)	(2)	(3)	(4)
GSP_Impact	3.21 (1.62)	3.80 (1.83)	3.34 (1.75)	3.76 (1.89)
Trade_Pattern		-1.34 (1.38)		-1.35 (1.40)
Africa_Dummy			0.10 (0.62)	-0.04 (0.62)
N	118	118	118	118
R ²	0.01	0.02	0.02	0.02

(Robust standard errors in parentheses)

Table 2: Regressions of Change in Growth on GSP_Impact, 1960-1998

Sample: 1960-1998; All Countries

Variable	(1)	(2)	(3)	(4)
GSP_Impact	3.06 (0.82)	3.24 (0.80)	3.32 (0.88)	3.42 (0.86)
Trade_Pattern		-1.23 (1.46)		-1.13 (1.51)
Africa_Dummy			0.50 (0.61)	0.37 (0.64)
N	120	120	120	120
R ²	0.02	0.03	0.02	0.03

(Robust standard errors in parentheses)

Sample: 1960-1998; Exclude St Kitts

Variable	(1)	(2)	(3)	(4)
GSP_Impact	1.40 (1.57)	1.94 (1.81)	1.96 (1.93)	2.33 (2.05)
Trade_Pattern		-1.19 (1.48)		-1.10 (1.52)
Africa_Dummy			0.46 (0.62)	0.35 (0.65)
N	119	119	119	119
R ²	0.00	0.01	0.00	0.01

(Robust standard errors in parentheses)

Sample: 1960-1998; Exclude St Kitts and Kiribati

Variable	(1)	(2)	(3)	(4)
GSP_Impact	0.74 (1.42)	1.55 (1.72)	1.03 (1.67)	1.59 (1.85)
Trade_Pattern		-1.81 (1.35)		-1.80 (1.37)
Africa_Dummy			0.23 (0.58)	0.04 (0.58)
N	118	118	118	118
R ²	0.00	0.03	0.00	0.03

(Robust standard errors in parentheses)

Table 3A: Panel Regression of GDP Growth Rate, 1960 to 1988
(Not Controlling for each Country's Trade Specialization)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
GSP_Impact	4.11 (1.73)	1.95 (1.53)	4.07 (1.94)	4.35 (1.43)	1.65 (1.78)	3.16 (1.38)	4.39 (1.82)	2.42 (1.67)	4.47 (2.01)	5.03 (1.52)	2.17 (1.90)	3.74 (1.50)	4.53 (1.78)	2.89 (1.49)	4.57 (1.92)	4.98 (1.38)	2.64 (1.71)	4.03 (1.24)
Other Controls:																		
Trade Specialization	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*GSP Dummies	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Region*Year Dummies	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Error Structure:																		
Hetero	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Auto (AR1 Common)	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No
Auto (AR1 Panel Specific)	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
N	3610	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697
Estimator	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS

Notes: Standard errors reported in parentheses.

Table 3B: Panel Regression of GDP Growth Rate, 1960 to 1988
(Controlling for each Country's Trade Specialization)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
GSP_Impact	4.43 (1.73)	1.94 (1.54)	4.50 (1.95)	4.59 (1.42)	1.63 (1.79)	3.25 (1.38)	4.46 (1.83)	2.34 (1.68)	4.72 (2.04)	5.18 (1.53)	2.01 (1.94)	3.87 (1.49)	4.57 (1.78)	2.66 (1.50)	4.76 (1.93)	5.03 (1.38)	2.35 (1.73)	4.07 (1.24)
Other Controls:																		
Trade Specialization	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*GSP Dummies	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Region*Year Dummies	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Error Structure:																		
Hetero	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Auto (AR1 Common)	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No
Auto (AR1 Panel Specific)	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
N	3610	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697	3697
Estimator	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS

Notes: Standard errors reported in parentheses.

Table 4A: Panel Regression of GDP Growth Rate, 1960 to 1998
(Not Controlling for each Country's Trade Specialization)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
GSP_Impact	3.20 (1.58)	1.60 (1.26)	3.21 (1.86)	3.27 (1.38)	1.34 (1.56)	2.30 (1.21)	2.93 (1.67)	1.89 (1.38)	3.19 (1.95)	3.52 (1.48)	1.69 (1.69)	2.71 (1.31)	3.11 (1.62)	2.11 (1.26)	3.29 (1.84)	3.32 (1.40)	1.92 (1.53)	2.62 (1.20)
Other Controls:																		
Trade Specialization	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*GSP Dummies	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Region*Year Dummies	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Error Structure:																		
Hetero	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Auto (AR1 Common)	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No
Auto (AR1 Panel Specific)	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
N	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163
Estimator	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS

Notes: Standard errors reported in parentheses.

Table 4B: Panel Regression of GDP Growth Rate, 1960 to 1998
(Controlling for each Country's Trade Specialization)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
GSP_Impact	3.53 (1.59)	1.72 (1.27)	3.72 (1.87)	3.55 (1.38)	1.45 (1.57)	2.52 (1.20)	3.06 (1.68)	1.52 (1.38)	3.32 (1.95)	3.56 (1.48)	1.25 (1.69)	2.71 (1.32)	3.13 (1.63)	2.10 (1.27)	3.52 (1.85)	3.38 (1.40)	1.86 (1.55)	2.73 (1.20)
Other Controls:																		
Trade Specialization	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region*GSP Dummies	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Region*Year Dummies	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Error Structure:																		
Hetero	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes
Auto (AR1 Common)	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No
Auto (AR1 Panel Specific)	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes
N	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163	5163
Estimator	OLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS	GLS	GLS	OLS	GLS	GLS	GLS	GLS

Notes: Standard errors reported in parentheses.

Table 5: Predicted 15-year Growth Dividend if US Eliminates Tariffs
(Percentage Increase in GDP Assuming GSP_Impact Coefficient is 2.0)

Region:	Unweighted	GDP-Weighted
Developed	4.1	3.1
Oil Exporters	16.3	10.5
Africa	9.6	8.4
Asia	15.2	14.3
Eastern Europe	4.2	2.4
Middle East	2.9	3.3
Latin America	21.8	8.8
World Ex. Developed and Oil Exporters	11.8	9.6
LDCs	9.7	11.8
World	11.5	5.7

Figure 1A: US Tariff Take and Source Country GDP Per Capita

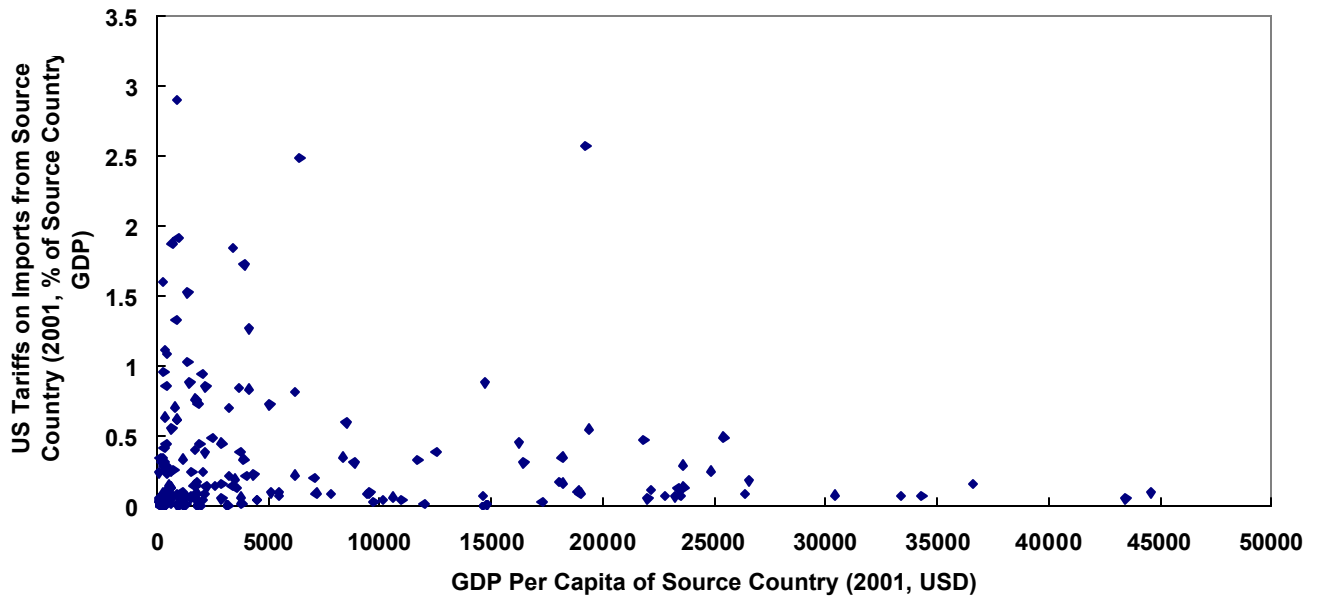


Figure 1B: Average US Tariffs and Source Country GDP Per Capita

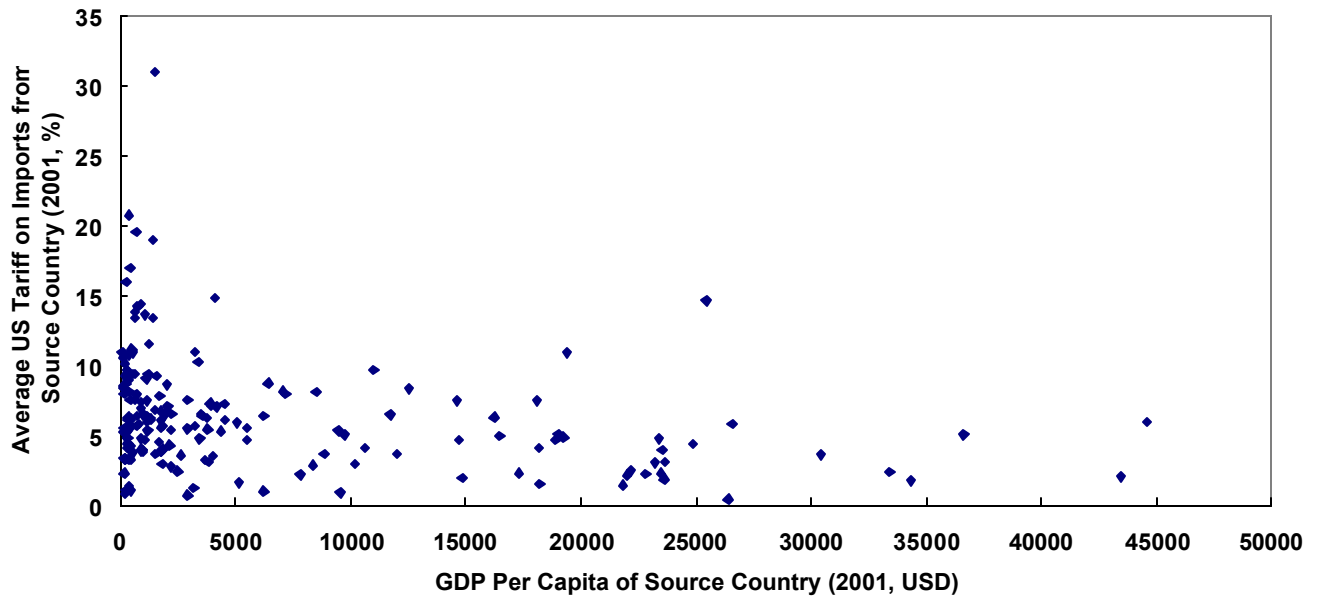


Figure 2: US GSP Imports (% Total Imports)

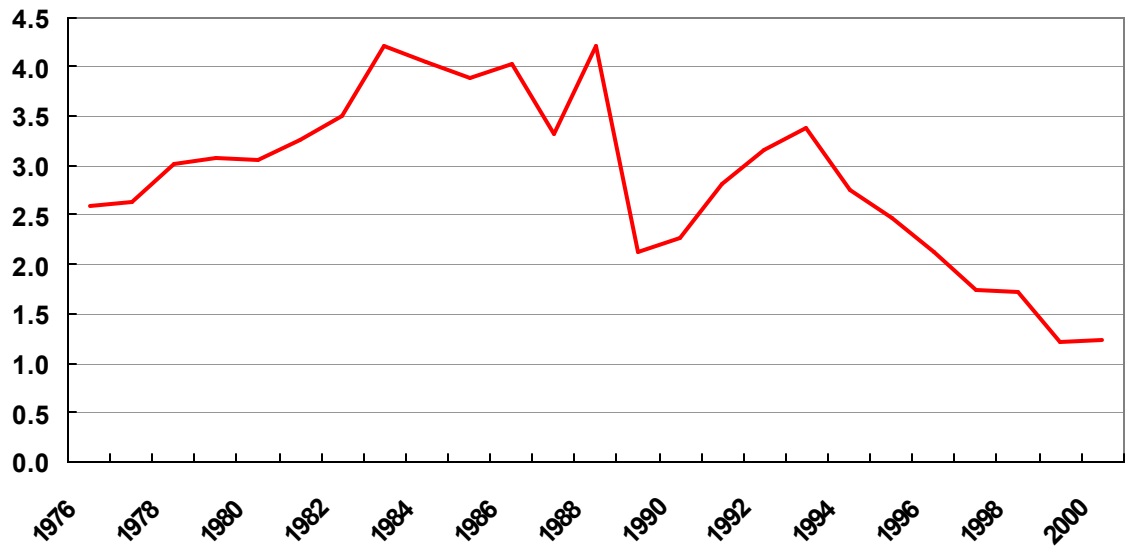


Figure 3: Cross-Sectional Regressions

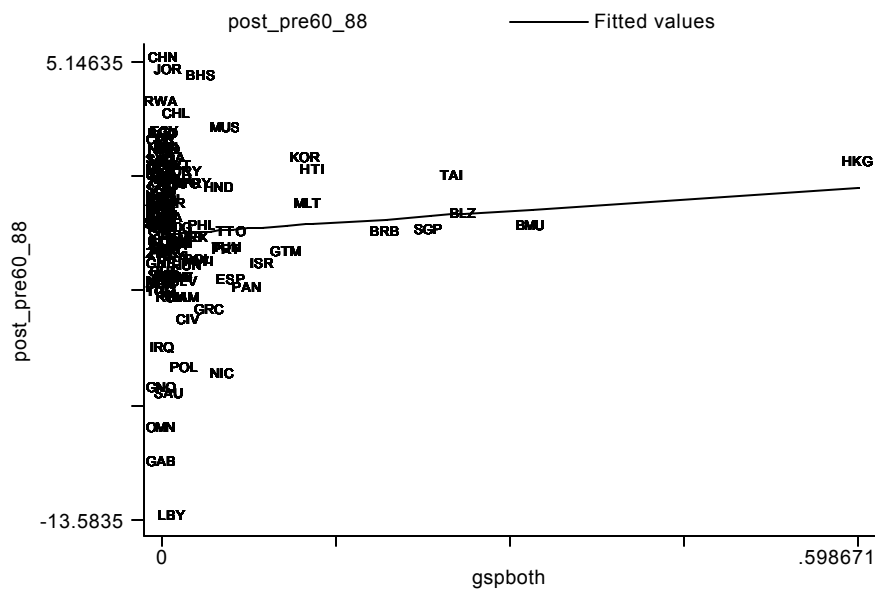
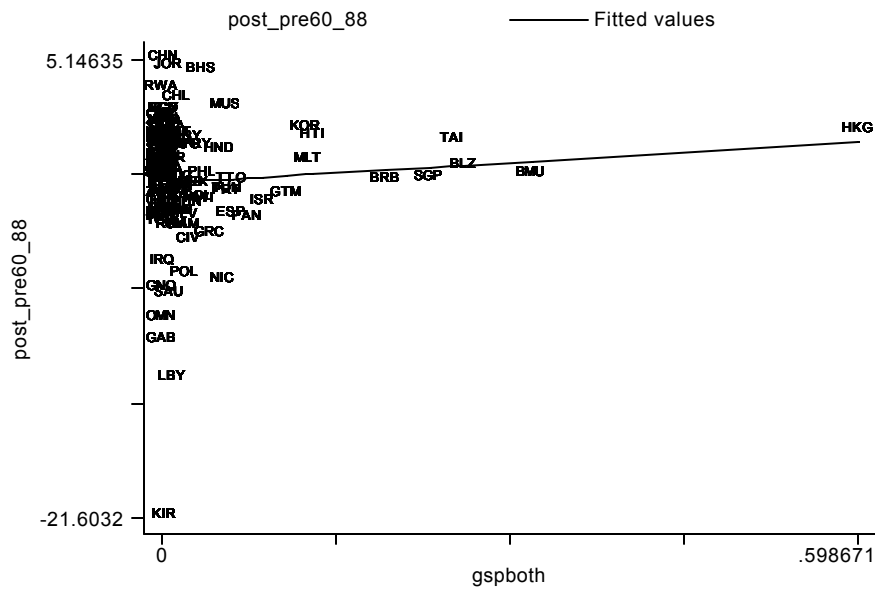
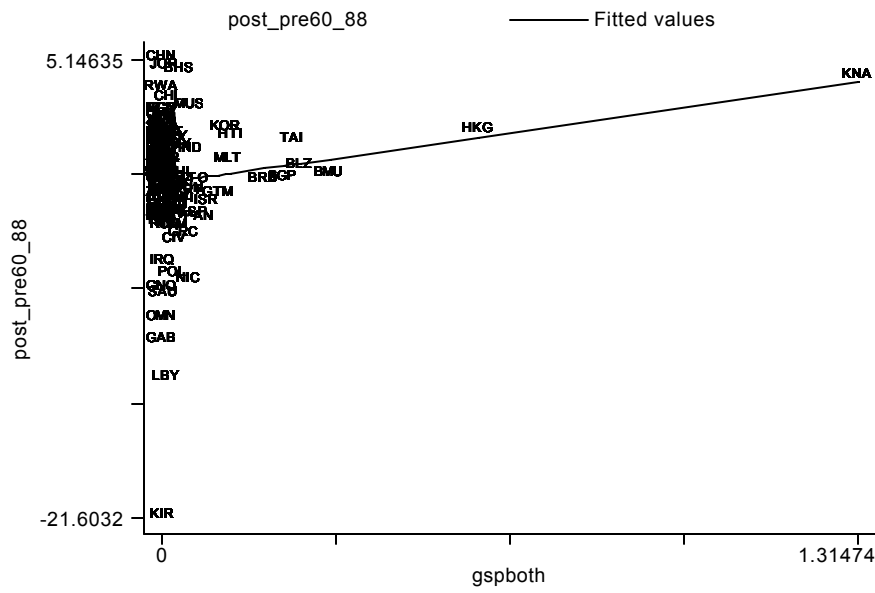


Figure 4: US Tariff Revenue Divided by Exporting Country's GDP in 2001

