

Comments on “Trade, Growth, and Poverty,” by D. Dollar and A. Kraay

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The paper poses an interesting and important question: Have post-1980 "globalizers" performed better than "non-globalizers"? The authors answer the question affirmatively, but only by applying a suitably arbitrary set of selection criteria to their sample of countries.

Here are examples of arbitrary decisions that bias the results in the selection of "globalizers":

- The authors combine a policy measure (tariff averages) with an outcome (import/GDP) measure in selecting countries. This is conceptually inappropriate, as policy makers do not directly control the level of trade. Saying that “participation in world trade is good for a country” is as meaningful as saying that “upgrading technological capabilities is good for growth” (and equally helpful to policy makers). The tools at the disposal of governments are tariff and non-tariff barriers, not import or export levels.
- The paper uses different base years for calculating changes in tariffs and trade volumes. Leaving the conceptual muddle aside, the authors also bias their results by using the early 1980s as their base for tariff reductions, and the late 1970s as their base for increases in imports. As I will show below, this makes a difference.
- They exclude one country (Colombia) that should be in their list of “globalizers” according to all their stated criteria. This is apparently inadvertent.
- They include in their list 6 additional countries (out of 18) that do not fit the stated criteria. The major reason offered is that these countries joined the GATT/WTO since the 1980s. In reality, a total of 42 countries have joined GATT/WTO since 1980; we are not told why the remaining countries have not been included by the same logic.

Here is what we get if we carry out the DK exercise, conceptually inappropriate as it is, cleanly and without resorting to additional tricks. The authors’ criterion is that we should focus on countries that have had the largest tariff reductions and trade increases since 1980. So using the authors’ own data, I have applied mechanically the following rule: Find the countries that are in the top 40 in terms of largest proportionate reduction in tariffs and largest proportionate increase in imports/GDP over the period 1980-84 to 1995-97, and select countries that make it to both lists. (The authors do not provide tariff data for periods prior to 1980-84, so 1980-84 is the earliest period that can serve consistently as a base.)

This selection rule yields the following list of “globalizers”: Argentina, Brazil, Colombia, Haiti, Hungary, Jamaica, Korea, Morocco, Mexico, Mauritius, Malaysia, Nepal, Philippines, Paraguay, Sierra Leone, Thailand, Uruguay. The growth experience of these countries as a group is shown in Chart 1. This chart reveals quite an undistinguished performance, and presents a very

different picture from that shown in DK. Note in particular that we find the "no-tricks" set of globalizers to be growing on average at a significantly lower pace than in the 1960s and 1970s.

As I indicated above, it makes little sense to combine an outcome measure with a policy measure in selecting a subset of countries. I shall argue below that the authors' own tariff data are actually pretty reasonable in terms of ranking the restrictiveness of countries trade regimes vis-à-vis each other. So an alternative, and more appropriate selection rule is one that uses information only on tariffs. This alternative selection rule goes as follows: Pick the ten countries with the largest proportionate cuts in tariffs since early 1980s.

This rule yields the following countries: Brazil, Colombia, Haiti, Uruguay, Guinea, Bangladesh, South Africa, Chile, Kenya, Ghana. Their collective performance is shown in Chart 2. The main difference with Chart 1 is that these countries turn out to be the ones that suffered much greater output collapses in the early 1980s (a collapse that is associated with the debt crisis of the period). The deeper trade reforms that these countries undertook are partly explained by this fact. In any case, their growth performance since then has been hardly exemplary, at least when one uses these countries' own recent history as a yardstick.

Therefore: When one performs the DK test without making arbitrary choices that bias the selection of the country samples, one gets results that provide no support to the hypothesis that "globalizers" did significantly better.

This brings me to two important questions.

1. What about India and China? Doesn't their experience show the growth-promoting effects of trade liberalization?

Actually, not. And for a very simple reason that DK neglect to mention. In both India and China, the main trade reforms took place about a decade after the onset of higher growth. Moreover, these countries' trade restrictions remain among the highest in the world.

The Chinese case is known well enough. The increase in growth started in the late 1970s with the introduction of the household responsibility system in agriculture and of two-tier pricing. Trade liberalization did not start in earnest until much later, during the second half of the 1980s and especially during the 1990s, once the trend growth rate had already increased substantially.

The case of India is shown in Chart 3. As the chart makes clear, India's trend growth rate increased substantially in the early 1980s (a fact that stands out particularly clearly when one benchmarks India's growth against other developing countries, as is done in the chart). Meanwhile, serious trade reform did not start until 1991-93. The tariff averages displayed in the chart show that tariffs were actually higher in the rising growth period of the 1980s than in the low-growth 1970s. Of course, tariffs hardly constitute the most serious trade restrictions in India, but they nonetheless help display the trends in Indian trade policy.

Of course, both India and China did "participate in international trade," and by that measure they are both globalizers. But the relevant question for policy makers is not whether trade per se is

good or bad—countries that do well also increase their trade/GDP ratios as a by-product—but what the correct sequencing of policies is and how much priority deep trade liberalization should receive early on in the reform process. With regard to the latter questions, the experiences of India and China are suggestive of the benefits of a gradual, sequenced approach.

2. Aren't tariff data too messy to use for the purpose of measuring the restrictiveness of trade policies in different countries? Shouldn't we prefer to use "proxies" for trade policies (such as trade volumes) instead?

Again, no on both counts. It is true that tariffs are typically only a small part of the protective apparatus that countries use. However, their levels tend to be pretty accurate reflections of the overall restrictiveness of their trade regimes. Table 1 displays some figures, using the tariff data in the DK paper. It is hard to find countries that would be grossly misclassified when one uses only their average tariff levels. Having looked at various measures of trade policy for some time now, I am of the view that the available indicators of tariff and non-tariff averages are reasonably accurate in ranking countries in terms of trade policy openness and in showing changes in openness over time.

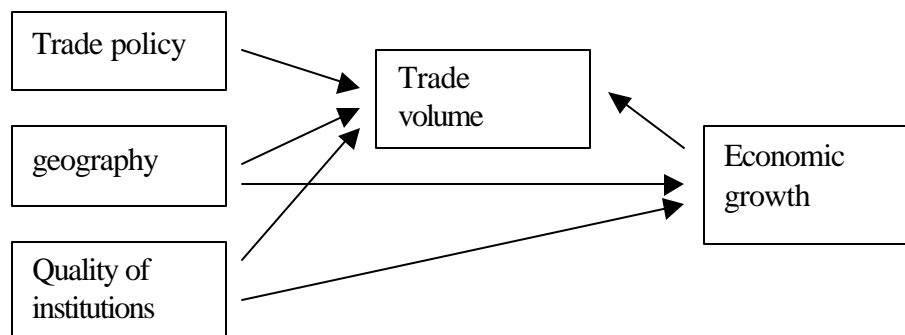
If tariff averages are indicative of overall protection levels, one expects to find a negative relationship between tariffs and import/GDP ratios (controlling for country size, incomes, and other possible determinants of trade volumes). Contrary to the authors' claim, that is indeed what one finds. Chart 4, which uses the authors' own tariff and trade data, shows that there is a very tight relationship between average tariff levels and import/GDP ratios. The t-statistic on the tariff variable exceeds (in absolute value) 4!

Simply put, tariff averages are a reasonable proxy for trade restrictions. A decision to use outcome variables or other proxies instead of tariffs reflects, most likely, a different rationale—namely, that the growth-regression results using tariffs do not support the authors' priors.

What can we learn from regressions with trade/GDP used as regressor?

Essentially nothing, unless we assume the result we are testing for. This is because trade and incomes are both endogenous (they are both outcome variables). Econometrically speaking, the “identification” assumptions required to ascribe any causality to trade (let alone trade policy) are too stringent to be satisfied

Consider the following causal model of development:



This is a model where neither trade policy nor trade volumes have a causal impact on economic growth, yet trade and growth are correlated (because the things that cause growth also lead to higher trade). Econometric identification of the impact of trade requires exogenous instruments that are correlated with trade, but are (conditionally) uncorrelated with economic growth. What might appear to be appealing instruments, such as geography, are invalid because they have direct, independent effects on growth.

The authors first-difference their data and use lagged values of trade as instruments. But this doesn't work either because it is not enough that the instrument be pre-determined. As mentioned above, the instrument must also not affect the outcome variable (growth) through any other channel than the variable that is instrumented. This requirement does not hold under plausible circumstances:

- shocks to income can be persistent over time;
- the institutional environment (“property rights” / “transactions risk”) can change over time (sometimes quite rapidly as in Chile, Korea, or China), and even when the institutions themselves do not change, the same result can obtain from changes in the external environment that interact with institutional quality; neither channel is controlled in the regressions.

My own interpretation of the data is that trade and growth have a common driver: institutions. Recent work shows that the quality of institutions can be as important a determinant of trade as trade policies per se (Anderson and Marcouiller), that it has a strong, causal link to incomes (Acemoglu, Johnson, and Robinson), and that it exerts an important effect on changes in growth rates over time (Rodrik).

In conclusion, given these difficulties of interpretation associated with regressions where trade volumes are entered as independent variables, and the obvious appeal of using direct trade policy indicators (tariff and NTB averages) instead, I see essentially no good methodological reason for using trade volumes as a “proxy” for trade policy.

My bottom line:

- The analysis in this paper of the post-1980 "globalizers" is extremely misleading.
- When the analysis focuses on indicators of trade policy, we find no evidence that rapid/deep trade liberalizers did better than other countries (and some evidence to the contrary)
- Direct indicators of trade policy (tariff averages and NTB coverage ratios) do a reasonably good job of ranking countries vis-à-vis each other with respect to trade policy openness.
- Trade volumes (as a share of GDP) are correlated with incomes, but this is devoid of policy content unless one is able to trace out the links from policy via trade to growth.
- The cross-country evidence is consistent with the hypothesis that the quality of institutions (appropriately instrumented) is the driving force behind both trade and incomes.
- The authors' claims regarding the beneficial effects of trade liberalization on poverty have to be seen as statements based on faith rather than evidence.

Finally, let me make a point about the Rodriguez-Rodrik paper, which the authors mention. Their discussion makes it seem like our paper was about the lack of robustness of growth regressions (a la Levine and Renelt). In fact, our point in that paper was more basic and more damaging to the openness-growth literature. We argued that authors in this literature have used inappropriate indicators of trade policy, selected to systematically bias the results in favor of showing a statistically and quantitatively significant link between trade liberalization and growth. Our complaint was not about the fragility of the results—it was about the use of patently inappropriate measures and methods.

Non-robustness and fragility in cross-national regressions is something we probably have to live with. But inappropriate and misleading methods are something we can dispense with.

References

Anderson, J., and D. Marcouiller, "Trade, Insecurity, and Home Bias," NBER Working Paper 7000, March 1999.

Acemoglu, D., S. Johnson, and J.A. Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation," typescript, March 19, 2000.

Rodriguez, Francisco, and Dani Rodrik, "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence," in B. Bernanke and K. Rogoff, NBER Macroeconomics Annual 2000, Cambridge, MA, MIT Press, 2000, forthcoming.

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Chart1

**Growth of post-1980 "globalizers"
(w/out tricks)**

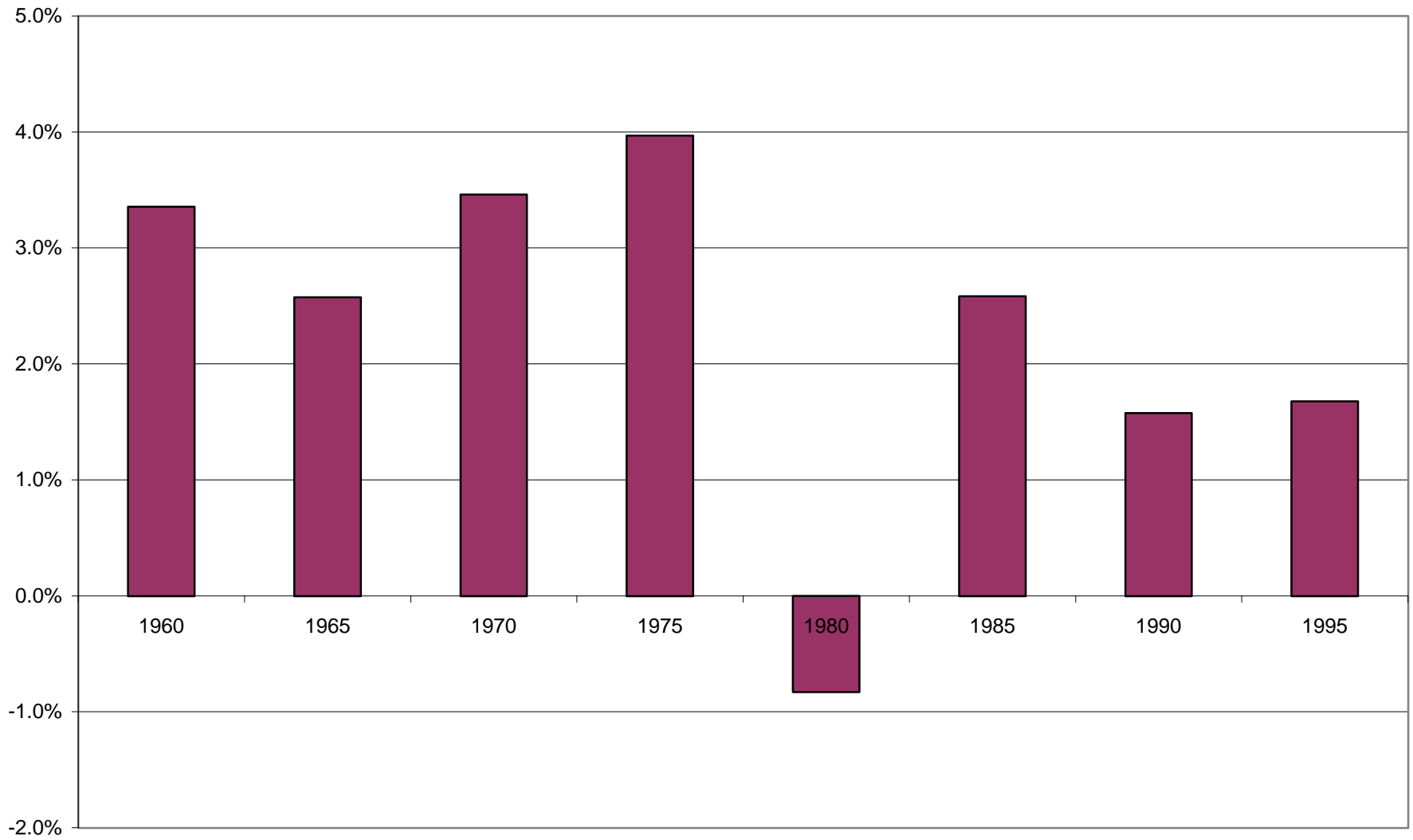
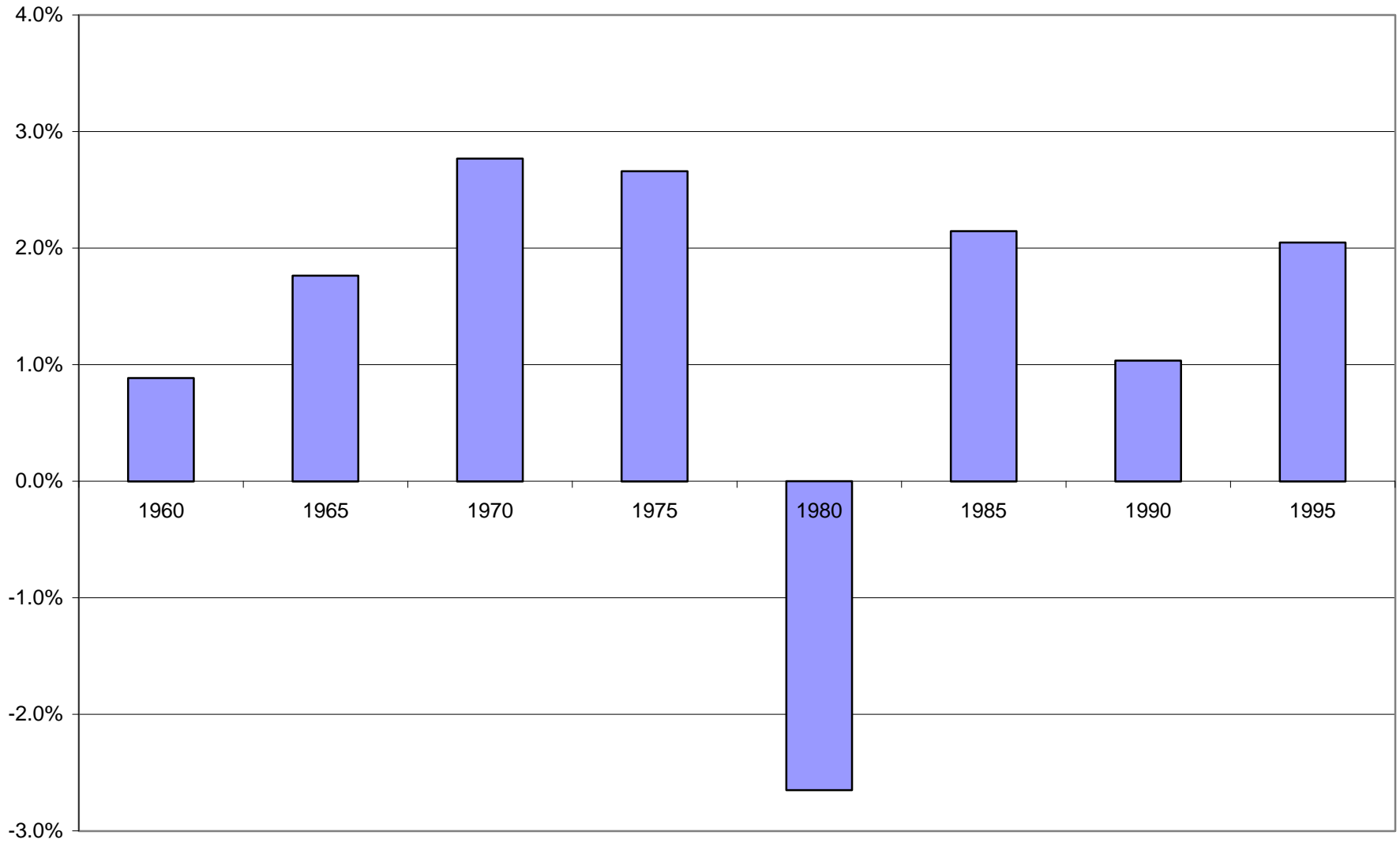


Chart2

**Growth experience of deep trade liberalizers since early 1980s
(top ten countries with the deepest tariff cuts)**



Tariffs and growth in India

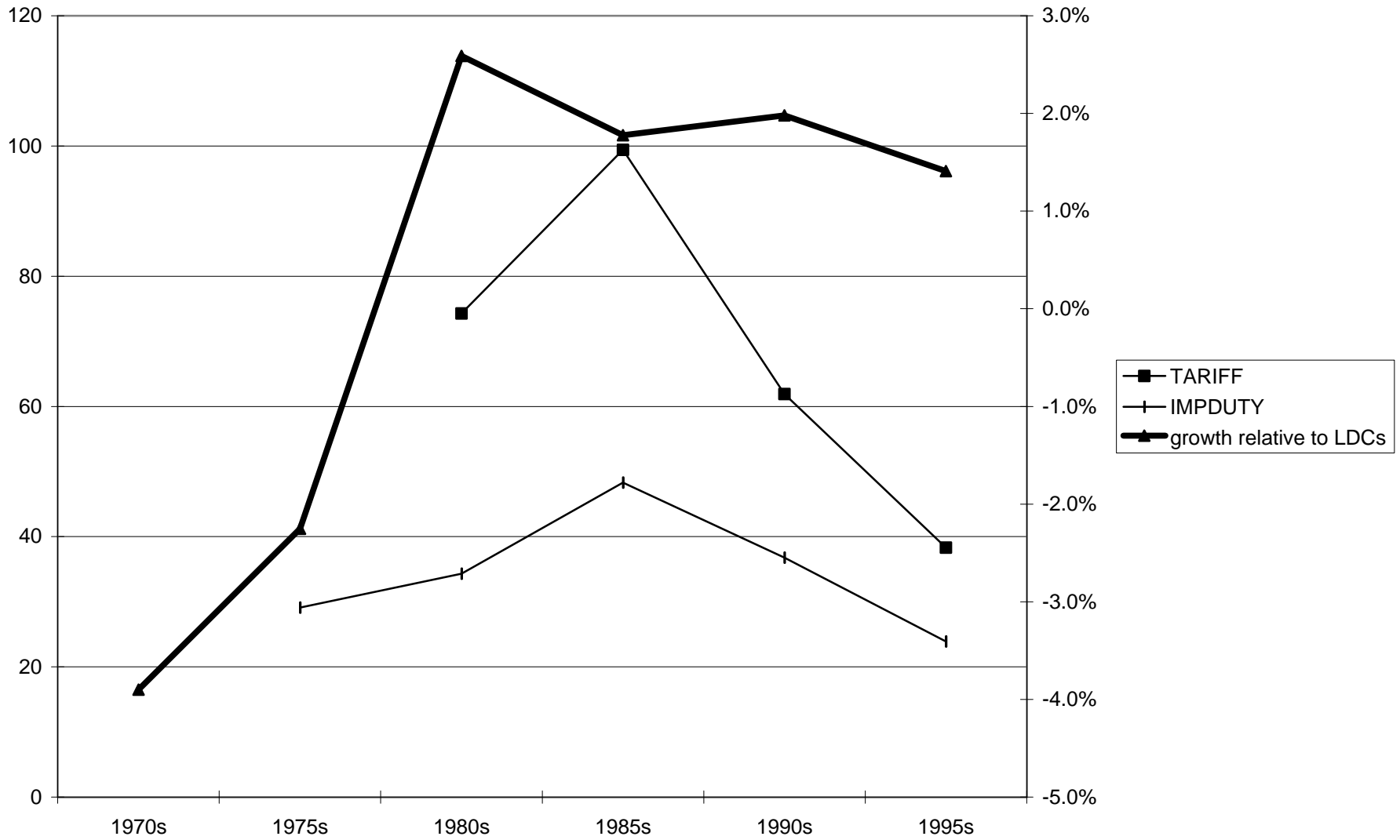
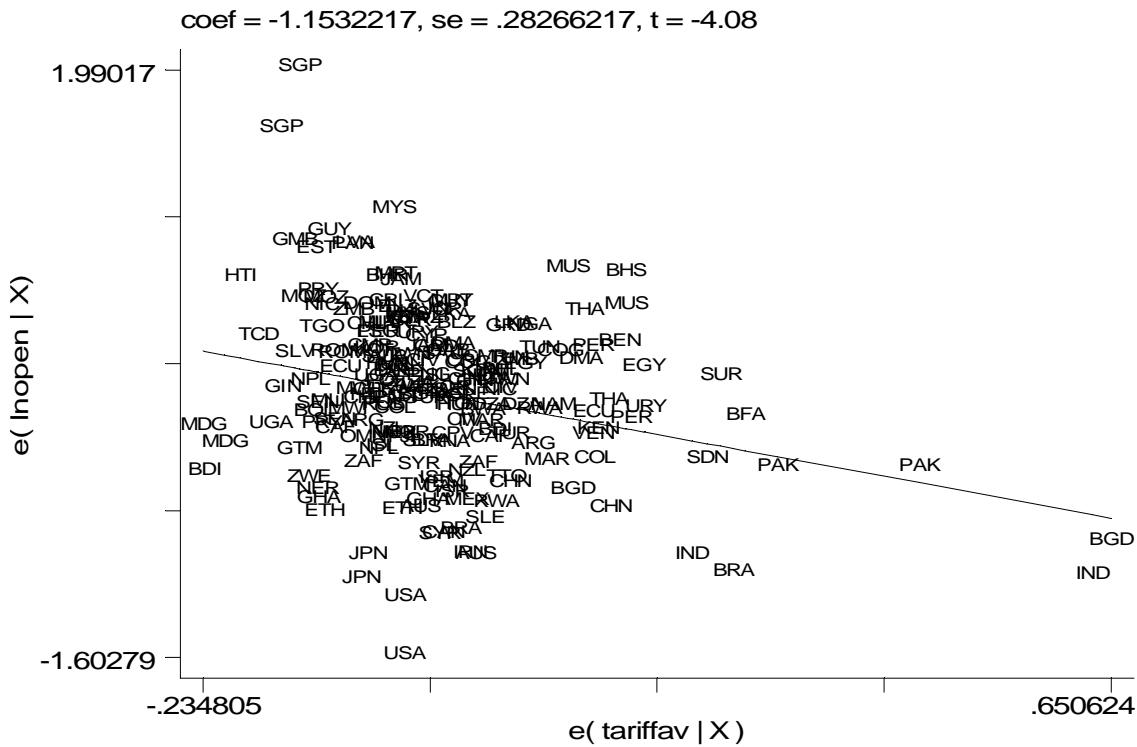


Chart 4

Are tariff levels really uninformative about trade volumes?



Dependent variable: Log import/GDP ratio

Independent variables: average tariffs, and other regressors in Table 5 of Dollar-Kraay.

Sample: Pooled data of decadal averages for 1980s and 1990s. Separate regressions for each decade yield virtually identical results.

(Dollar and Kraay get different results in their Figure 11 because they use a different tariff measure than their preferred measure in the body of the paper.)

Table 1

Tariff Averages for 1980s and 1990s**A. Countries with the highest tariffs**

1980s		1990s	
Bangladesh	94.5%	Pakistan	56.8%
India	91.0%	India	50.5%
Pakistan	72.2%	Bangladesh	39.8%
Burkina Faso	60.8%	Rwanda	38.4%
Sudan	53.6%	Cambodia	35.0%
Brazil	46.7%	Thailand	33.9%
Benin	42.8%	Sudan	33.5%
China	42.4%	Bahamas	32.0%
Egypt	41.6%	Egypt	31.4%
Suriname	40.0%	China	31.2%

B. Countries with the lowest tariffs

1980s		1990s	
Hong Kong	0.0%	Hong Kong	0.0%
Singapore	0.3%	Singapore	0.4%
Oman	2.6%	Estonia	1.9%
United Arab Em.	2.9%	Brunei	2.7%
Qatar	3.0%	Bahrain	3.5%
Kuwait	3.9%	Iceland	3.9%
Bahrain	4.4%	United Arab Em.	4.0%
Switzerland	4.4%	Switzerland	4.1%
Saudi Arabia	5.7%	Lithuania	4.6%
Norway	5.8%	Oman	4.7%