Distributional Effects of Globalization

Devashish Mitra
Syracuse University & NBER

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In this memo, I am going to discuss the effects of globalization on the distribution of income. While the term "globalization" encompasses the various economic, political, cultural and social aspects of the many different types of international integration such as trade, capital mobility, labor migration etc, I will focus on what I consider the main component of globalization, namely freer trade. As I will argue in this memo, the predicted effects of trade on income distribution are dependent on the assumptions we make about intersectoral factor mobility in our models. In presence of costly intersectoral factor adjustments, the popular support for trade liberalization (or the opposition to it) in a country depends, among many things, on the degree to which people discount their future and on their perceived uncertainty about the future. How the support for reforms actually gets transformed into actual reforms depends on the political process. In this memo, I try to discuss all these issues and their implications for the nature of questions that should figure in the proposed survey.

I start my discussion here with the staple model of international trade theory, namely the Heckscher-Ohlin model. In this model, we assume perfect, intersectoral factor mobility along with perfect competition in all markets and constant returns to scale in production. Trade in this model helps abundant factors, and hurts scarce ones. This is what we call the Stolper-Samuelson theorem. A straightforward implication of this theorem is that trade will hurt unskilled workers in rich countries but will benefit them in poor countries. Owners of capital (human and physical) will benefit from trade in rich countries, while trade will hurt such factor owners in poor countries. The key to these results is the assumption of intersectoral factor mobility, whose validity will determine whether the Stolper-Samuelson helps us understand the support (or the lack of it) for trade reforms.

Another important model in trade theory is the specific factors model, also called the Ricardo-Viner model. The only change in assumption relative to the Heckscher-Ohlin model is the one relating to factor mobility. Some factors are sector-specific and their fortunes are positively correlated with the relative prices of goods produced in their respective sectors. Therefore protection given to a sector will benefit the specific factors working in that sector. Thus freer trade will be opposed by owners of factors employed in import-competing sectors, while it will be supported by specific factor owners in the export sectors.

Which of the above models is the right one in the context of the political economy of trade policy? There is no consensus on this issue. In the long-run, factors should be intersectorally mobile, while in the short run they are not. Thus, the Heckscher-Ohlin is a long-run model, while the specific-factors model is a short-run model of international trade. The two models can also be viewed as polar cases of a model with adjustment costs in factor mobility. Therefore, unless a person's horizon is very short and/or adjustment costs are very high (or negligible), both these models must be complementary in predicting a person's support for or opposition to freer trade. Starting from a point of long-run disequilibrium, the present discounted value of a person's income stream will consist of initial incomes that depend on his/her initial industry of employment and then over time consist of incomes that are increasingly dependent on the factor type. Therefore, one's support for a trade reform is going to depend on both the industry of employment, as well as factor type. It is not surprising that empirical studies have found the existence of both these elements.[1] Based on these

[1] Scheve and Slaughter (2001) find, using survey data for the US, that factor-type dominates industry of employment as a determinant of individual attitude to trade liberalization. Balistreri (1997) arrives at the same conclusion using Canadian survey data. While Beaulieu (2002) finds both factor cleavages and industry cleavages to be important in Canada, even he finds the former to be more important than the latter. Rogowski (1987) shows how coalitions formed in the US, Britain and Germany in the nineteenth century are those predicted by the Heckscher-Ohlin model, i.e., along factor lines. Hiscox (2001), in his historical

arguments, in addition to asking the standard questions about support or opposition to reforms, skills, education, assets and industry of employment, I suggest the following survey questions:

For workers

1. Are your skills transferable to other industries without any significant training? If yes, what are those industries?
2. Are there any additional industries to which your skills might be transferable with less than a couple of years of training? If yes, what are those industries?
3. In order to move to the alternative forms of employment you mentioned above, what do you expect the monetary training costs to be? Please also include foregone income during the period of training.

For firm owners/managers:

1. What is the value of your total capital stock?
2. What proportion can be moved to production of a different product, if needed?
3. What proportion of your capital stock gets used up every year? In other words, what are your capital replacement costs arising from depreciation (wear and tear) and obsolescence?

The third question is important, as I believe a high rate of depreciation and obsolescence means that new capital goods need to be bought even if the firm continued to produce the same good, and therefore, moving to the production of a different good would not be that costly.

While trade policy is a redistributive device, the government's desire and its ability to redistribute income will be a function of the economy's asset distribution. For example, the popular support for any kind of trade policy will depend on asset distribution. In the Heckscher-Ohlin version of Mayer's (1984) median-voter model, the key determinant of the political-economy equilibrium tariff is the ratio of the median to mean capital stock in the economy. In Dutt and Mitra (2002), we use the income Gini coefficient as a proxy for asset inequality. I think our understanding of the empirical relevance of this model will be significantly enhanced if we can collect detailed information on asset distribution. Questions to individuals about the value of their financial assets, education (human capital) and land ownership will be very useful in this regard. Firms can be asked questions about what the distribution of their share ownership across shareholders looks like. If we have representative samples, we can create summary measures of inequality, such as overall asset ginis, land ginis, capital ginis, human capital ginis etc. In addition to creating measures of inequality at the national level, measures of sectoral inequality might also be useful. Our asset inequality measures will be useful not only for testing median-voter type political economy models, but also for investigating lobbying models as the extent of the free rider problem in lobbying depends to a great deal on asset inequality. In sectors and in economies where asset ownership is concentrated, major factor owners can easily overcome their free-rider problem in lobbying.

Another determinant of redistribution is the ideology of voters and the government. While some governments might believe in promoting capital accumulation by having policies skewed in favor of capitalists (right wing), other kinds of governments may put a high weight on the reduction of poverty and inequality and therefore, are pro-labor (left wing). Alternatively, we could think of these two types of governments as representing their constituents, namely capitalists and workers. The direction, nature and size of redistribution will be dependent on the government's political valence (right or left-wing),[2] which I would like to think of being part of something broader that I call

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study of six nations, looks at how historically the nature and structure of partisanship (industry versus factor lines) on the trade issue changes over time and varies across nations and depends on the extent of intersectoral factor mobility, which itself keeps changing over time and varies across countries at any point in time.

[2] See Dutt and Mitra (2005) for their results as well as for a discussion of the related literature.

"ideology". The Database on Political Institutions (DPI) at the World Bank classifies political parties worldwide as left, right and center based on parties' manifestos and their names. However, I would suggest we address this issue more seriously in our surveys. In other words, we try to ask a country's citizens who they believe the constituents of the various political parties are. We should also ask the representatives of the parties questions about their economic ideology and their constituents.

Persson and Tabellini (2000), in some of their models, have also shown the importance of other kinds of ideology, such as religious and social, in economic policy determination. For example, if one of two or more political parties in a country is much closer to the majority of citizens in their religious and social beliefs (and if citizens attach a high weight to these values), such a party, when in power, has much more flexibility in choosing economic policies. Therefore, we also need to collect information on the religious, social, political and economic ideology of citizens and political parties.

Trade, as we know very well, creates winners and losers. However, if trade results in the availability of a larger variety of goods, then this can to a large extent moderate the negative effects for losers and strengthen the positive effects for winners. Under such conditions, everyone gaining from trade is a possibility. Also, a larger variety of imported inputs can result in higher productivity of various factors of production, including of those who would have oterhwise lost from freer trade. We would expect this to happen through a large increase in the spectrum of varieties in a fairly small country that integrates with a much larger rest of the world, as theory suggests the number of varieties is increasing in the size of the integrated economy. In our surveys, we need to find out how much consumers value these additional varieties, and how much firms value a larger variety of high quality inputs. Does all this mean it is relatively easier for small countries to open up and sustain this openness?

Next, I want to emphasize the need to test standard models of political economy of trade policy, especially if we believe that trade policy is endogenous to the political and economic structure of a country. I have already talked about the Mayer model in a different context. For cross-industry analysis, the state-of-the-art model is the Grossman-Helpman (1994) "Protection for Sale" model. Support for this theory has been found by Goldberg and Maggi (1999) and Gawande and Bandyopadhyay (2000) for the US, Mitra, Thomakos and Ulubasoglu (2002) for Turkey and McCalman (2004) for Australia. Testing such a model requires data that are not easily available. The variables in this model for which data are easily available are import penetration and protection. What are not available are data on political organization and trade (import-demand and export-supply) elasticities. Questioning firms in detail about their political affiliations and connections, and whether they supported any specific political parties or politicians might be useful. Also, information on unionization might be useful in this context. At the other end, I also suggest questioning politicians if possible. One of my students, Kontee Nuchsuwan, has done a study for Thailand where he collects data on the past business backgrounds of the different members of parliament. He then tries to study the relationship between the tariff level and the number of MPs with business background in each of the industries. There seems to be a strong positive correlation between the industry tariff level and the number of MPs with past business background in production in that industry. The tariff level is negatively correlated with the number of MPs with a background in distribution in that sector. Such data on the business backgrounds and links can be collected for legislators in different countries. This would be an important component of the political organization of industries.

Another sub-project that this project could sponsor is the estimation of import-demand and export-supply elasticities. Not only are these estimates important in the testing of models such as the "Protection for Sale" model, they are important for calculating the welfare costs of deviations from free trade, as well as in calculating the separate costs and benefits for various sections of society.

The above analysis (and most of the analysis in the economics and political science literature) is done on the assumption that everyone has perfect foresight about their individual gains and losses from trade reforms. This, in many cases, might not be true. In fact, most people, ex ante, may not know their post-reform identity. This is the point made by Fernandez and Rodrik (1991). Due to the presence of this individual-specific uncertainty, it is possible that ex ante there is lacking a popular support for trade reforms, but if these reforms are forced by a dictator (or an international financial institution), ex post we will see strong support for them. In the light of this argument made in the literature, I propose the following questions, especially for the surveys in developing countries that have already had trade reforms:

1. Were you for or against trade reforms prior to their announcement?
2. After the reforms, are you for or against them?
3. If your answers to (1) and (2) are different, is this difference because of the uncertainty of the effect on your situation of the reform?
4. How different is your situation after reforms as compared to what you believed before the reforms would be your post-reform situation?

The above questions are important since we would want to know how reversible these reforms and the process of globalization are.

Next I would like to draw your attention to a new aspect of the trade-labor linkage that has received some attention in recent years. It is the impact of international trade in goods on the own-price elasticity of labor demand. Rodrik (1997) argues that trade makes the demand for labor more elastic which in turn leads to larger employment and wage shocks as a result of given vertical shifts in the labor-demand curve (arising from shocks to productivity or to output demand). Also, this increase in elasticity leads to the erosion of the bargaining power of labor vis-à-vis capital in the sharing of supernormal profits, and to labor bearing a larger burden of the impact of non-wage labor costs. Thus, through this channel, workers are placed under greater pressure as a result of trade liberalization (see Slaughter (2001) for a detailed discussion of these effects).[3]

Why does an increase in openness lead to an increase in labor-demand elasticity? There are two main channels that Rodrik (1997) points out. Firstly, trade reforms allow cheaper imports of intermediate and capital inputs as well as of semi-finished goods and unassembled parts for assembly/finishing in the importing country. All these imports are substitutes for the services of domestic labor. Thus substitution possibilities in production increase with the availability of possibly cheaper and a larger variety of inputs. The second channel works through one of Hicks-Marshallian laws of factor demand which can be stated as follows: "The demand for anything is likely to be more elastic, the more elastic is the demand for any further thing which it contributes to produce" (See Hicks (1963) and Slaughter (2001)). Given that trade liberalization leads to the greater availability of substitutes for any product (and thus to greater substitution possibilities in consumption), product-demand elasticity increases[4] which in turn, as explained above, raises factor-demand elasticities.

The first paper that provides a very systematic and rigorous empirical investigation of the impact of the hypothesized positive effect of trade on labor-demand elasticities is Slaughter (2001). Using four-digit industry-level data for the US for the period 1961-91, he finds mixed support for the hypothesis. Krishna, Mitra and Chinoy (2001), use plant level data from Turkey to examine the same

[3] In this context, we would also like to point out that this very impact of trade liberalization on labor-demand elasticity will, in periods of sustained productivity growth, lead to higher wage and employment growth than prior to the reforms.

[4] Levinsohn (1993), Harrison (1994) and Krishna and Mitra (1998) show that in Turkey, the Ivory Coast and India respectively, trade reforms resulted in lower price-marginal cost markups which implicitly implies a more elastic product demand curve perceived by individual firms.

hypothesis and find no empirical support for it.[5] Hasan, Mitra and Ramaswamy (2003), using Indian industry-level data disaggregated by 15 major states, arrive at three robust findings over time and across industries. First, labor-demand elasticities go up after the trade reforms. Second, the higher the protection an industry receives, the lower is its labor-demand elasticity. And third, states with more flexible labor markets (i.e., states in which there are fewer restrictions on the hiring and firing of labor) not only have a more elastic demand for labor, the impact of trade reforms on their labor-demand elasticity is also greater.

Therefore, based on the above arguments, we need to use our surveys to find out whether workers face more uncertainty in their wages and employment now as compared to the pre-globalization period. Also, we need to find out whether globalization has eroded their bargaining power. If the answer to at least one of these questions is "yes", then we need to know whether they consider this an important element of the costs of globalization they face.

I finally want to end my discussion by emphasizing the role of reform packages and compensation schemes in the context of political economy forces at work. Edwards and Lederman discuss the case of Chile and argue that the successful implementation of reforms there was due to such packaging. In that case, packaging should be more of a necessary condition in other more democratic countries where distributional concerns are more important.[6] The reform package in Chile consisted of trade liberalization, export promotion, devaluation, bank privatization, financial deregulation, pension reform, capital account liberalization, privatization of real sector firms and labor reforms. Each of the different groups of people in society benefited from at least one of the components of the reform package. From trade liberalization, import-competing producers would obviously lose and so would unionized labor, but exporters, non-tradable producers, "grupos" (financial conglomerates, which control a large part of the banking sector and significant portions of the export industry) and informal labor would gain. The import-competing capitalists would obviously gain from devaluation, capital account liberalization, privatization and labor reforms, while organized labor would benefit from pension reform. Labor reforms would benefit every group except for organized labor and so would privatization. In other words, with such packaging of reforms, there is adequate scope for making the package generally palatable to all groups or at least to groups that together constitute a majority of the population. The packaging also provides the government more degrees of freedom in carrying out economic reforms.

Another country that has certainly introduced reforms in the form of a comprehensive package is Colombia. According to Fleischer (1994), their reforms in the 90s included labor-market reforms, reform of the foreign investment regime, financial sector reform, liberalization of foreign exchange controls, increasing central bank independence, drastic elimination of red tape for business and the privatization of ports and railroads. Clearly, these reforms benefited diverse groups of the country's population. Thus as Rodrik (1995) has argued an agenda setter has great flexibility.

There are many direct and indirect compensation schemes that can be used and have been used in some developing countries. Direct compensation can take the form of rebates on the value added tax, rebates on import duties paid for inputs to be used in output to be exported and subsidies to fishing and tree planting for lumber exports (as in Chile). Depreciation of the real exchange rate is an

[5] Maskus and Bohara (1985) use data for one year to see the relationship between labor-demand elasticities and product-demand conditions in US manufacturing.

[6] In this context, it is important to realize that with a reform package, all the reforms do not necessarily take place exactly at the same time. However, the different interest groups have the opportunity to take a stand on the entire package but not necessarily on the components separately. Different compensation schemes can also be incorporated in the reform package.

important indirect compensation to the import-competing sectors. Repression of the labor union can be, as in Chile, an important indirect compensation to many different kinds of owners of sector-specific factors. Programs guaranteeing minimum employment are also very useful in this context.

Thus, in our surveys, we need to control for the fact that different reform packages and compensation schemes may be offered in different countries and that these differences can account for the variation across countries in the success of reforms and popular support for them. So the surveys should include questions that try to address these issues. For example, depending on the package that was offered in every country, the survey respondents should be asked to what extent each of the components of the package was crucial in their support for or opposition against reforms.

Thus, in this memo, I have tried to explain the relevance of different models of international trade for our understanding of the effects of trade on income distribution. I have also discussed how we can use these models to analyze individual attitudes towards trade reforms, and thus understand the support for or opposition to them. As I discuss in this memo, these depend on the extent to which people discount their future, on the magnitude of adjustment costs, asset ownership and distribution and individual-specific uncertainty.

References

Balistreri, Edward J., 1997. "The Performance of the Heckscher-Ohlin-Vanek Model in Predicting Endogenous Policy Forces at the Individual Level" *Canadian Journal of Economics* 30(1), 1-17.

Beaulieu, Eugene, 2002. "Factor or Industry Cleavages in Trade Policy? An Empirical Analysis of the Stolper-Samuelson Theorem," *Economics and Politics*, 14(2), 99-131.

Dutt, Pushan and Devashish Mitra, 2002. "Endogenous Trade Policy through Majority Voting: An Empirical Investigation*," Journal of International Economics* 58, 107-133.

Dutt, Pushan and Devashish Mitra, 2005. "Political Ideology and Endogenous Trade Policy: An Empirical Investigation," *Review of Economics and Statistics* 87(1), 59-72.

Edwards, S. and Lederman, D., 2002, "The Political Economy of Unilateral Trade Liberalization: The Case of Chile," in J. Bhagwati ed. *Going Alone*, MIT Press, Cambridge, MA.

Fernandez, R., and Rodrik, D., 1991, "Resistance to Reform: Status-Quo Bias in the presence of Individual-Specific Uncertainty," *American Economic Review* 81(5), 1146-1154.

Fleischer, L., 1994, "Colombia's Trade Policy Outlook," CSIS Policy Papers on the Americas, CSIS Americas Program.

Gawande, Kishore, and Usree Bandyopadhyay, 2000 "Is Protection for Sale? A Test of the Grossman-Helpman Theory of Endogenous Protection," *Review of Economics and Statistics* 82(1), 139–152.

Goldberg, Penelope K., and Giovanni Maggi, 1999. "Protection for Sale: An Empirical Investigation," *American Economic Review* 89(5), 1135–1155.

Grossman, Gene and Elhanan Helpman, 1994. Protection for Sale, *American Economic Review* 84, 833–850.

Harrison, Ann (1994). "Productivity, Imperfect Competition, and Trade Reforms," *Journal of International Economics* 36, 53-73.

Hasan, Rana; Mitra, Devashish and K.V. Ramaswamy, 2003. "Trade Reforms, Labor Regulations and Labor-Demand Elasticities: Empirical Evidence from India," NBER Working Paper # 9879.

Hicks, J.R., 1963. *The Theory of Wages*. St. Martin's Press, New York.

Hiscox, Michael J., 2002. *International Trade & Political Conflict*, Princeton University Press, Princeton, NJ.

Krishna, Pravin and Mitra, Devashish (1998). "Trade Liberalization, Market Discipline and Productivity Growth: New Evidence from India," *Journal of Development Economics* 56, 447-62.

Krishna, Pravin; Mitra, Devashish and Sajjid Chinoy, 2002. "Trade Liberalization and Labor-Demand Elasticities: Evidence from Turkey," *Journal of International Economics* 55, 391-409.

Levinsohn, James (1993). "Testing the Imports-As-Market-Discipline Hypothesis," *Journal of International Economics* 35, 1-22.

Maskus, Keith and Bohara, Alok (1985). "The Substitution of Labor, Skills, and Capital in US Manufacturing Trade: Implication for Employment and Incomes," Papers of the Regional Science Association.

Mayer, Wolfgang, 1984. "Endogenous Tariff Formation," *American Economic Review* 74(5), 970-85.

McCalman, Philip, 2004. "Protection for Sale and Trade Liberalization: An Empirical Investigation," *Review of International Economics,* February 2004; 12: 81-94.

Mitra, Devashish; Thomakos, Dimitrios D. and Mehmet A. Ulubasoglu, 2002. " 'Protection for Sale' in a Developing Country: Democracy vs. Dictatorship," *Review of Economics and Statistics* 84(3), 497-508.

Persson, Torsten and Guido Tabellini, 2000. *Political Economics: Explaining Economic Policy*, MIT Press, Cambridge, MA.

Rodrik, D., 1995. Political economy of trade policy. In: Grossman, G., Rogoff, K. (Eds.*). Handbook of International Economics*, Vol. 3. North-Holland, Amsterdam, pp. 1457–1494.

Rodrik, Dani, 1997. *Has globalization gone too far?,* Institute for International Economics, Washington DC.

Rogowski, R., 1987. "Political cleavages and changing exposure to trade," *American Political Science Review* 81 (4), 1121–1137.

Slaughter, Matthew J., 2001. "International Trade and Labor-Demand Elasticities," *Journal of International Economics* 54(1), 27-56.

Scheve, Kenneth F. and Matthew J. Slaughter, 2001. "What Determines Individual Trade-Policy Preferences?," *Journal of International Economics* 54(2), 267-92.