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Mitigating the adjustment costs of international trade

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Abstract

The evidence demonstrating that nations gain from trade is overwhelming. However, trade liberalization can cause disruption to firms and workers, and its gains and losses are spread unevenly. While many gain from trade, import surges have sometimes undermined the economic viability of whole communities. Existing mechanisms specifically designed to mitigate trade adjustment costs are often inadequate. They can be a source of inefficiency and inequity since trade shocks are only a part of the economic uncertainty affecting workers. Gradualism in trade liberalization combined with preemptive measures to strengthen competitiveness, can help mitigate adjustment costs. Displaced workers are best helped using generally applied safety nets, not those specific to trade. But these are not enough. Trade adjustment requires mobility of factors. International coordination is required to support an open and predictable trading system under the WTO, as the greatest future source of trade shocks could be protectionism, not trade liberalization.

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In the present era of globalization and rapid technological advance living standards across the world have risen at unprecedented rates, and over a billion people have been lifted out of poverty. The theoretical and empirical evidence demonstrating that nations gain from trade is overwhelming (Irwin, 2015). However, trade has distributional consequences and gains and losses are spread unevenly. The policy challenge is how to promote and deepen trade integration while ensuring that the losers from trade liberalization are assisted and the cost of their adjustment is mitigated. As the G-20 leaders concluded in their declaration last year "We recognise that the benefits of international trade and investment have not been shared widely enough. We need to better enable our people to seize the opportunities and benefits of economic globalisation." (G20, 2017) It is a fact that, in many instances, the sudden rise in competition from imports, especially – but not only – from China and other low-income countries and the formerly planned economies of Eastern Europe, have caused considerable disruption. These import surges have sometimes undermined the economic viability of localities and whole communities. While some cities and regions have thrived as they have taken advantage of the expansion of export markets across the world, many individuals, communities, and localities have been unable to adjust.

This brief examines possible policy responses to the adjustment costs related to international trade. It argues that, contrary to the conclusions drawn from frictionless neoclassical models, the costs of adjusting to trade are large and persistent and may be a cause of the increase in the political resistance to trade. The existing mechanisms specifically designed to mitigate the adjustment costs related to trade are inadequate, and they are often a source of inefficiency and inequity since trade shocks are only a part of the economic uncertainty affecting workers. The brief also argues that the most promising policies are those that extend the social safety net where necessary, protecting workers from all shocks, not just trade shocks, and those that facilitate the mobility of factors of production across sectors and regions. Many of the latter policies should be pursued anyway to improve the nation's competitiveness. As has become increasingly evident over the past year, protectionism and unfair trade practices can also be a source of trade shocks affecting exporters in partner countries, underscoring the importance of maintaining an open, rules-based and predictable trading system.

The Political Resistance to Trade Has Increased

Opinion surveys about trade typically reveal that many take a favorable view of globalization and trade agreements, but large groups in the United States, the European Union and Japan are opposed. A Pew survey carried out in 2014 found that less than 45% of respondents in advanced countries believed that trade creates jobs and less than 25% believed it increases wages (See IMF, World Bank, WTO, 2017). Respondents in developing countries took a more favorable view of trade on both counts. A more recent Pew survey carried out in April 2017, revealed that 52% of respondents in the U.S. believe that trade agreements are not good for the United States (Pew, 2017).

Reflecting these sentiments, the political resistance to trade has become increasingly vocal. Adjustment costs are explicitly mentioned by politicians. For example, in his inauguration speech in January 2017 President Trump said: "*For many decades…we've made other countries*

rich while the wealth, strength, and confidence of our country has disappeared over the horizon. One by one, the factories shuttered and left our shores, with not even a thought about the millions upon millions of American workers left behind. The wealth of our middle class has been ripped from their homes and then redistributed across the entire world." One should not appear to pick on the United States as it is one of the world's most open economies and is probably the most open large economy and it led the construction of the post-war liberal economic order. However, the fact that it is clearly unhappy with the role of the World Trade Organization (WTO) in settling disputes and is deploying certain trade remedies whose WTO-consistency is questionable, is profoundly significant (Dadush, 2017). Meanwhile, according to Global Trade Alert, the G-20 countries implemented nearly 500 harmful trade interventions in the last 12 months, of which about 80% originated outside the United States. What is worrisome is that the rate at which these interventions were implemented was far higher in the last 12 months than has been the case on average since the outbreak of the financial crisis[1] and, since many harmful measures taken since the financial crisis have not been unwound, the stock is rising. The extent and reach of current protectionist policies is reviewed in greater detail in Evenett (Evenett et al, 2018)

New research has identified significant and persistent adjustment costs related to trade

Classical economic theory predicts that, as a country specializes along the lines of comparative advantage, factors of production that are used intensively in the sector in which it has advantage gain while those that are used intensively in the sector in which it does not have comparative advantage lose. Importantly, the theory predicts that the gains outweigh the losses, so it is possible to compensate the losers and still gain in the aggregate. However, it can also be shown that the distributional effects of trade can be large relative to the net gains from trade, and that they are proportionally larger the closer one is to free trade. Thus, when tariffs are very low to start with, the distributional effects of reducing the tariff to zero can be 4 or 5 times larger than the net gains from trade (Rodrik, 2011).

In partial equilibrium models, which may be quite representative of localities which are dependent on a single large employer (Pew, 2017) and from which emigration is costly, the losses and gains from trade liberalization are assumed to be permanent, not temporary. In contrast, in frictionless general equilibrium models which nowadays play an influential role in trade analysis, the factors used intensively in the import sector can immediately (albeit partially; Stolper-Samuelson, 1941) mitigate their losses by redeploying to the export sector or the non-traded sector.[2]

[1] According to Global Trade Alert (2018), over 2009-2018 the US implemented 413 harmful measures, while the other 19 members implemented 2833. Thus, according to these crude measures, the US has implemented about 8 times as many measures in the last 12 months as it did on average since the financial crisis while the other 19 members of the G-20 implemented roughly twice as many.

[2] Some general equilibrium models attempt to incorporate the difficult-to-measure effects of trade on innovation, learning and productivity, which would tend to accelerate economic growth, implying that everyone can gain in the end, over a generation or so.

These predictions have received considerable attention in the empirical literature. One recurring conclusion is that, while in theory, the winners from trade can compensate the losers, the mechanisms for doing so are, at best, inadequate and incomplete (see below), and at worst – as in the case of many developing countries – non-existent (Porto and Hoekman, 2010). It follows that the cost of adjustment is often largely borne by the individual and depend critically on their finding another job. Similarly, capital deployed in the import-competing sector and which is highly specific (e.g. a steel furnace) may be lost completely without provision for compensation, while some types of generic capital (e.g. land and buildings) may find use in other sectors.

The evidence on the existence of compensation of losers from trade is quite unequivocal and consistent, there is often little and sometimes none. In contrast, the evidence and opinions on the cost of adjustment, i.e. the speed and cost at which factors are redeployed are mixed and have evolved in recent years. From considering these costs minor, economists have come to recognize that adjustment costs can be large and persistent.

Prominent at the start of this line of enquiry were World Bank studies which reviewed the experience of several developing and advanced countries during episodes of trade liberalization and structural adjustment in the late twentieth century, and concluded that periods of unemployment were, on the whole, quite short (Papagoergiou, Michaely and Choksi, 1991; Matusz and Tarr, 1999). Meanwhile, several academic studies of advanced countries reached similar conclusions, and attributed the large declines in employment in manufacturing (the most traded sector) to technological innovation (Feenstra and Hanson 2001; Harrison et al., 2011).

However, with slowing growth, the outbreak of the global financial crisis, the subsequent rise in unemployment, and the unprecedented advance of China and other East Asian and East Europeans on world markets, economists were induced to reexamine adjustment costs based on the most recent evidence. In 2010 another large multi-country World Bank study reached rather different conclusions from its predecessors: even in developing countries characterized by informal and flexible labor markets, and even in a context of capital-poor subsistence agriculture, the adjustment costs to trade liberalization could be large and persistent (Porto and Hoekman,2010; Cadot, Dutoit and Olarreaga, 2010). For example, faced with an import surge, African farmers will not exit subsistence agriculture into market crops because of the time and cost required to grow new crops, credit constraints, lack of information (risk), and the logistic impediments to reaching markets. The authors conclude that the gains from trade liberalization, which require redeployment to the export sector ("the supply response"), are far from automatic – they depend on a sound investment climate, a realistic exchange rate, the availability of the appropriate human capital, market infrastructure, information, access to finance, etc.

The cost of adjustment in industrialized economies has received even more attention in recent years. In a landmark study, Autor, Dorn and Hanson (2013) use the rise of China as a natural experiment to examine how employment and wage trends evolved in United States localities depending on how their initial economic structure was competitive with Chinese imports. They find that the localities most competitive with Chinese imports experienced higher rates of unemployment and dependence on government transfers than the regions less exposed, and that the dislocation was long-lasting, a decade or more. Thus, contrary to the assumptions of frictionless models, workers did not easily emigrate to more dynamic regions, nor did they

quickly find jobs in the non-traded sector or traded sectors less exposed to Chinese competition or in the export sector. In fact, in many localities the non-traded sector suffered from the decline of the import-competing sector as its induced demand and the community's income decline. In a related contribution, it is found that import competition from China may have displaced between 2-2.4 million workers in the United States between 1999-2011 including the induced demand on upstream sectors (Acemoglu et al., 2016), a number of jobs approximately equal to the increase in the economy's total employment over that period.

A recent study of the German experience in the face of greater competition from China and (more important for Germany) from Eastern Europe after the fall of the Berlin Wall reaches similar conclusions about the disruptive and long-lasting effects of the import surge on exposed localities and the limited migration and redeployment of labor (Dauth et al.2014). However, the effects in Germany are smaller, attributable to production structures which are less competitive with China. More importantly, when increased German exports to China and Eastern Europe are accounted for, the net employment effect is estimated to be large and positive over 1998-2008, over 400,000, a number of jobs equal to about 20% of the increase in the economy's total employment over that period. Thus, localities most exposed to low-cost competition in both Germany and the United States suffered large adjustment costs. However, the net effect differed at the national level because in Germany the export supply response was stronger. Comparable recent studies on developing countries are not available, but even a perfunctory examination of their export performance reveals very wide differences in responding to increased import competition. For example, countries such as Bangladesh and Vietnam and several others in Asia and Eastern Europe have seen a more vigorous export response than most natural-resource-abundant economies in Africa, the Middle East, and Latin America.

Another recent strand of literature highly relevant to understanding the cost of adjusting to trade focuses on the heterogeneity of firms and shows that trade causes not only a realignment of sectors along the lines of comparative advantage but also of firm structure within the same or similar sectors, with the more efficient firms expanding while the least efficient firms succumb. The net effect can be increased average productivity of the sector and reduced employment. Often, the least-skilled workers are those most affected by the change (Melitz, Redding, Gopinath, Helpman and Rogoff, 2014) contributing to increased inequality.

Various mechanisms exist to mitigate trade-related adjustment costs but, while each has some value, they are generally insufficient and/or have unintended negative consequences

The existing mechanisms that can mitigate trade shocks are of four main types: the pacing of trade liberalization, WTO-consistent trade remedies, price-and-income stabilization schemes, and trade adjustment programs.

Paced liberalization is accepted in GATT/WTO practice, usually taking the form of special and differential treatment that allows developing countries longer implementation periods. Paced liberalization, taking ten years or longer, is also widely practiced in asymmetric regional agreements between advanced and developing countries and sometimes among advanced countries. It is the easiest trade adjustment mitigating measure to apply and is most helpful when it is accompanied by programs that prepare exposed sectors and their workers for

increased competition in domestic markets. The downside of these practices is that the benefits of increased trade are also delayed, and temporary measures can sometimes become permanent.

Trade remedies can include safeguards against import surges which cause injury in a specific sector which, under WTO rules, can be applied to all imports in a specific sector but are temporary (4 years) and entitle the affected exporting members to compensation. Anti-dumping and countervailing duties (to offset subsidization) can be applied to an offending firm (not to all imports in that sector) and can persist as long as the infraction persists. These trade remedies can help deal with egregious instances of unfair practices, but their effect is confined to very specific circumstances, and, moreover, they can also be used and are often used as a pretext for protection.

Price support schemes are widely used to stabilize the price of food and agriculture products more generally, and, under WTO rules, can include a combination of domestic subsidies, tariffs and tariff-rate quotas. In addition to their aim of enhancing food security, many of these programs also seek to support or at least stabilize the incomes of farmers, and to insulate them to a degree from volatility in international markets. Developed country farm support policies insulate producers and often lead to overproduction and a transfer of volatility onto unprotected markets and hurt low-income farmers (Glauber, 2018). In addition to being distortionary, these programs are expensive. In 2016, agricultural producer subsidies amounted to $600 billion, more than half of which were provided by non-OECD developing countries. Much of these producer subsidies benefits larger scale commercial farms (Glauber, 2018)

Trade Adjustment Programs, such as that, by the same name, in effect in the United States, and the more recently instituted European Globalization Adjustment Fund (Claeys and Sapir, 2018) aim to provide additional and temporary support to workers displaced by trade, including for retraining. These programs can play an important political role, enabling trade agreements to be ratified when they would not otherwise, but the experience with them has been largely disappointing. It is not always evident who is displaced by trade or by domestic competition or automation. The US program, for example, has been found to have only limited uptake and effect and to suffer from inadequate funding.[3]

The fact that many of the measures commonly deployed to mitigate trade-related adjustment costs are generally considered insufficient is not surprising, for two reasons. First, the shocks that emanate from increased trade tend to be permanent, not temporary, and so, however generous, government support cannot be expected to offset the full cost of becoming displaced – only to provide time to adjust. Poor countries, which often depend on tariff revenue and see this important source of funds decline with trade liberalization, cannot afford to provide support (Rudra, 2002). Furthermore, it is clear from the preceding discussion that it can take a very long time for workers to become redeployed, especially when a locality is heavily exposed to import competition. Second, workers become displaced for many reasons, such as automation, entry of new and more efficient competing firms, and changing tastes. Several studies have shown that

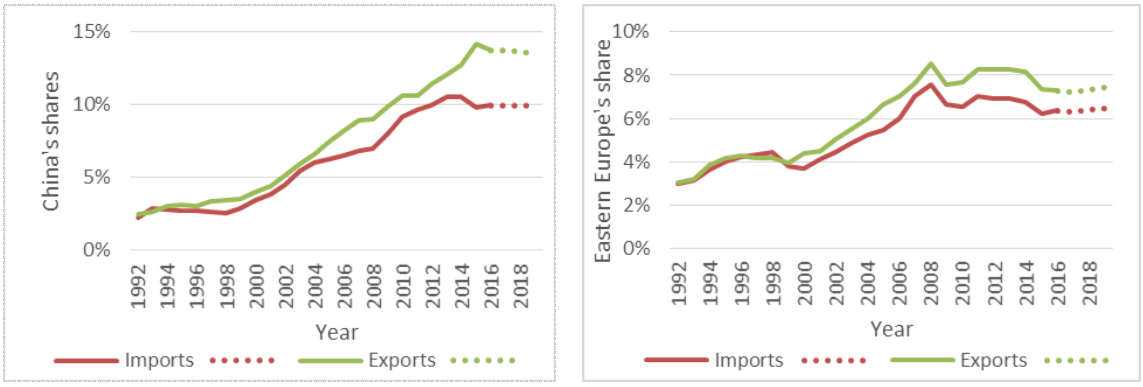
[3] There is some evidence supporting the compensation effect theory of trade which states that government spending rises with trade. However, other studies find that government spending is not affected by trade specifically (Meinhard and Protrafke 2012).

trade dislocation represents only a small part of job churning (Autor, Dorn & Hanson, 2016). The above-mentioned study by Acemoglu, Autor et al., for example, concludes that the China shock may have accounted for about 10% of the job losses in manufacturing over 1999-2011. Compensating only the workers displaced by trade is not only inefficient, creating a distortion in favor of import-competing sectors, it is also inequitable.

In the future, the shocks from trade liberalization may moderate

Looking forward, it is conceivable that the high cost of adjusting to trade in the recent period is not representative. To be sure, there will be more trade and more trade shocks. For example, were India and the largest African countries to rapidly increase their participation in global manufacturing, this will add to the present dislocation. However, these possibilities look far off at present and the rapid rise of China and of Eastern Europe appear as unique events. With import penetration from China and Eastern Europe slowing sharply (Figure 1) and with trade barriers already low in the industrialized economies and in the largest developing ones (Figure 2), it is possible that the largest trade shocks are already behind us. In contrast, there appears to be little prospect of the adjustment to technology or domestic competition waning. If this reading is correct, it weakens the case for privileging trade in the mitigation of shocks.

Figure 1: China and Eastern Europe[4] merchandise export and import shares of world merchandise trade (current US$)



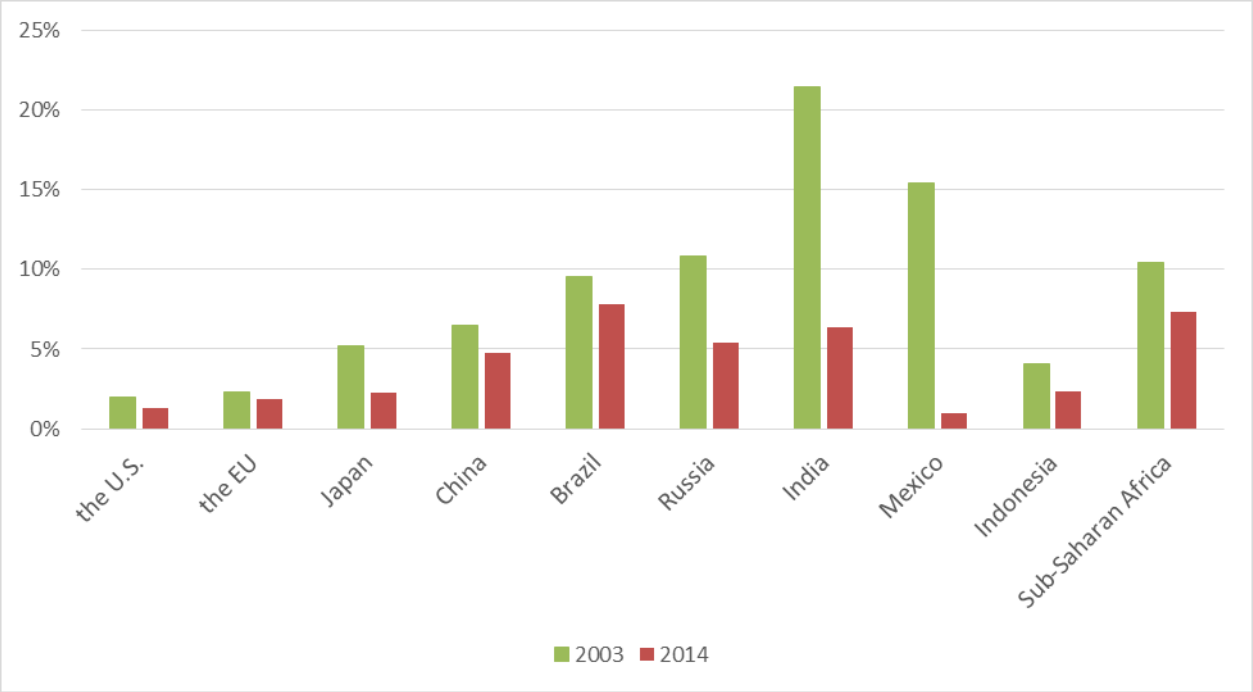
(a) China (b) Eastern Europe

Sources: World Bank's World Development Indicators, IMF WEO

Note: dashed lines represent IMF projection for exports and imports respectively. Projections for Lithuania are missing. Exports and imports are presented by merchandise exports/imports by reporting economy except for 1992 numbers for Czech Republic, Slovak Republic and Slovenia.

[4] We consider Eastern Europe to comprise Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia, and the former USSR or its succession states Russian Federation, Belarus, Estonia, Latvia, Lithuania, Moldova, Ukraine, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

Figure 2: Effectively applied (AHS) tariff[5]



Source: WITS UNCTAD TRAIN

Note: Data on tariffs for Russia (2003), India (2014) and Indonesia (2014) is presented for preceding years.

Mitigating Trade Adjustment Costs Requires Improving Inclusiveness, Competitiveness and the Workings of the Rules-Based Trading System

Some economies are clearly better at handling trade shocks than others. Governments in advanced economies and in many developing ones which have encouraged employer-worker-funded social insurance schemes (unemployment benefits, pensions, etc.), provide universal health insurance, and have progressive income taxation, have placed workers and communities in a much better position to handle all manner of economic shocks of which trade shocks are only one part.[6] Developing countries that want to spend more on safety nets need to increase and diversify their tax revenue. Especially in the lowest income economies this requires

[5] This is the trade-weighted tariff actually applied. It is lower than the MFN applied tariff under the WTO because it reflects preferences accorded to partners in regional agreements and to developing countries under the Generalized System of Preferences.

[6] Numerous worthy schemes are designed to facilitate the adjustment of workers. Sweden's Trygghetsråden (Job Security Councils) requires firms to contribute a small percentage of payroll to a fund that helps workers with retraining and placement after layoffs (Diedrich, Bergström 2006). There are also programs designed to act in a pre-emptive way, helping firms and workers to anticipate changes that may arise from trade liberalization or other factors. Germany's dual education system of classroom learning and apprenticeships and the Austrian Chamber of Commerce's Wirtschaftsförderungsinstitut (Institute for Economic Promotion) of lifelong learning are two examples.

becoming less dependent on tariff revenue, a big issue which goes beyond the ambit of this brief.

However, since trade shocks, like technology shocks, are permanent, social safety nets can only go so far. There must also be measures to increase the mobility of labor and capital across several dimensions: intra-sectoral, i.e. among firms in the same sector, across sectors, and spatial. A recurrent finding of recent studies is that overcoming the barriers to mobility is not easy. It is especially hard for workers displaced by trade to move to other cities or regions, in part because of the very high transaction costs involved in housing transactions. Many workers do not want to leave their city or region, so the priority should be to facilitate in situ mobility across professions, firms and sectors. However, the data shows that even moving to another firm in the same sector is difficult. Yet, mobility – from the countryside to the cities, from the land to the factory and services-provision – lies at the core of economic development. And, to grow, both advanced and developing countries must continuously shift resources to higher value-added sectors, and, within sectors, to the more efficient firms.

Measures that increase mobility can be very specific and require the intervention of various ministries.[7] For example, providing allowances for retraining, ensuring that pensions are portable, reducing unnecessary certification requirements that protect many professions, etc. However, most measures likely to have the biggest impact on mobility are the same as those that countries should take anyway to improve competitiveness. These measures include all those that foster a sound investment climate, improve access to finance, protect workers rather than jobs, and invest in human capital so that workers can more quickly adapt and learn in a changing environment. Unfortunately, many of these structural reforms take a long time to implement and to show their effect, underscoring yet again the need to accompany them with well-designed safety nets.

There is much nations on their own can do to mitigate shocks from import surges by acting individually, but it is not enough. Reducing and rationalizing distortive agricultural subsidies which transfer volatility to the least protected markets requires international coordination. And protectionism and unfair trade practices, such as the abuse of trade remedies, can themselves be a source of large trade shocks in the export sector of trading partners. Moreover, the more these practices become widespread, the greater the uncertainty associated with international trade, and the less likely it is that trade liberalization will result in a reasonably quick redeployment of resources towards the export sector. In today's globalized economy, a sure way to exacerbate, not mitigate, the costs of adjusting to trade is to allow a resurgence of protectionism.

As the 2016 G20 Leaders Communiqué stated, "We emphasize that the benefits of trade and open markets must be communicated to the wider public more effectively and accompanied by appropriate domestic policies to ensure that benefits are widely distributed." In general, public expectations about what trade policy per se can accomplish in compensating the losers from globalization appear exaggerated, priming the average citizen to become disillusioned with trade

[7] Often, labor mobility is the sole province of the Ministry of Labor, yet coordinated action with the trade ministry that of industry, agriculture and finance is more likely to yield lasting results.

liberalization. More attention should be paid both to designing and to communicating the domestic measures (whether trade-specific or not) which are likely to hold out the most promise for promoting an equitable adjustment to trade openness.

Summarizing our general policy recommendations;

- Where necessary, gradualism in trade liberalization combined with preemptive measures to strengthen competitiveness, are appropriate ways to mitigate adjustment costs. Gradualism in trade liberalization is especially important in developing countries which have large vulnerable populations, limited capacity to finance safety nets and to undertake complementary reforms. In the poorest developing countries, increased Aid for Trade can play a crucial role in strengthening competitiveness as trade liberalization is implemented.
- Displaced workers are best helped using generally applied safety nets, not those specific to trade. These should include universal health insurance and temporary income support measures where they can be afforded.
- Trade requires mobility of factors. Specific measures that facilitate mobility include, for example, providing allowances for retraining and temporary compensation to those who change jobs to a lower paid profession. Income tax rates should be designed so as not to discourage displaced workers from working at low wages. Mobility allowances are best applied to displaced workers generally, not just to workers displaced by trade.
- Policies that improve the investment climate and competitiveness more broadly also tend to enhance mobility of labor and capital including increased participation in global value chains and the movement within the chain to higher value-added activities.
- International coordination is required to support an open and predictable trading system under the WTO, as the greatest future source of trade shocks could be protectionism, not trade liberalization. The proper application of the WTO Safeguard Agreement is especially important.
- It is vital to reenergize WTO negotiations for a rules-based trading system considerate of adjustment costs as mentioned, including the realignment of agricultural subsidies, to promote food security, inclusive growth and sustainable agriculture.

More Specific Actions Recommended for the G20

- International Institutions, such as the World Bank and the OECD, should be tasked with proposing a set of mechanisms that can enhance mobility and promote growth, and that can be budget-positive in the medium term.
- A reporting mechanism and/or a peer-learning mechanism should be established to improve domestic adjustment policies.
- Policy-makers need to better and more systematically communicate the gains from trade while recognizing explicitly that trade causes dislocation for some and explaining what is being done to help.
- International Institutions, such as the World Bank, the OECD and the WTO, should be tasked with analyzing the disruption and adjustment costs that would result from increased protectionism.

References

Acemoglu, D., Autor, D., Dorn, D., Hanson, G. H., & Price, B. (2016). Import competition and the great US employment sag of the 2000s. *Journal of Labor Economics*, 34(S1), S141-S198. https://www.journals.uchicago.edu/doi/10.1086/682384

Autor, D., Dorn, D., & Hanson, G. (2013). The China syndrome: Local labor market effects of import competition in the United States. *American Economic Review*, 103(6), 2121-2168. https://www.aeaweb.org/articles?id=10.1257/aer.103.6.2121

Autor, D. H., Dorn, D., & Hanson, G. H. (2016). The China Shock: Learning from labor-market adjustment to large changes in trade. *Annual Review of Economics*, 8, 205-240. https://doi.org/10.1146/annurev-economics-080315-015041

Cadot, O., Dutoit, L., & Olarreaga, M. (2010). Barriers to exit from subsistence agriculture. https://www.researchgate.net/publication/242720334_Barriers_to_Exit_from_Subsistence_Agriculture

Claeys, G., & Sapir, A. (2018). The European Globalisation Adjustment Fund: Easing the pain from trade? Policy Contribution, Issue No. 5. Bruegel. http://bruegel.org/wp-content/uploads/2018/03/PC-05_2018_2303.pdf

Uri Dadush (2018). The protectionist's progress: year 1. *Economics: The Open-Access, Open-Assessment E-Journal*, 12 (2018-6): 1–11. http://dx.doi.org/10.5018/economics-ejournal.ja.2018-6.

Dauth, W., Findelsen, S., Duedekum, J. (2014). The Rise of the East and the Far East: German Labor Markets and Trade Integration. *Journal of the European Economic Association* 12(6): 1643-1675. https://onlinelibrary.wiley.com/doi/abs/10.1111/jeea.12092

Evenett, S. J. (2018). Global trade alert database. https://www.globaltradealert.org/

Evenett, S. J. et al. (2018). Brief on protectionism, T20, 2018 (In draft)

Feenstra, R., & Hanson, G. (2001). Global production sharing and rising inequality: A survey of trade and wages (No. w8372). NBER Working Paper No. 8372, National Bureau of Economic Research. http://www.nber.org/papers/w8372

Glauber, Joseph W. (2018). Developed country policies: Domestic farm policy reform and global food security, IFPRI book chapters, in: 2018 Global food policy report, chapter 7, pages 54-61 International Food Policy Research Institute (IFPRI). https://ideas.repec.org/h/fpr/ifpric/9780896292970-07.html

G20 Leader's Declaration (2017). http://www.g20.utoronto.ca/2017/2017-G20-leaders-declaration.html

Harrison, A., McLaren, J., & McMillan, M. (2011). Recent perspectives on trade and inequality. *Annual Review of Economics*, 3(1), 261-289. https://www.annualreviews.org/doi/10.1146/annurev.economics.102308.124451

IMF, World Bank, WTO (2017). Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment, Conference paper, Meeting of the G20 Sherpas, International Monetary Fund, Weltbank und Welthandelsorganisation, Frankfurt am Main, 23.-24 March. http://documents.worldbank.org/curated/en/318651491579082111/Making-trade-an-engine-of-growth-for-all-the-case-for-trade-and-for-policies-to-facilitate-adjustment

Irwin, D. A. (2015). Free trade under fire. Princeton University Press, Chapters 1-4.

Matusz, S. J., & Tarr, D. G. (1999). Adjusting to trade policy reform (Vol. 2142). World Bank Publications.

Meinhard, S., & Potrafke, N. (2012). The globalization–welfare state nexus reconsidered. *Review of International Economics*, 20(2), 271-287. https://doi.org/10.1111/j.1467-9396.2012.01021.x

Melitz, M. J., Redding, S. J., Gopinath, G., Helpman, E., & Rogoff, K. (2014). *Handbook of International Economics*. Elsevier. https://www.sciencedirect.com/handbook/handbook-of-international-economics

Papageorgiou, D., Michaely, M., & Choksi, A. M. (Eds.). (1991). *Liberalizing foreign trade* (Vol. 7). Basil Blackwell Limited.

Pew Research (2017). The most export-dependent places in the U.S. are small counties. FACTTANK, Pew Research Center; Oct. 20. http://www.pewresearch.org/fact-tank/2017/10/20/the-most-export-dependent-places-in-the-u-s-are-small-counties/

Porto, G., & Hoekman, B. (2010). *Trade Adjustment Costs in Developing Countries*: Impacts, Determinants and Policy Responses. World Bank, Washington DC. http://documents.worldbank.org/curated/en/539321468331734401/Trade-adjustment-costs-in-developing-countries-impacts-determinants-and-policy-responses

Rodrik, D. (2011). *The globalization paradox: why global markets, states, and democracy can't coexist*. Oxford University Press.

Rudra, N. (2002). Globalization and the decline of the welfare state in less-developed countries. *International Organization*, 56(2), 411-445. http://www.jstor.org/stable/3078610