01

BROOKINGS

11 GLOBAL DEBATES

Are technology and globalization destined to drive up inequality?

Understanding inequality and what drives it

by Laurence Chandy and Kemal Derviş

Design and layout:

it's B. Blossoming.it

01

Are technology and globalization destined to drive up inequality?

Understanding inequality and what drives it

By Laurence Chandy and Kemal Derviş

1.1 What's the Issue?

Over the past several years, concerns that technology and globalization lead to ever greater inequality have reached fever pitch in the U.S. and beyond. To understand what's behind this anxiety, three distinctions are useful.

First is to distinguish global inequality and its two components: inequality *within* countries and inequality *between* countries. Global inequality, as popularized by economist Branko Milanovic, looks at the distribution of income between all the world's citizens irrespective of country borders. Inequality by this measure is exceptionally high. Over the past generation, between-country disparities fell, due to the fast growth of emerging economies, even while inequality within several countries has risen. The net effect has been a small *reduction* in recorded global inequality (Lakner & Milanovic, 2015). This pattern will continue if poor countries such as India continue to quickly converge on income levels prevailing in high-income countries and this convergence outweighs any widening of within-country distributions (Hellebrandt & Mauro, 2015). Yet that would not quiet grievances about inequality. On the contrary, the middle class in industrialized economies, one of the world's most vocal and powerful constituencies, has seen global growth benefit high earners in their economies along with the expanding middle class in emerging economies, while their own incomes have stagnated. Their sense of being shortchanged is increasingly recognized as a source of political instability.

Since politics is organized principally around the nation state, it is the level and change in inequality within countries that is the most potent source of tension and debate.

This brings us to distinction two: inequality in developed versus developing economies. In the former, the trend is clear—nearly all developed economies have seen inequality rise over the past generation. In Anglophone countries, rising inequality has been especially pronounced at the top end of the distribution, with the top 1 percent of earners seeing their share of national income rise. In developing countries, on average, inequality rose in the 1990s but stabilized in the 2000s (Ravallion, 2014). In most developing economies where recent data exist, inequality is trending downward (World Bank, 2015). However, information about the top end of the distribution in developing economies is limited, given the absence of complete tax records.

Distinction three is between inequality in market income and disposable income. Until now we have described the inequality of disposable income, net of the effects of government taxes and benefits, which serve to reduce the inequality of market outcomes. This redistributive effect tends to be greater in developed countries than in developing countries, where government is typically a smaller share of the economy. In most advanced economies, redistribution through taxes and benefits grew over the past generation, offsetting some but not all of the increase in market inequality. However, these effects have diminished on average since the late 1990s, due to policy choices such as the application of more stringent criteria to government benefits (OECD, 2011). Public policies can also shape the distribution of market income. For instance, weakened employment protection, such as rules regarding sick leave and severance pay, has contributed to widening inequality over this period.

In developing countries, on average, inequality rose in the 1990s but stabilized in the 2000s.

1.2 What's the Debate?

Debates over the causes of inequality are fraught, reflecting the multiple and complex channels through which technology and globalization are changing the global economy.

Arguably the most prominent effect of technology on inequality is through the increased premium it places on skills. Modern technology substitutes for many of the jobs and tasks traditionally performed by unskilled workers, while acting as a complement to skilled workers. In advanced countries, trade reinforces this effect by encouraging specialization in high-skill sectors in which those economies have a comparative advantage. The same logic should see income inequality narrow in developing economies that specialize in low-skill sectors. However, in practice, skilled workers in developing economies may take those jobs, so that distributions widen (Maskin, 2015).

By substituting for unskilled workers, technology has not only increased the premium on skills, but increased the role of capital in production. Historically the share of income that accrues to workers

Arguably the most prominent effect of technology on inequality is through the increased premium it places on skills.

relative to capital owners was stable, but since the 1980s, it has declined across most countries and industries as technology has made capital goods ever cheaper (Karabarbounis & Neiman, 2013). This adds to inequality, as capital ownership is especially unequal and generates large investment income for many of the same individuals already earning high wages (Atkinson & Lakner, 2013).

Technology has often led to the creation of strongly monopolistic markets for new goods and services. This is especially apparent in the digital economy, where behemoths like Google and Apple dominate. Globalization has expanded the scale of these winner-takes-all markets, enabling vast salaries and profits to be shared among a narrow set of employees and shareholders.

Evidence is emerging of the hollowing out of labor markets in developing economies.

At the same time, globalization and technology have served to lower market barriers and information costs. For instance, while digital platforms for taxis (Uber), retail (Amazon), and accommodation (AirBnB) are themselves quasi-monopolies, they have simultaneously lowered barriers to entry for self-employed drivers, sellers, and would-be hoteliers, creating highly contestable markets. This has redistributed rents and generated new income-earning opportunities for the unskilled.

Finally, globalization has encouraged a race to the bottom on some regulations and redistributive policies, as the mobility of firms, investment, and skilled workers compels governments to match the conditions of their competitors so as to retain and attract business (Bertola & Lo Prete, 2008).

1.3 What to Watch out for?

The effects of technology and globalization on inequality are neither inevitable nor entirely predictable. We identify three areas to watch closely:

Job automation. The past year has seen a rapid uptick in sales of robots, coinciding with breakthroughs in the capability of machines and artificial intelligence in increasingly complex, non-routine tasks such as driverless vehicles and semi-cognitive skills such as voice-recognition. This has led to growing anxiety over the prospect of widespread automation of jobs. Estimates on the share of jobs that are at risk of automation over the medium term vary from 9 to 47 percent for OECD economies (Frey & Osborne, 2013; Arntz et al, 2016). Equally uncertain are what, and how many, new jobs may emerge and the adjustment costs of moving lots of workers into new roles.

Prospects for developing economies. The replacement of workers by machines poses a threat to developing economies' traditional comparative advantage in global markets—their surfeit of cheap labor. Evidence is emerging of the hollowing out of labor markets in developing economies, mirroring the pattern already observed in the west, and of premature deindustrialization as developing economies struggle to establish a manufacturing base, in stark contrast to the path taken by western economies and Asia's tiger economies (World Bank, 2016; Rodrik, 2015). At the same time, the digital economy provides opportunities to link workers in poor economies with companies and customers in rich markets, thus offering a temporary reprieve from the risks associated with labor-saving technologies (Basu, 2016). It is unclear which of these two effects will win out in shaping developing economies' fortunes in the near term. But the rate of

their convergence with rich economy living standards is set to be a major determinant of global inequality trends.

Perceptions of inequality. Public anger over the inequitable effects of technology and globalization is cited as a cause of myriad social ills—from rising nationalism and identity politics, to disdain for institutions, and a fracturing of the rules-based international system. Whether that anger persists will depend less on any objective measure of inequality than on how inequality is perceived and managed (Nieheus, 2014). One important factor is the way global integration shifts the reference points people use to judge and compare their lives.

Policy has a vital role to play in promoting greater equality, both through redistribution, where taxes and benefits moderate the unequal distribution of market income into a more equitable distribution of disposable income, and "pre-distribution" where market forces and rules are engineered to improve the distribution of market income itself.

Given the alarming trends in inequality, and the tendency for political stalemate over changes in tax and benefits, attention is increasingly focused on policies that support pre-distribution. Some of the most creative ideas seek to reshape the forces of technology and globalization themselves. For instance, policies can be put in place to incentivize research and development on innovations that generate more jobs. Alternatively, governments can deploy public funds to acquire stakes in technological innovations and their commercialization so that the profits they generate can be shared with citizens rather than benefit only a narrow group of shareholders. With regard to globalization, multilateral efforts can eliminate tax inversions, whereby one corporation acquires another to re-domicile to a lower-tax jurisdiction.

More generally, there can be little doubt that focusing almost exclusively on average incomes and their growth has been a disservice to policymaking and to the economics profession. A growth strategy that doesn't work for all members of an economy is incomplete and unsustainable, no matter how much redistribution there may be. The definition of economic success must therefore include the extent to which growth is inclusive. Inclusiveness cannot be an afterthought.

REFERENCES

Arntz, M., Gregory, T., & Zierahn, U. (2016). "The risk of automation for jobs in OECD countries: A comparative analysis." OECD Social, Employment and Migration Working Papers.

Atkinson, A., & Lakner, C. (2013). "Wages, capital and top incomes: The factor income composition of top incomes in the USA, 1960–2005." *The Society for the Study of Economic Inequality*.

Basu, K. (2016). "Globalization of labor markets and the growth prospects of nations." World Bank Policy Research Working Paper No. 7590.

Bertol, G., & Prete, A. (2008). "Finance, redistribution, globalization." CEPR Discussion Paper.

Frey, C., & Osborne, M. (2013). "The future of employment: How susceptible are jobs to computerization?" University of Oxford.

Hellebrandt, T., & Mauro, P. (2015). "The future of worldwide income distribution." Peterson Institute for International Economics.

Karabarbounis, L., & Neiman, B. (2013). "The global decline of the labor share." *The Quarterly Journal of Economics*. Oxford University Press.

Lakner, C., & Milanovic, B. (2015). "Global income distribution: From the fall of the Berlin Wall to the Great Recession." *World Bank Economic Review*. World Bank Group.

Maskin, E. (2015). "Why haven't global markets reduced inequality in emerging economies?" *World Bank Economic Review*. World Bank Group.

Niehues, J. (2014). "Subjective perceptions of inequality and redistributive preferences: An international comparison." Cologne Institute for Economic Research.

OECD. (2011). "Divided We Stand: Why Inequality Keeps Rising." OECD Publishing.

Ravallion, M. (2014). "Income inequality in the developing world." *Science*.

Rodrik, D. (2015). "Premature deindustrialization." *Journal of Economic Growth*.

World Bank (2015). *Global Monitoring Report 2015/2016: Development goals in an era of demographic Change*. World Bank Group.

World Bank (2016). *World Development Report 2016: Digital Dividends*. World Bank Group.

Laurence Chandy

is a fellow in the Global Economy and Development program. His research focuses on global poverty, globalization, fragile states, and aid effectiveness.

Kemal Derviş

is vice president and director of the Global Economy and Development program. Formerly head of the United Nations Development Programme and Minister of Economic Affairs of Turkey, he focuses on global economics, emerging markets, European affairs, development, and international institutions.

BROOKINGS

1775 Massachusetts Avenue, NW
Washington, D.C. 20036
brookings.edu