Globalisation, growth and inequality from an emerging economy perspective

Central Bank of Argentina

Abstract

As a complex phenomenon, globalisation needs to be analysed on several levels. We discuss three related issues from the perspective of Latin American economies: the relationship between globalisation and growth performance; the possible trade-offs between integration and inequality, and the roles played by trade and technology; and how technological change may alter work relationships as we know them. Globalisation is a positive overall force for growth, but its interaction with domestic policies is crucial in determining the actual outcome. Technological innovation can have a positive effect on employment, but there is evidence of adverse distributional consequences. The outcome remains largely open, depending on the policy response.

Keywords: economic growth, globalisation, income distribution, technological change.

JEL classification: O40, O33, D30.

Introduction

Policymakers everywhere face the challenge of reaping the benefits of higher real and financial integration into world markets while mitigating its costs. Globalisation is a complex phenomenon, which should be analysed on several levels. In this note, we touch on three related issues from the perspective of Latin American economies in general and Argentina in particular: (i) the relationship between globalisation and growth performance; (ii) the possible trade-offs between integration and inequality, and the roles played by trade and technology; and (iii) how technological change may alter work relationships as we know them.

Integration, growth and policies

Empirical work gives support to the notion that trade goes hand in hand with growth, while the relationship between growth and financial integration with world markets is somewhat less robust – owing in part to the fact that such integration, if untamed, can lead to financial crises. The general consensus is that both trade and financial openness are expected to increase GDP growth.

Evidence for Latin America generally supports the consensus, but calls for a nuanced view (Giordano and Li (2012)). Looking at 13 Latin American countries, Sachs and Warner (1995) find that open economies performed better than closed ones during 1970–1989. But there are mixed results within the sample: Argentina, Costa Rica, Ecuador, El Salvador, Guatemala and Uruguay were found to grow more after liberalisation measures, while the opposite holds for Brazil, Colombia, Mexico, Nicaragua and Paraguay. Such results were criticised for the measurement of openness and possible reverse causality (whether trade causes growth or the opposite). Rodríguez and Rodrik (2001) objected to the choice of openness indicators (as weak measures of trade barriers), and pointed out that trade liberalisation episodes were significantly correlated with other macro- and microeconomic reforms – such as opening to foreign direct investment and deregulating labour markets.

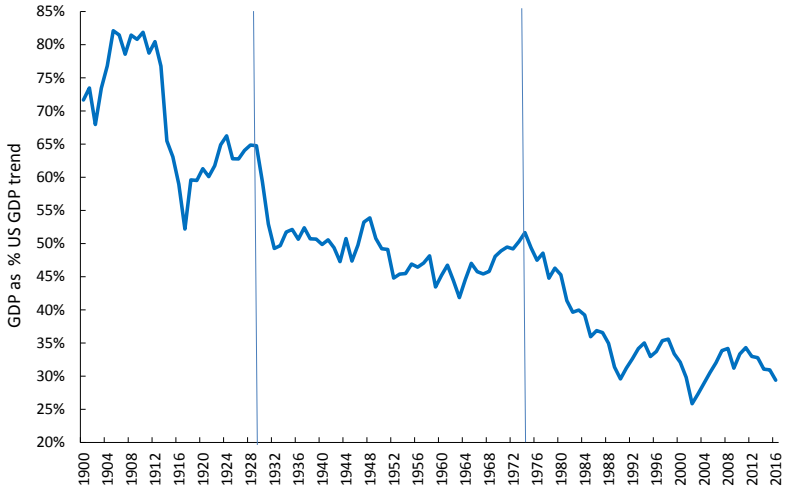
In turn, Estevadeordal and Taylor (2013) stress the importance of identifying the period of analysis, and the specific liberalising measures. Reviewing the periods both before and after what they call the GATT "Great Liberalisation," they distinguish between liberalising and non-liberalising countries. They find that reducing tariffs on imported capital goods led to faster growth.

Incorporating complementary policies into the analysis, Bolaky and Freund (2004) find that trade opening promotes growth only in countries that are not excessively regulated (using a panel of 100 countries). Indeed, trade openness is linked to lower living standards in excessively regulated economies. In their view, highly regulated countries fail to generate growth because resources are prevented from flowing to the most productive activities.

The case of Argentina illustrates with utmost clarity the complexities involved in the trade-growth nexus: both factor endowments and their political economy consequences have to be factored in (Gerchunoff and Llach (2009)). Roughly speaking, three phases of growth performance can be identified in Argentina vis-à-vis the rest of the world (Graph 1): (i) convergence to advanced countries' growth rates in 1870–1929, based on the country's successful integration into world markets;

(ii) divergence from the rest of the world, with domestic growth (ie relative but not absolute decline), during a mostly closed economy phase (1930–1975); and (iii) divergence and stagnation from 1976 until the early 2000s, with a decline in both relative and absolute terms.

Argentina's GDP evolution relative to US GDP trend Graph 1



Source: Maddison Proyect Data Base and World Bank; periods as defined by Gerchunoff and Llach (2009)

The reasons for this performance exceed the scope of this note, but certain key features may be outlined. A land-rich economy, like that of Argentina, enjoyed huge gains from trade during the first globalisation, but plummeting world trade during the Great Depression was a blow for a country specialised in natural resources. Distinct phases of protectionism ensued, which were related to the country's economic structure: comparative advantages in food production and disadvantages in labour-intensive manufacturing. Consistent with the Stolper-Samuelson theorem, closing the economy was associated with political gains but, at the same time, it eventually hampered growth. Successive attempts at returning to international markets during the last quarter of the 20th century resulted in a succession of crises (1982, 1989, 2001–02) that developed from the interaction of domestic policy choices with the external context. Either monetisation of burgeoning fiscal deficits resulted in hyperinflation, or excessive debt accumulation led to defaults. Typically, real exchange rate appreciation manifested itself as a consequence of imbalances, but was politically appealing as it implied higher real wages in the short term. However, this became a destabilising factor in the medium term, as conditions that gave way to the initial appreciation (and debt accumulation) turned out to be unsustainable.[1] All in all, the Argentine experience shows that it is not only integration but its interaction with factor endowments and domestic policy that determines growth performance.

[1] A complementary explanation, based on the impact of policies that systematically increased the cost of capital, is provided by Hopenhayn and Neumeyer (2005).

Income inequality: is it trade or technology?

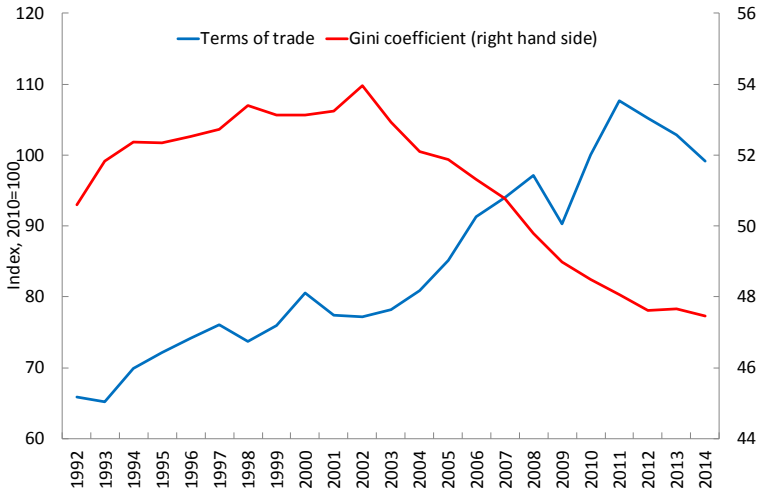
The preceding narrative illustrates certain trade-offs, of which perhaps the most salient is that gains from trade are not distributed evenly across the population – so that, roughly speaking, globalisation comes at the cost of income inequality.[2] Or does it? The evidence in recent decades seems to be that higher trade and financial opening entail a small contribution to rising inequality, while the bulk of it seems to come from skill-biased technological change. For many developing economies, in which increasing trade means on many occasions reducing the price of hi-tech goods, it is very difficult to identify whether it is trade or technology that causes higher inequality.

The experience of Latin America in the last couple of decades is a case in point. Countries in the region put in place a suite of structural reforms from the 1990s onwards, including current and capital account liberalisation, deregulation and privatisation. These triggered foreign direct investment, and also reduced the price of capital. Most of the evidence suggests that these reforms were linked to a rise in earnings inequality, especially by curbing the relative demand for unskilled labour. In the case of Argentina, the evidence also points in the direction that skill-biased technological change was responsible for most of the increase in inequality (Acosta and Gasparini (2007)), while trade openness contributed to a lesser extent (Galiani and Sanguinetti (2003)).

A series of macroeconomic crises hit the region from the late 1990s, and this was associated with a spike in inequality. But the situation was reversed in the 2000s, with a very marked reduction in income inequality. This can be attributed to a number of factors, one of them being the very favourable terms of trade shock that the region experienced (Graph 2).

[2] The conventional link is thought of as follows: trade between AEs and EMEs increases the returns to AE skilled labour (but reduces that to unskilled labour, which is competing with EME unskilled labour) and increases returns for unskilled labour in EMEs.

Latin America: income inequality and terms of trade Graph 2



Source: Gasparini et al (2016), based on SEDLAC (CEDLAS and the World Bank) and WDI (World Bank).

The terms of trade of Latin American countries trended significantly higher during the first decade of the 2000s, leading to improved economic performance in the region. This translated into lower income inequality through at least two channels: increased labour demand and enhanced fiscal space. While growth in the 1990s was linked to higher demand for relatively highly skilled workers, the terms of trade shock went together with higher demand for labour across different sectors. In some economies, it actually increased demand for low-skilled workers; witness, for instance, the case of construction in many countries in the region.

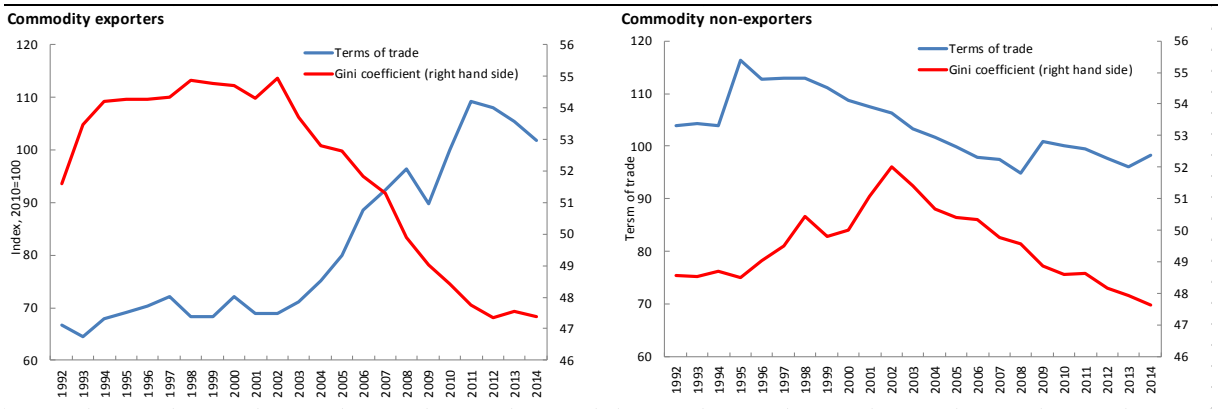
Higher terms of trade also entailed a windfall for government revenues, which were partly allocated to increased social spending, including different types of workfare/conditional cash transfer programme, and enhanced pension and benefit coverage. At the same time, government regulation and policies such as higher minimum wages and a resurgent role for unions were all supportive of workers' earnings.

That these redistributive effects were catalysed by higher terms of trade (TOT)[3] is evident when the dynamics of commodity and non-commodity exporters are compared (Graph 3). The decline in Gini coefficients is notably higher in the former than in the latter.

[3] This, of course, is not to deny the role of other equalising factors, including demography and education.

Commodity exporters and non-exporters in Latin America: income inequality and terms of trade

Graph 3

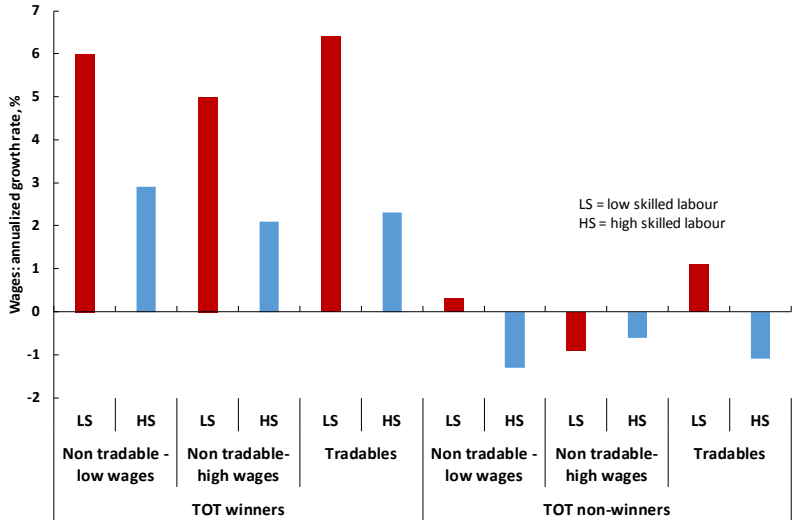


Source: Gasparini et al (2016), based on SEDLAC (CEDLAS and the World Bank) and WDI (World Bank).

A similar outcome is seen when comparing the wages of low- and high-skilled workers in countries that experienced favourable TOT shocks vis-à-vis those in countries that did not (Graph 4). Once again, low-skilled labour saw its earnings grow faster than high-skilled labour across sectors in countries that benefited from higher commodity prices. One may note in passing that this process contrasts with that seen in advanced economies during the same period, where low-skilled workers saw their relative earnings fall relative to high-skilled ones.

Latin America: wage growth during terms-of-trade (TOT) boom by sector and skills

Graph 4



Source: De la Torre et al (2015).

During the 2010s, the improvement in income distribution indicators has apparently reached a plateau, in line with the reversal of terms of trade undergone by Latin America, and its lower growth performance. This poses multiple challenges to policymakers, as they now have to deal not only with slower growth but with potentially adverse distributional consequences.

To sum up, in Latin America in recent decades, integration with the world economy shows phases of both worsening and improving income distribution. While trade and capital liberalisation in the 1990s went together with a more unequal distribution, booming terms of trade led to a more equal one. This helps show that globalisation per se does not necessarily lead to a worsening income distribution;[4] rather, it is the way that integration takes place, and how it is managed, that can determine how the gains from globalisation are distributed in the population. In this regard, the way that technological change and innovation interact with integration to world markets appears to be crucial (eg does capital become cheaper than labour as a result, does it entail more or fewer activities biased in terms of skills?).[5]

Technology and jobs: the future of work

How technology will affect employment and earnings is a controversial issue, whose full repercussions we have only started to analyse. It is difficult to assess this impact with any certainty; any claims about the future can be only preliminary. We propose to start with some facts: during the decades that have seen some of the most striking technological advances (from 1900 to the 2000s), the fraction of adults participating in the working force of the United States has increased. This, of course, has not been neutral in terms of sectors: while in 1900, 41% of the US workforce was employed in agriculture, that share had fallen to 2% by 2000 (Autor (2015)). This change was mostly due to new technologies, including automation.

New technologies may entail more jobs. A possible explanation can be given in terms of the "O-ring" theory of economic development (Kremer (1993)): as a production chain gets progressively more complex and improves its functioning, even the weakest link has to function perfectly (ie its marginal value increases). This makes work that is complementary to other factors subject to technical change more valuable than before such a change took place. And it could help explain developments that are close to what we, in central banks, witness regularly: as the number of automated teller machines (ATMs) in the United States has quadrupled since their introduction in the 1970s, the number of bank tellers has increased (though not relative to the total workforce). The cost of operating a bank branch fell with ATMs, and so more branches were opened, increasing demand for tellers; as ATMs performed certain routine tasks previously done by tellers, these moved on to tasks that can be described as "relationship banking".

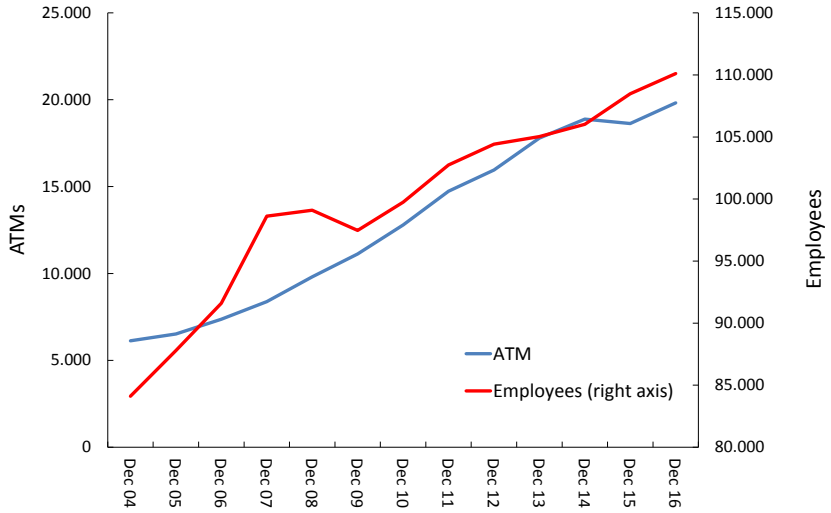
[4] For example, one can think of the TOT shock that benefited Latin America as a result of China, India and other economies becoming active players in international markets; this is an equalising impact of globalisation. But incorporating technology that is biased toward skilled labour has an unequalising impact.

[5] At this point, we do not distinguish between the impact of technology on distribution through employment or wages. Changes in employment, in wages, or both, can impact the income distribution – and they do not necessarily take place together.

In Argentina, the spread of ATMs has gone hand in hand with higher employment in banks in recent years (Graph 5). Between 2004 and 2016, the number of ATMs tripled, while that of banking employees grew by 30% (in private banks, employment went up by almost 50%), and the number of bank branches increased by almost 40%. The correlation between ATMs and banking employees was 94% during that period.

This example of a positive relationship between employment and technology cannot automatically be extended to other sectors; but it does point to a more general principle, that of the complementarity of capital (Lachmann (1977)). That a certain capital stock can effectively be used as an input for production depends on a number of factors: it will yield nothing if it is not operated by certain workers, installed in a certain physical environment, used by a firm which is part of a network, operating in markets with an appropriate legal framework, and so on. What is loosely defined as "institutions" are different types of factor that actually help capital come into use; this helps explain why countries with comparable natural resource endowments show diverging development performance; or that countries with similar levels of per capita GDP show radically different indicators for quality of life. The relevant point is that the mere diffusion of technology is insufficient to boost production unless labour is there to make it productive. This is the positive prospect for work involved in any technological innovation.

Argentina: financial institution employees and ATMs — Graph 5



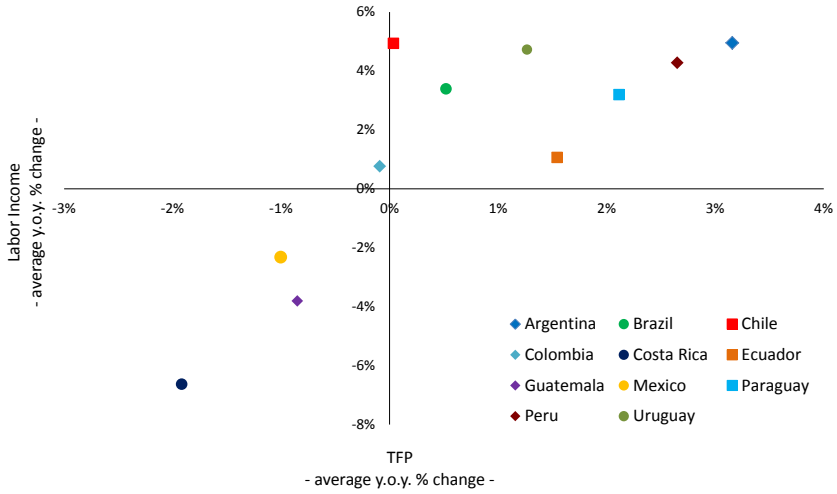
Source: BCRA

Besides complementarity with the new technology, the impact on employment will depend on labour supply elasticity (how many new workers enter the sector or activity with the new technology); and the elasticity of demand for that sector's products (if higher productivity or higher income induce higher spending in those goods).

How technological advance and work are related can be illustrated, for a sample of Latin American countries, by the positive relationship between changes in total factor productivity (TFP) and labour income growth during the 2000s (Graph 6).

Admittedly, total factor productivity includes a myriad of aspects, over and above technological innovation. In turn, labour income captures both real wages and hours worked (employment). As long as TFP dynamics can be taken as a proxy for technological advance, what the figure shows is consistent with the complementarity between innovation and work in Latin America.

TFP and labour income in Latin America — Graph 6



Note: Observations comprise Argentina (2005–11), Brazil (2006–11), Chile (2006–11), Colombia (2009–11), Costa Rica (2011), Ecuador (2007–11), Guatemala (2011), Mexico (2006–11), Paraguay (2011), Peru (2006–11).

Source: IADB and CEDLAS.

There is no guarantee, however, that the transition will be smooth when workers are reallocated from obsolete to innovative sectors. A crucial and well known role is played by education, which ultimately should aim at making human capital flexible enough to be employed in those new sectors. This, of course, is easier said than done; and it may be difficult to determine what the "right" training for the "winning" sectors or skills of the future will be.

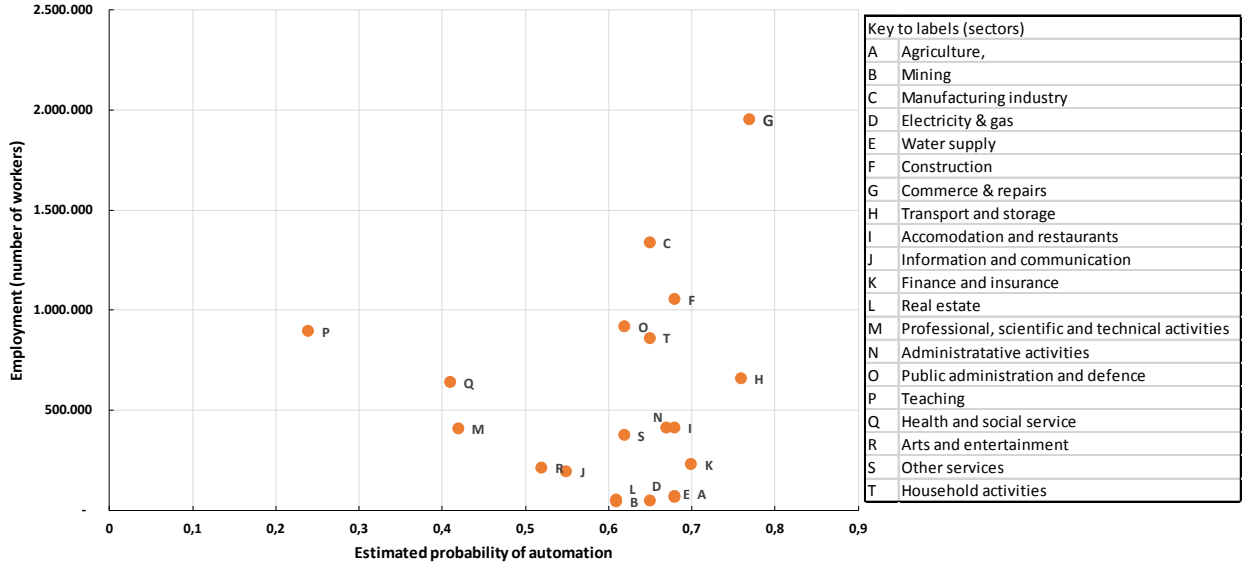
Even if the impact of technology on employment is not necessarily adverse, there are distributional risks, such as labour market polarisation. In several countries, both advanced and emerging, employment has grown for either high- or low-skilled workers, but fallen for those of medium skills (World Bank (2016)). In turn, technological change has so far tended to favour the income of workers with higher education (Goldin and Katz (2008) and Acosta and Gasparini (2007) present evidence for Argentina). This can be related to routine cognitive tasks, which are more prone to be replaced by automated processes (hence less employment for middle-skilled workers); and the complementarity of complex cognitive tasks with new technologies (this explains the higher salaries of highly skilled workers).

The magnitude of these risks can be estimated: a recent study by the World Bank calculates the market share of jobs that may be automated. Adjusted by the speed at which different countries adopt technological innovations, around 50% of employment may be automated in a sample of Latin American countries – where

Argentina stands well above the mean, at 65%. Estimates from the Argentine Ministry of Finance (2016) indicate that sectoral probabilities of automation range from 24% to 77%, with commerce and repairs showing the highest figures, closely followed by transportation and storage, and education presenting the lowest automation probability, followed by health (40%). A critical point is that commerce shows not only the highest probability of automation but also the highest employment rate; and activities that follow in terms of employment (manufacturing industry, construction, public administration, household activities) also have probabilities of automation that exceed 60% (Graph 7).

Argentina: probability of job automation and employment by sector

Graph 7

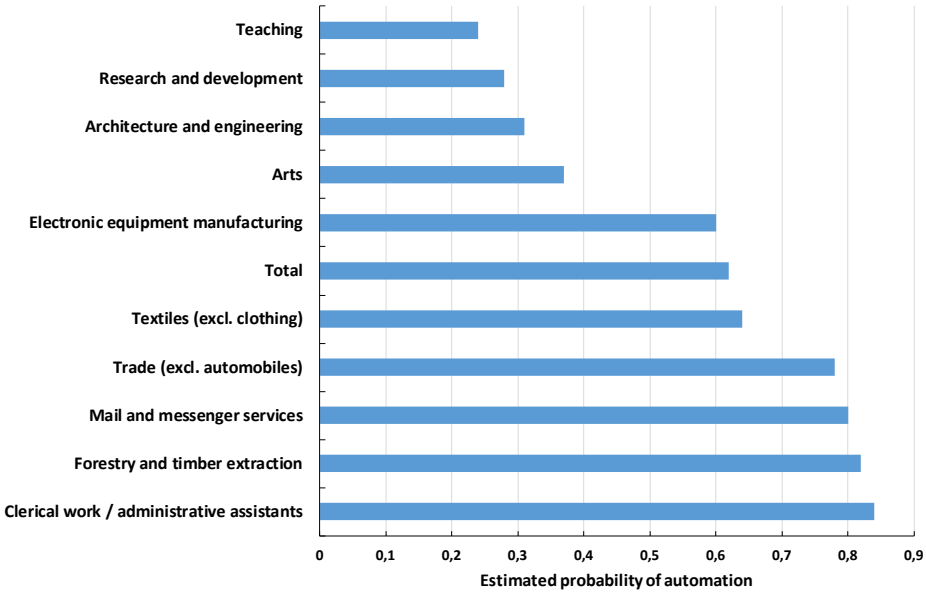


Source: Ministry of Finance, Argentina (2016).

When analysing employment and skills, a distinction is made between tasks that are: manual and cognitive, or routine and non-routine. It is routine tasks, whether manual or cognitive, that are typically deemed more prone to be replaced by new technologies. A finer disaggregation of Argentine data confirms that activities subject to routine cognitive skills are associated with above-average automation probabilities (Graph 8).

The challenges for policymakers are thus compounded by technological innovation: even if a negative effect on employment may not be the only outcome, the distributional consequences may be adverse. And putting in place the "right" policies for training or retraining of the labour force is far from straightforward. In emerging market economies, where situations of structural long-term unemployment are frequent, the prospect of automation adds a new layer of complexity to this kind of policy.

Argentina: probability of job automation, selected sectors Graph 8



Source: Ministry of Finance, Argentina (2016).

These challenges are not made any easier by the unpredictability of technological developments. It cannot be ruled out that budding technical progress becomes embodied in capital that is the substitute for, not the complement of, highly skilled work. This would, other things equal, lead to a distributional impact that is opposite to what we have so far experienced – involving an equalising effect as demand for highly skilled workers falls. This is just another way in which future work dynamics cannot be taken for granted.

Concluding remarks

Globalisation is not an irreversible process. Recent events show it can be jeopardised; and history shows that it can be stopped or even reversed for long periods. It is up to policymakers to make it work in a sustainable and inclusive way – at the risk of going back to stagnation and inequality. This involves, at the very least, dealing with the potentially adverse consequences for income distribution associated with higher integration and technological innovation.

- Globalisation is a positive overall force for growth, but its interaction with domestic policies is crucial when determining actual outcomes.
- It is difficult to assess whether inequality arises more from trade or technology, as both factors usually operate side by side. In the recent experience of Latin America, there is reason to think that skill-biased technological change was responsible for a higher share of inequality increase during the 1990s, while the positive terms of trade boom of the 2000s accounts for a substantial part of inequality decrease during the first decade of this century.

- Technological innovation can have a positive effect on employment, but there is evidence of adverse distributional consequences. The final outcome remains largely open, depending on the policy response. An important part of the answer lies in education and training, but what concrete form these should take remains an open question.

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