C Trade and inclusiveness within economies

Trade has raised aggregate welfare and reduced poverty without necessarily raising inequality in many economies, but the impact of trade is more complex for individuals. People may benefit from cheaper prices, larger variety and export opportunities, but they may also face increased competition and may, therefore, either gain or lose from trade. This chapter reviews why, although most people gain from trade, some suffer losses. These losses can be aggravated by distortions and barriers, such as mobility costs or monopolies, that tend to impact more vulnerable groups disproportionately, and may prevent them from adjusting to import competition and accessing export opportunities. The chapter also examines why using restrictive trade policy to redistribute gains from trade is often unsuccessful and can have unintended consequences, such as retaliation by trade partners. In contrast, domestic policies, such as education and social protection, are more effective in addressing inequality. Their importance is likely to grow as the digital revolution, climate change and geopolitics continue to shape the distributional impacts of trade.

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Key points

- Over the past 30 years, trade has generated substantial welfare gains and poverty reduction in many economies without necessarily raising inequality.

- Gains from trade are unevenly distributed among individuals within the economy. While trade generally brings benefits to many through more affordable goods and services and new job opportunities, some people may experience challenges due to import competition.

- Individuals with lower incomes, workers with fewer skills, small business-owners and some women may face challenges in adjusting to the new economic conditions associated with trade openness. In the absence of adequate policy responses, the effects of labour market disruptions can last for long periods.

- Using trade-restrictive policies to address distributional outcomes can have unintended consequences, such as increasing the prices of goods mainly consumed by poorer households. Domestic policies, such as lowering the cost of education or investing in rural infrastructure, are significantly more effective in addressing inequality.

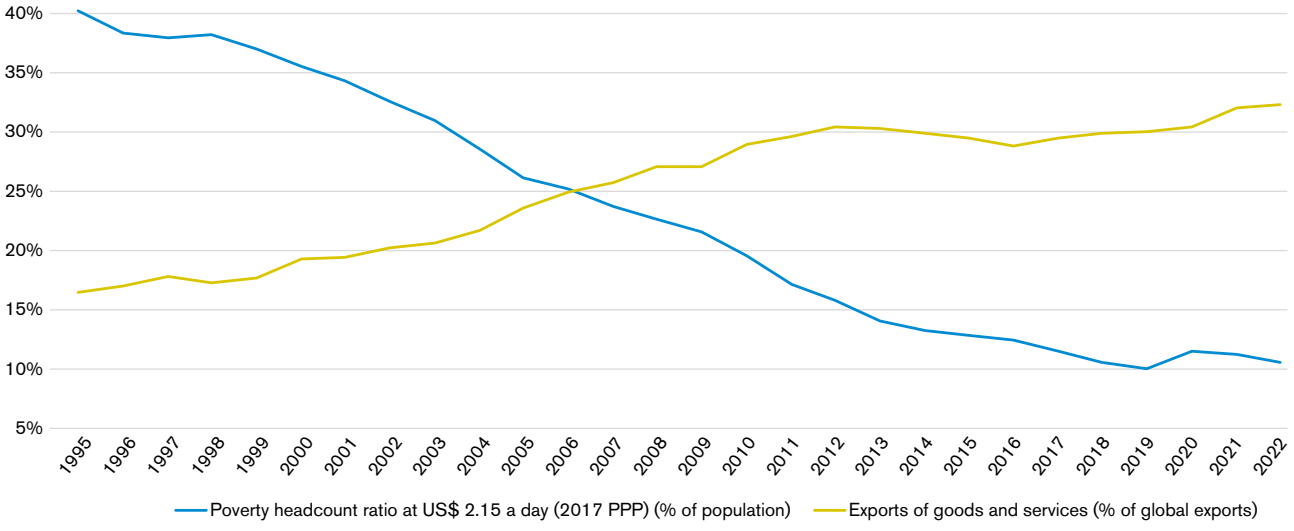
- The digital revolution, climate change and geopolitical tensions increasingly affect how inclusive trade is and how it interacts with inequality. Domestic policies are essential to overcome new challenges to inclusive trade, such as the digital divide between rural and urban areas, differing opportunities for skilled and unskilled workers, or the unequal exposure of different groups to the cost of climate shocks.

1. Trade raises overall incomes and reduces poverty without necessarily increasing inequality

The expansion of trade over the past 30 years, since the creation of WTO, has helped to decrease poverty substantially. As highlighted in Chapter B, trade raises incomes and these income gains have led to significant benefits for some of the most vulnerable groups within economies. The number of people living in extreme poverty has fallen by over one billion since 1990 and trade has contributed substantially to this (World Bank and WTO, 2015). The poverty headcount ratio of low- and middle-income economies fell from 40.3 per cent in 1995 to 10.6 per cent in 2022, while the share in global exports of these economies doubled from about 16 per cent to 32 per cent (see Figure C.1). Most of this increase occurred in emerging economies, which managed to increase their share of global exports from 16 per cent to 35 per cent. Highly successful examples include China, which has tripled its share of world trade since joining the WTO, all the while cutting its extreme poverty rate from 36 per cent to less than 1 per cent, and Viet Nam, which has reduced its rate of extreme poverty from 60 per cent to less than 3 per cent since the 1990s through a combination of domestic reforms and reductions in trade barriers.

Growing incomes and falling poverty have been achieved in many economies without increasing inequality. On average, income inequality has slightly declined over the past 30 years, but it remains high in absolute terms, and some large economies face rising inequality. According to data from the World Inequality Database,[1] the average Gini index, a measure of inequality, across a large set of economies fell from about 0.58 prior to the global financial crisis to 0.57 in 2022 (see Figure C.2(a)).[2] However, the global average hides that some of the largest economies in the world, including China, Japan and the United States, saw steep increases in inequality in the 1990s and 2000s. Moreover, in absolute levels income inequality is high when compared to data over the past 100 years. The average share of income received by the top 1 per cent across all economies stands at 15.8 per cent. For some of the economies for which long data series are available, current inequality levels correspond to those last seen in the early 20th century. This is because of a steady increase in income inequality between the early 1980s and the mid-2000s that reversed a global fall in inequality present for most of the 20th century (Piketty, 2003; Piketty and Saez, 2003; Atkinson, Piketty and Saez, 2011) (see Box C.1). Like income inequality, wealth inequality has remained stable but high in the last three decades, with the average share of personal wealth held by the top 1 per cent falling from 31.4 per cent in 1995 to 30.6 per cent in 2022.

Figure C.1: Substantial poverty reduction alongside increased trade participation of low- and middle-income economies, 1995-2022

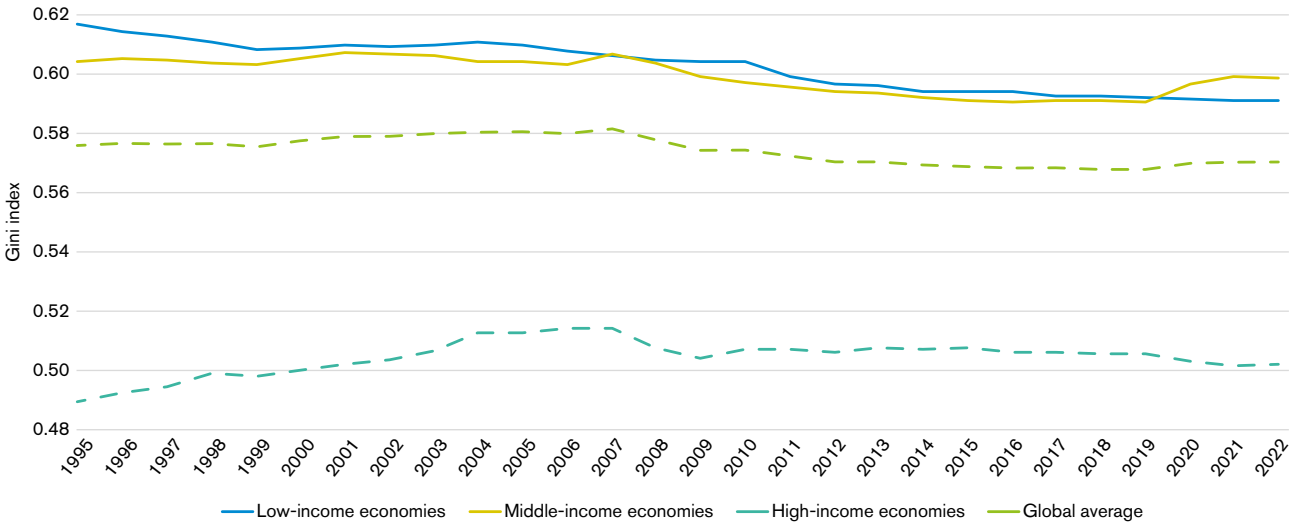


Source: Authors' calculations, based on World Bank data on poverty, exports and GDP.
Note: The figure displays the evolution of the average share of poverty headcount at US$ 2.15 a day (2017 PPP) in population and the share of exports of goods and services in global exports for low- and middle-income economies over the period 1995-2022. The income groups are based on the 2022 World Bank's classification.

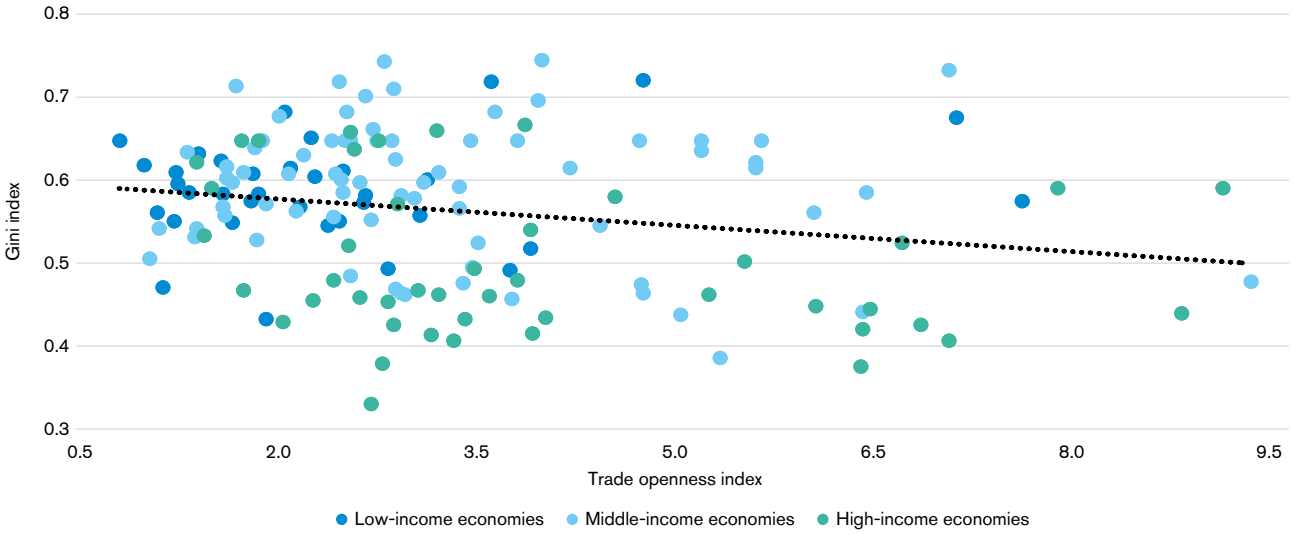
Trade may increase or decrease inequality within an economy, but its overall impact on inequality tends to be small. The slight fall in inequality over the past 30 years coincided with a substantial increase in trade. In fact, trade openness and inequality are only weakly, and negatively, correlated (see Figure C.2(b)). This is in line with quantitative studies which suggest that trade does not necessarily increase inequality. For instance, tariff liberalization in developing economies could decrease inequality in some economies but increase it in others, with this increased inequality dwarfed by large average welfare gains (Artuç, Porto and Rijkers, 2019). Similarly, the larger benefits on low-income consumers from tariff removal can, in some cases, more than offset wage losses, thereby reducing inequality (Ural Marchand, 2019). More recent disaggregated analysis for the United States suggests that the impact of trade differs more between households with similar income levels but differing characteristics, such as employment sector or location, than between high- and low-income households. As a result, the shape of the income distribution – a measure of income inequality – remains essentially unchanged in response to more trade, although trade can have very disparate effects on similar workers and, thus, create winners and losers (Borusyak and Jaravel, 2024).[3]

Figure C.2: Limited reduction in income inequality amidst greater trade openness

(a) Gini coefficient, 1995-2022



(b) Gini coefficient and trade openness, 2021



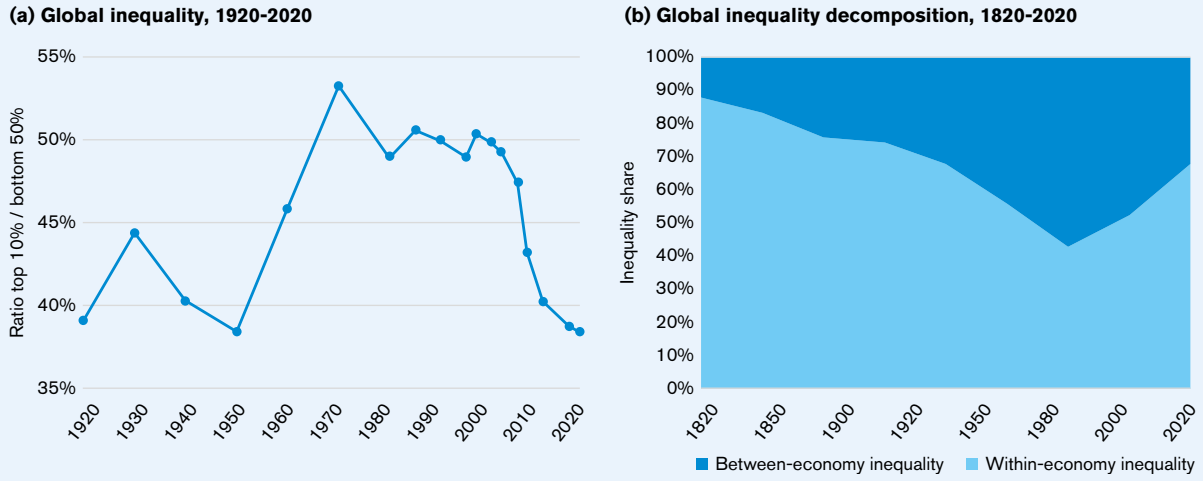
Source: Authors' calculations, based on World Inequality Database and World Bank data on trade openness.
Note: Panel (a) shows the evolution of the average Gini index by income group over the period 1995-2022. Panel (b) shows the correlation between the Gini index and trade openness index. The Gini index is a measure of inequality, ranging from 0 for perfect equality to 1 for maximal inequality. The trade openness index corresponds to the share of exports and imports over GDP conditional on economy size. The analysis in panel (a) covers 167 economies, classified based on the World Bank's income group classification, with each economy assigned to the income group it spends the majority of years in. If an economy spends an equal number of years in two groups, the lower income group is chosen. The analysis in panel (b) covers 157 economies, classified based on the 2021 World Bank's income group classification.

Box C.1: Global inequality has fallen recently

Global inequality refers to the distribution of income among individuals worldwide, encompassing both within-country and between-country income differences. Hence, it covers both the concept of convergence (i.e., poorer economies catching up with richer ones in terms of income) discussed in Chapter B and the concept of inclusiveness that will be discussed in this chapter. A global perspective of inequality complements insights from the within-economy and between-economy analysis and allows specific regional income groups to be compared to the same global income group (Milanovic, 2016, 2006).

Global inequality has declined substantially over the past 30 years but remains high. It surged between 1960 and 1980 but since then has fallen back to levels seen prior to this surge (see Figure C.3(a)). This fall coincided with a rapid expansion of international trade that favoured the income convergence between developing and developed economies discussed in Chapter B. As a result, the between-country component of global inequality decreased from 57 per cent in 1980 to 32 per cent in 2020 (see Figure C.3(b)).

Figure C.3: High global inequality despite a significant decline



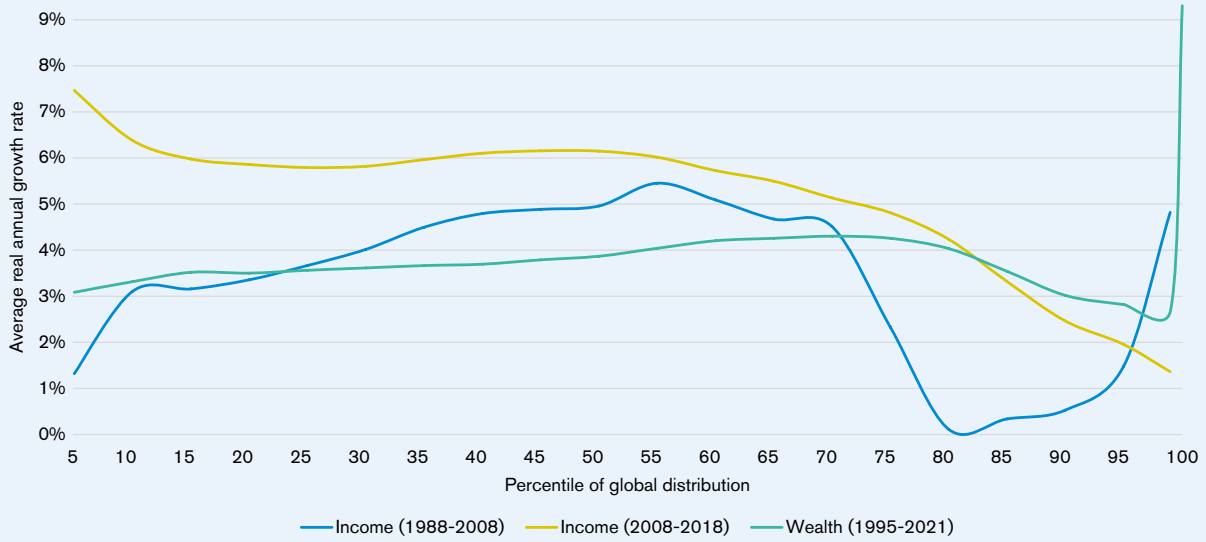
Source: Authors' calculations, based on Chancel et al. (2021) and Chancel and Piketty (2021).
Note: Panel (a) shows the evolution of the ratio between the incomes of the top 10% and the bottom 50% in global income over the period 1920-2020. Panel (b) shows the evolution of the global inequality decomposition into within-country and between-country components over the period 1820-2020.

Another way to depict global inequality is to look at income growth rates along the global income distribution. The evolution of global inequality between 1988 and 2008 followed a pattern commonly known as the "Elephant Curve" (Lakner and Milanovic, 2013). The global middle-income group, composed mostly of populations in Asia, and the top global 5 per cent experienced the largest real income growth over the period, while populations around the 80th and 90th percentiles, mainly comprising the middle or lower-middle classes from advanced economies, saw little to no real income growth (Lakner and Milanovic, 2013) (see Figure C.4). A more disaggregated analysis suggests that the shape of the "Elephant Curve" can, in part, be attributed to the collapse of incomes in former Soviet states following the breakup of the Soviet Union (Corlett, 2016).

More recent analysis points to a decrease in global inequality between 2008 and 2018, with slower growth for the top global 1 per cent, limited improvement for the 80th and 90th percentiles of the population, but significant growth for the poorest percentiles (Milanovic, 2024). However, in contrast to wealth inequality within economies, global wealth inequality has increased: 38 per cent of total wealth growth between 1995 and 2021 went to the top global 1 per cent (Chancel et al., 2021).

Box C.1: Global inequality has fallen recently (continued)

Figure C.4: Lower global income inequality amidst higher global wealth inequality, 1988-2021



Source: Authors' calculations, based on the World Bank Povcal Database and Luxembourg Income Survey and on the World Inequality Database.
Note: The figure displays growth incidence curves which measure how much income and net wealth have grown along the global population distribution. Net household wealth is the total amount of financial assets.

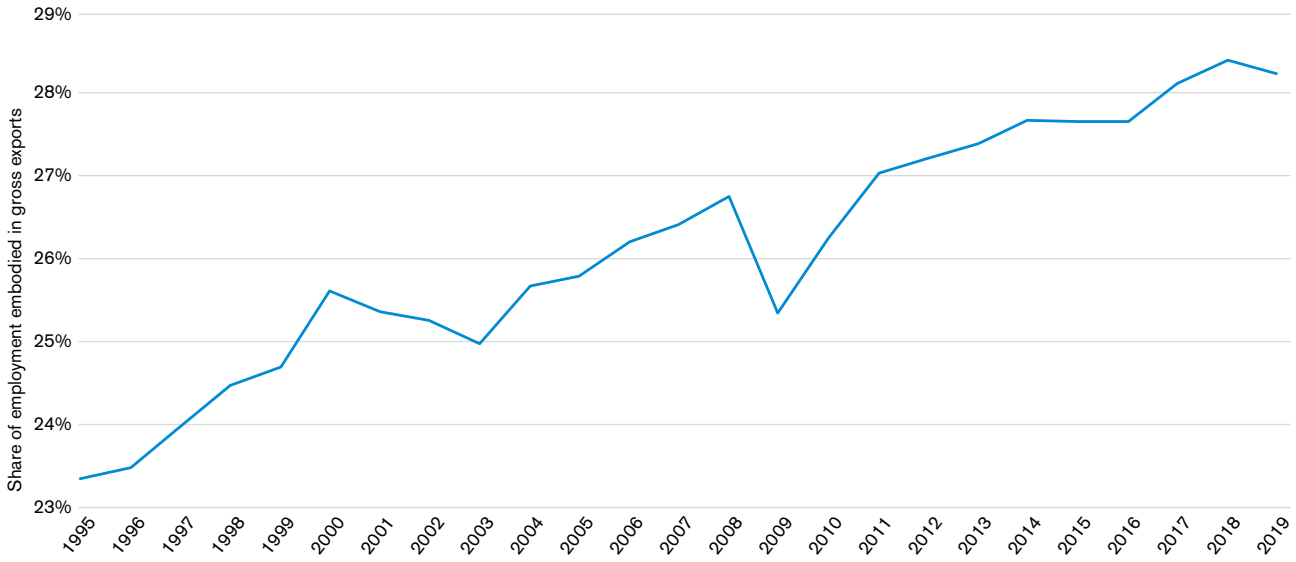
2. Most people gain from trade but some suffer losses

Most individuals gain from trade, but some suffer losses, especially if they are exposed to distortions and barriers that limit their adjustment or access to foreign markets. When aggregate gains from trade are not distributed equally, some see income gains, while others encounter losses. The rewards of trade flow mainly to workers in the most productive firms, sectors or regions. However, trade affects individuals not only as workers, but also as consumers, and the consumption benefits of trade flow disproportionately to households with relatively less income. Moreover, by shifting resources to their most productive uses, trade can create job opportunities, and these can benefit those initially affected negatively by resource shifts. However, this requires the ability to adjust, for instance through occupational, sectoral or geographical mobility. Factors that prevent such adjustment, referred to as distortions and barriers, and including issues like excessive market power or discriminatory norms, can limit access to trade and may disproportionately affect certain populations, such as unskilled workers, rural populations or some women.

(a) The distribution of the gains from trade among workers is unequal

Trade tends to raise incomes and growth, but many gains from trade depend on redistribution within economies, from relatively less to more productive firms, sectors or regions. In fact, from comparative advantage to scale and selection effects, the most influential sources behind the gains from trade all imply unequal outcomes within economies. As a result, trade benefits some more than others, and can even cause absolute income losses for workers who lose their jobs for trade-related reasons, and in the regions where such job losses occur. These distributional impacts of trade do not necessarily increase inequality, however, as they can benefit workers and regions that had relatively lower incomes. Further, the evidence presented in this subsection suggests that the majority of workers benefits. This is in line with descriptive evidence showing that trade accounts for a growing share of employment. For example, the average share of jobs dependent on exports across 61 economies with available data increased by over 20 per cent between 1995 and 2019, with the average share of jobs dependent on exports reaching 28 per cent in 2019 (see Figure C.5).

Figure C.5: Increasing share of employment embodied in exports, 1995-2019



Source: Authors' calculations, based on the OECD Trade in Employment database.
Note: The figure shows the evolution of the average share of employment embodied in gross exports as a percentage of total employment between 1995 and 2019. It includes both employment in exporting industries and, employment in other (upstream) domestic industries embodied in intermediate inputs used by exporting industries. The analysis covers 19 middle-income economies and 42 high-income economies. Due to the effects of the COVID-19 pandemic, the 2020 observation was omitted.

(i) Comparative advantage and offshoring lead to differential impacts of trade on workers

Specialization according to comparative advantage leads to gains from trade that are distributed unequally among workers or regions. Comparative advantage arises due to differences in productivity across occupations or sectors which, in turn, can be driven by countless factors, from the availability of skilled workers to the quality of institutions. Trade allows economies to benefit from these differences by enabling them to specialize in the production of goods they are relatively good at producing, while importing goods that foreign economies are better at producing than they are. As a result, substantial wage gains occur in expanding sectors, while workers in contracting sectors experience a higher risk of job loss. This phenomenon often spills over to affect regional disparities, as sectors typically cluster regionally.

The impact of trade openness on workers varies depending on the industry and region in which they are employed. For instance, while overall welfare improved, US regions more specialized in manufacturing experienced a relative decline in income following a surge in trade with China, whereas regions more specialized in agriculture and services experienced relative income gains (Caliendo and Parro, 2023). Similarly, in Germany, areas hosting import-competing sectors, such as textiles, faced relative employment losses, while areas dependent on comparative advantage sectors, such as automobiles, expanded after an increase in trade with China and Central Eastern Europe (Dauth, Findeisen and Suedekum, 2014). In Brazil, regions specialized in agriculture or mining gained from trade-opening, while regions with a higher manufacturing share incurred relative losses (Costa, Garred and Pessoa, 2016; Dix-Carneiro and Kovak, 2017). In South Africa, regions with employment in sectors that faced large tariff cuts experienced manufacturing employment losses relative to regions with sectors not subject to tariff cuts (Erten, Leight and Tregenna, 2019). In contrast, in China, regions that experienced the largest reductions in trade policy uncertainty following WTO accession saw increases in manufacturing employment and declining agricultural employment compared to other regions (Erten and Leight, 2021).

The impact of trade openness on workers also varies depending on their occupation and skillset. The impact of trade openness on wages may be more pronounced through occupational exposure than through sectoral exposure (Basco et al., 2024; Ebenstein et al., 2014). For instance, increased import competition from China resulted in income losses primarily affecting low-wage workers in US import-competing sectors (Autor et al., 2014). It also led to reduced trade gains for medium-skilled workers with sector- and firm-specific skills in Germany (Dauth, Findeisen and Suedekum,

2014). In Indonesia, tariff cuts enabled firms to import more affordable and higher quality inputs, enhancing their competitiveness and increasing hires of low-skilled workers, effectively reducing inequality and poverty (Amiti and Davis, 2012; Kis-Katos and Sparrow, 2015). Similarly, the implementation of the US-Viet Nam cooperation trade agreement opened up new export opportunities in apparel and textiles for many Vietnamese firms, particularly benefitting younger workers with lower education levels, thereby reducing inequality. In general, trade and labour interact in a dynamic setting, constantly evolving in response to various economic and social factors. The labour effects of trade on individuals or regions can change over time when new industries gain comparative advantages (see Box C.2).

The substantial impact of trade on regional inequality is, to a relevant degree, the result of intra-regional spillovers. Much of the literature finds that trade shocks trickle down local economies through indirect, general equilibrium, effects. For instance, negative wage effects are not limited to import-competing sectors, but can be observed more broadly in hard-hit regions, most likely because job losses and wage cuts lower local demand (Autor, Dorn and Hanson, 2013; Hakobyan and McLaren, 2016; Dix-Carneiro and Kovak, 2017). Conversely, regional proximity to industries that are indirectly exposed to rising exports can contribute to a significant share of local employment expansion, driven by worker transitions between directly and indirectly exposed industries and knowledge spillovers (Helm, 2020).

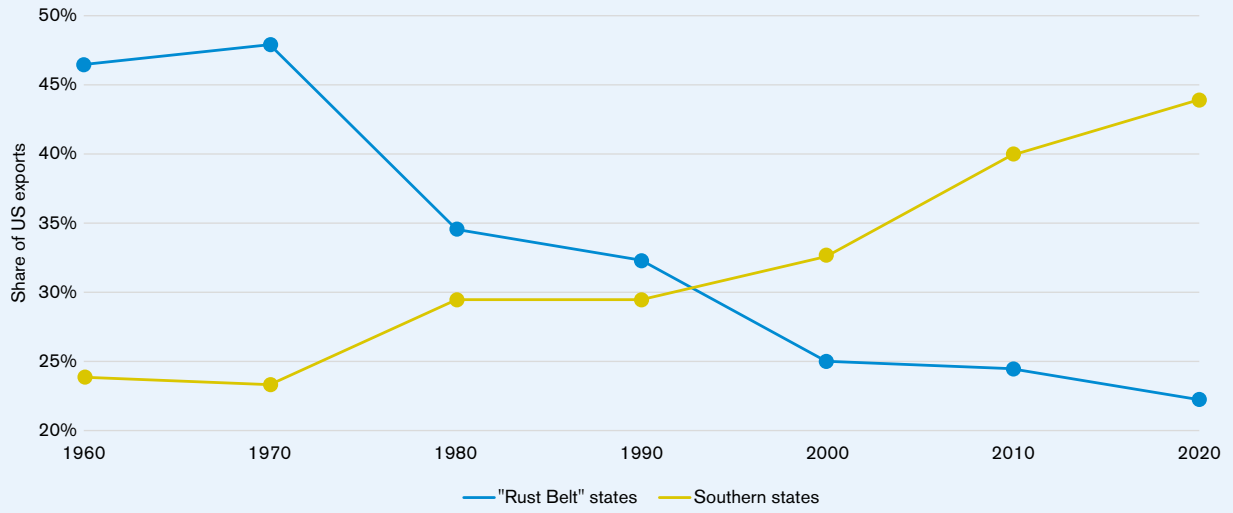
Box C.2: Winners from trade may change over time

Those who gain and those who lose out as a result of trade openness tend to change over time. Evidence suggests that one important source of gains from trade, comparative advantage, is highly dynamic. A study of 90 economies found that there is continuous turnover in an economy's export basket. In fact, 60 per cent of the goods that accounted for the top 5 per cent of those economies' current absolute advantage industries were not in the top 5 per cent two decades earlier (Hanson, Lind and Muendler, 2015).

A change in industry capabilities often translates to changes in regional capabilities. An example of this can be seen in Figure C.6, which shows how the spatial distribution of exports in the United States developed across two sets of states from 1960 until recently, with the Southern states gaining export shares at the expense of the so-called "Rust Belt" states.

The dynamics underlying comparative advantage and international trade suggest that complementary policies should be flexible, and not necessarily restricted to particular sectors or regions. Furthermore, impact assessments may be challenging because the exact causes of these dynamics are often unclear.

Figure C.6: US export shares by US state aggregates, 1960-2021



Source: Authors' calculations based on the US Census Bureau's Exports from Manufacturing Establishments reports.
Note: Data are from 1960, 1971, 1983, 1991, 2001, 2011 and 2021, starting with the earliest year with data availability for US state-level exports, then every 10 years subject to subsequent data availability. The "Rust Belt" states refer to Illinois, Indiana, Michigan, Missouri, New York, Ohio, Pennsylvania, West Virginia and Wisconsin. Southern states refer to Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

Offshoring has been linked to increased wage inequality. The rise of global value chains (GVCs) and the associated offshoring can magnify the distributional effects of trade as it amplifies the role of comparative advantage. The spatial unbundling of production stages allows for comparative advantage to operate at the more disaggregated level of tasks, such as research or assembly, rather than goods. This implies an even stronger shift in labour demand towards the abundant factors of an economy with magnified distributional impacts (Baldwin, 2016). While, in theory, the productivity-enhancing effects of offshoring can offset the inequality increase (Grossman and Rossi-Hansberg, 2008), empirical evidence tends to show that offshoring does increase wage inequality, especially between routine and non-routine workers (Hummels, Munch and Xiang, 2018). This phenomenon also applies to the offshoring of services inputs (Crinò, 2010; Ariu et al., 2019).

Offshoring can also explain why trade is associated with an increase in the skills premium in some developing economies. Evidence from a set of mostly Latin American developing economies finds that trade-opening increased the skills premium, defined as the ratio between the wages of skilled and unskilled workers. This was argued to be in contradiction to traditional trade theory, which suggests that trade should raise incomes of the factor that is abundant in an economy. For developing economies, this was assumed to be low-skilled labour (Goldberg and Pavcnik, 2007). Offshoring could offer a possible explanation for this. As the same offshored tasks, such as assembly of mobile phones or back-office roles, may be considered not skill-intensive in developed economies but skill-intensive from the perspective of developing economies, skill premiums may increase everywhere due to offshoring (Feenstra and Hanson, 1996). However, much of this evidence on the increased skill premium in developing economies comes from middle-income economies, such as Colombia or Mexico. In contrast, studies on low-income economies, such as Viet Nam or Indonesia, observe decreasing wage inequality due to trade and offshoring, in line with traditional trade theory.

(ii) Selection, scale and agglomeration can increase wage inequality

Gains from trade arise not only from differences across sectors, but also because trade allows productive firms to expand and benefit from agglomeration externalities. These factors can give rise to intra-industry trade which has, nevertheless, implications for inequality. Economies of scale and the self-selection of the most productive firms into exporting increase differences between large and small firms, which impacts individual inequality, given the different employment profiles of these firms. Agglomeration benefits some regions at the expense of others affecting spatial inequality. This is similar to the comparative advantage channel, but has clearer predictions for the rural-urban divide.

Large productive firms dominate exports and imports. Empirical evidence, supported by economic theory, confirm the important role of large productive firms in both exports and imports. For instance, in the United States, only about 18 per cent of firms exported and only 9 per cent imported in 2021. Of those, large firms, i.e. firms having more than 500 employees, accounted for more than two-thirds of export and import values (U.S. Census Bureau, 2023). In the European Union, importers with more than 250 employees made up only 2.8 per cent of the number of importing enterprises but accounted for 56.1 per cent of extra-EU imports in 2021. Large exporters made up 3.6 per cent of the number of exporting enterprises while accounting for 64.8 per cent of the value of exports (Eurostat, 2023). Similarly, in a sample of 32 low- and middle-income economies, the largest exporter alone accounts on average for about 14 per cent of a country's non-oil exports (Freund and Pierola, 2015).

Large firms tend also to respond better to import competition. For instance, a study on Mexican firms facing import competition from China found that smaller firms saw reduced sales and were more likely to shut down, while larger plants were relatively less affected by import competition. Moreover, large firms benefitted substantially more from access to cheaper Chinese inputs, resulting in increased sales and product survival. These factors caused market shares to shift to larger firms, benefitting the overall economy but negatively impacting workers in smaller firms (Iacovone, Rauch and Winters, 2013).

The concentration of trade within a few firms affects inequality because these firms tend to pay higher wages and hire more skilled employees. The average wages paid by exporting firms in developing economies range from 6 per cent to 35 per cent higher than wages paid by non-exporting firms (Bernard et al., 2007; Fariñas and Martín-Marcos, 2007; Baumgarten, 2013). Similarly, the average wage paid by exporting firms in low- and middle-income economies were estimated to be 31 per cent higher than other firms in the same industry (Brambilla, Depetris Chauvin and Porto, 2017). Some of this effect is driven by the fact that exporters typically also import, and that importing is equally associated with a large wage premium (Martins and Opromolla, 2011). A relevant part of the wage

premium arises because trading firms tend to employ more skilled employees and match employee skills better to tasks. As a result, trade raises wage inequality by increasing the skill premium (Helpman et al., 2016; Bombardini, Orefice and Tito, 2019).

Differences between import-competing and trading firms can raise not only the skill premium but also inequality between workers with similar skill levels. Trade cost reductions in emerging economies have been found to boost wages at exporting firms for both low- and high-skilled workers, but to decrease wages at import-competing firms. In addition, tariff cuts on inputs led to increased wages at importing firms relative to firms that only source domestically (Verhoogen, 2008; Amiti and Davis, 2012; Helpman et al., 2016). Variations in the quality of products produced by firms may also lead to trade affecting similar workers differently. Recent evidence finds that French firms, and hence their workers, producing more expensive footwear were less affected by import competition from low-cost economies than firms charging low prices (Piveteau and Smagghue, 2024). Offshoring can lead to inequality between similar workers as it allows some low-skilled workers in developing economies to access advanced technologies by working for subsidiaries of multinational enterprises (MNEs), which pay significant wage premia (Antràs, Garicano and Rossi-Hansberg, 2006; Baldwin and Robert-Nicoud, 2014).

Gender inequality can worsen disparities between workers with similar skill levels. Recent studies find that trading firms that require interactions across different time zones and long-distance travel reward employees perceived to be more flexible with regard to these requirements. This typically benefits men's career progression and wages. Studies on Norway and South Africa suggest that the gender wage gap in exporting firms is about 2-3 percentage points larger than in non-trading firms once worker characteristics are controlled for. In the case of Norway, this difference arises only among highly skilled men and women, as the flexibility requirements are particularly pronounced among managers (Bøler, Javorcik and Ulltveit-Moe, 2018; Janse van Rensburg et al., 2020).

Spatial inequality can also rise when exporting plants are located in only a few areas within an economy. Exporting activity tends to be heavily concentrated in larger cities (Garcia Marin et al., 2020). A study on four middle- and high-income economies found that this spatial concentration is due primarily to variation within industries, rather than differences between industries. The variation within industries is driven by more productive firms which are more likely to pay higher wages and to locate in large cities. As a result, trade widens urban-rural wage inequality. However, higher wage inequality does not necessarily translate into higher welfare inequality, when prices in larger cities are higher than in rural areas (Bakker et al., 2024).

(iii) Trade affects not only employment and wages but also job quality

Trade can help to improve working conditions. Despite occasional news reports of abusive working conditions in specific exporting firms, empirical evidence suggests that, on average, foreign-owned and exporting firms tend to have better working conditions than domestic firms in developing economies. In addition to higher wages, MNEs and exporters provide more formal job opportunities and can improve various working conditions, such as occupational safety and health provisions (Park, Lundquist and Stolzenburg, 2023). These effects can be magnified through supply chains as some MNEs, motivated by consumer demand for sustainable products and pressure by non-governmental organizations, put pressure on their suppliers to enforce labour standards. This is often achieved through relational sourcing contracts, which provide financial incentives to compliant suppliers, and contract termination clauses in case of non-compliance (see Chapter D.3 and Box D.3).

Trade can contribute to reduce child labour by fostering economic conditions where families are less dependent on children's earnings. The prevalence of child labour not only deprives children of their childhood and education but also perpetuates a cycle of poverty, hindering long-term economic development. Trade can significantly reduce child labour by increasing incomes and lowering prices. This enables families to provide for their children's necessities and education without depending on child labour for additional income. Additionally, as economies grow and diversify through trade, employment opportunities for adults can improve, further reducing the economic necessity for child labour (Edmonds and Pavcnik, 2004; Ugarte, Olarreaga and Saiovici, 2023).

(iv) The overall impact of trade on individual workers is complex

The net impact of trade on individual workers is a combination of the impacts of import competition, access to foreign inputs and export opportunities. These three channels all play out at different levels, including occupation, firm, sector and

region. This generates a large number of potential impacts that trade may have on workers with the net impact depending on which channels dominate. For instance, an individual worker might reside in an import-competing region but work for a large firm that sources a large share of inputs from abroad, with the result that the latter two channels might offset the first one.

The main implication of these multilayered effects of trade on workers is that they will be heterogeneous across economies and even across similar individuals. As a result, the labour market effects of trade do not consistently increase or decrease inequality at a more aggregated level. Studies on some economies find that trade has a significantly larger negative impact on low-income individuals through the labour market (Ural Marchand, 2019; Adão et al., 2022), while others observe a significantly larger positive effect on low-income individuals in other economies (Dix-Carneiro and Kovak, 2017). This is in line with recent work suggesting that the degree of occupational, sectoral and geographical exposure to trade is likely more important to worker outcomes than personal factors such as education and, by extension, income (Artuç, Chaudhuri and McLaren, 2010; Traiberman, 2019; Kim and Vogel, 2021; Costinot, Sarvimäki and Vogel, 2024).

However, initial exposure to trade is not the only factor determining the long-term effects of trade, as the ability to adjust is also important. Workers in firms confronted with heightened import competition may need to acquire new skills to remain competitive in the job market, explore opportunities in other growing sectors, or consider relocating to regions with more favourable job prospects (see Box C.3). Evidence from a grain import surge in Prussia around 1900 shows that persistent negative income effects on affected workers were avoided due to a strong labour mobility response towards other sectors and regions (Bräuer and Kersting, 2024). Recent findings indicate that job transitions resulting from access to cheaper foreign inputs can significantly contribute to individuals' wage growth. Conversely, involuntary job loss due to import competition can result in unemployment and compel workers to accept lower wages at new jobs (Arni et al., 2024). This emphasizes that the extent to which workers can adjust to trade shocks is critical, and this ability typically relates to factors such as education, income or gender.

(b) Trade benefits consumers, with a greater impact on lower-income households

Trade leads to substantial welfare gains by making a cheaper, more diverse set of products available to consumers. Many economic models of international trade emphasize gains from consumption rather than gains from labour market effects. This makes sense in that the consumption effects of trade affect a much larger share of the population than the labour market effects. Despite this, trade policy in some economies is centred around the effects of trade on workers, on the basis that individuals are not just consumers, but also workers. However, such a focus ignores the fact that a substantial share of individuals do not work, for instance because they have retired or are too young. Moreover, a large share of workers in economies at all income levels, but particularly in high-income economies with large public services sectors, do not face import competition. In fact, based on data by the Organisation for Economic Co-operation and Development (OECD), the average population share affected by import competition was only 1.85 per cent in 2019 for the 14 most populous economies covered in the database (see Figure C.7), and has hardly changed relative to 1995. In smaller economies, this figure was slightly larger: the average across all 58 economies in the database was – a still limited – 5.89 per cent. As a result, the positive consumption effects of trade, even for most workers, are likely to directly impact a larger number of people than the labour market effects.

Trade's large welfare gains through consumption have substantial redistributive effects and can counter inequality-increasing effects on the labour market. Only recently, research examined to what extent the consumption effects of trade impact individuals, and therefore inequality, differently. This research highlights two channels in particular, that both imply larger welfare gains for low-income households: non-homothetic preferences (i.e., income- or wealth-dependent consumption patterns) and heterogeneous price elasticities. The first of these channels operates through lower-income households spending a larger share of their income on imported products, thereby benefitting more from trade. The second channel operates through lower-income households being more sensitive to price changes and, therefore, benefitting more from trade-induced price reductions.

Consumers in low-income households tend to benefit more from trade openness. Due to their relative higher spending on imported products, poor households are estimated to experience approximately twice the consumption-related gains from trade compared to rich households, which tend to consume more non-traded services (Fajgelbaum and Khandelwal, 2016). An increase in trade costs may therefore have a greater impact on the purchasing power of low-income consumers. For instance, the United Kingdom's exit

Box C.3: Putting studies on import competition shocks in context

The limited impact of trade on inequality, as discussed in this chapter, is not in contradiction with evidence on relative regional and individual losses from international trade. The literature illustrates that import competition shocks can lead to negative income effects for those affected relative to unaffected workers or regions. From impacts on poverty to informal employment to manufacturing employment, the literature shows that increased import competition can causes substantial local labour market disruptions (Topalova, 2007; Autor, Dorn and Hanson, 2013; Dix-Carneiro and Kovak, 2017).

However, by focusing on import competition, often from a single trade partner, such studies fail to account for the multitude of channels through which trade affects individuals and regions, including export opportunities, access to cheaper inputs and lower consumption prices. For example, there is evidence for a large sample of economies that improvements in market access increase sector-level wages (Olarreaga, Piermartini and Porto, 2020). By the same token, McCaig (2011) finds that provinces in Viet Nam that benefited from larger tariff cuts in US markets following the implementation of the US-Viet Nam cooperation trade agreement experienced greater declines in poverty rates. Since these channels often operate in opposite directions, inequality impacts might appear starker. For example, when the United States was faced with increased import competition from China, even upper-bound academic estimates are small relative to the overall turnover in the labour market of an economy the size of the United States. For instance, a crude comparison of the 2.4 million layoffs resulting from Chinese import competition from 1999 to 2011, estimated by Acemoglu et al. (2016), and the roughly 2 million monthly layoffs in the US non-farm sector over the same period, reported by the US Bureau of Labor Statistics, would amount to a contribution of trade to less than 1 per cent of total layoffs over that period.

Other studies that assess the broader effects of Chinese import competition, including the expansion in construction and services employment due to imported cost-effective inputs, report relatively minor negative or even positive effects of greater import competition on net job creation. Even when specifically examining manufacturing employment, these studies find relatively small absolute effects due to offsetting factors (Feenstra and Sasahara, 2018; Caliendo, Dvorkin and Parro, 2019).

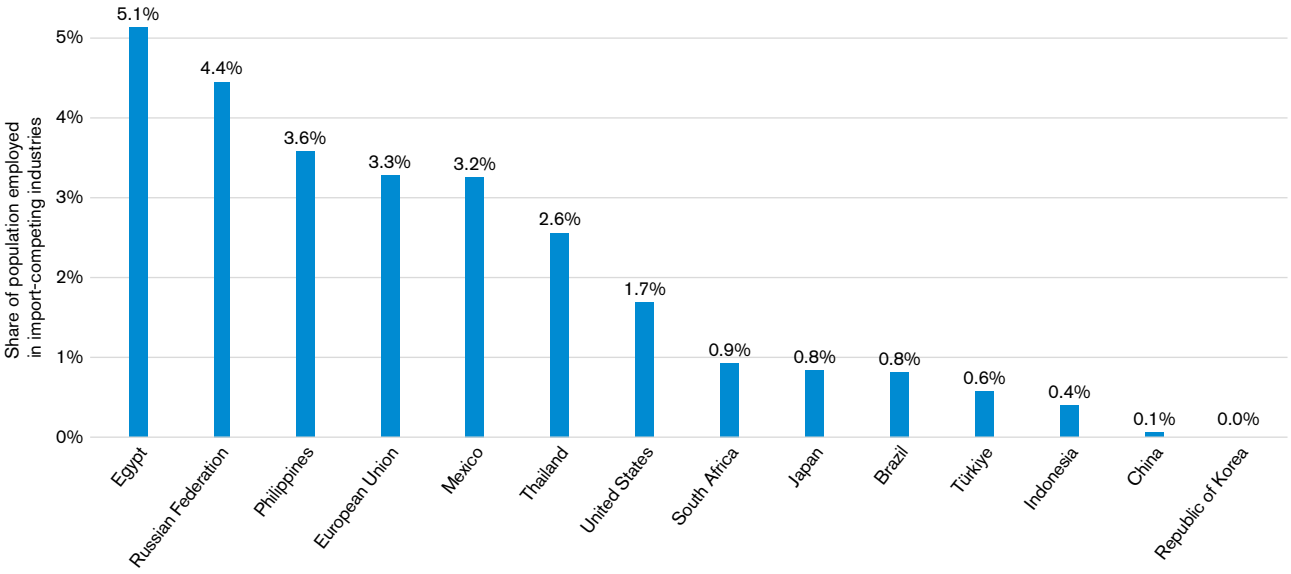
The relatively small estimates of labour impacts from import competition are in line with theoretical and empirical evidence on the role of trade for employment (Bacchetta and Stolzenburg, 2019). If labour market distortions, such as imbalances between skills offered and required in the labour market, are sector-specific, trade can affect aggregate unemployment by reallocating resources across sectors. However, these effects are relatively less significant compared to the underlying distortions driving unemployment. Accordingly, empirical studies find small positive effects of trade-opening on employment. For instance, a 10-percentage point increase in total trade openness was found to reduce aggregate unemployment in high-income economies by about three-quarters of one percentage point (Felbermayr, Prat and Schmerer, 2011).

Hence, the import competition literature is complementary to the more comprehensive studies cited in this chapter. Moreover, even small aggregate effects can be highly disruptive if they are concentrated among few sectors or regions and last for extended periods. Several economy-specific factors, such as informality or market power, mediate the impacts of trade and make it harder for some individuals to adapt to import competition or access new export opportunities. Not accounting for these factors might lead to an underestimation of the distributional implications of trade.

from the EU single market and customs union resulted in a 6 per cent increase in food prices, which increased the cost of living of the poorest households by 52 per cent higher compared to the richest households (Bakker et al., 2022). Across the wealth distribution, differences in consumption can be even starker. For instance, US lowest-income households experienced welfare gains 57 per cent larger than the US highest-income households after China's accession to the WTO in 2001 (Carroll and Hur, 2020).

The impact of trade on consumers is in part determined by the type of products traded and the trading partners involved. More detailed data provides more complex findings on how progressive

Figure C.7: Relatively limited share of workers in import-competing industries, 2019



Source: Authors' calculations, based on OECD Trade in Value Added (TIVA) and Trade in Employment databases.
Note: The figure shows the employment share in import-competing industries for selected economies with large population and available data in 2019. Import-competing industries are defined as those with gross imports exceeding 15 per cent of output, representing the top 25 per cent of industries in terms of import penetration in the database.

the effects of trade opening through consumption are. Recent studies have found that US consumption patterns, which may be representative of other high-income economies, are less varied along the income distribution than aggregate data suggests, since high-income households consume more imported varieties within sectors (Borusyak and Jaravel, 2021). As a result, consumption gains from trade may have no income bias in the United States. However, disaggregating the data even further shows that the origins of the imports matter. The imports from high-income economies are more significant in the consumption of high-income households. In contrast, the import expenditure share of low-income households in the United States is larger for imports from low-income economies, particularly China (Jaccard, 2023). Similarly, direct-to-consumer US imports from China, which are exempted from tariffs under so-called "de minimis" rules,[4] are predominantly shipped to low-income regions in the United States, disproportionately benefiting poorer households (Fajgelbaum and Khandelwal, 2024).

Consumption gains from trade tend to favour the poorer segments of the population in developing economies more. Trade-opening has been found to lower prices particularly for goods consumed by poorer households in some emerging economies (Ural Marchand, 2012). Low-income households in developing economies benefit disproportionately from trade-opening because they spend a larger share of their budget on food items, which are subject to comparatively high tariffs (Artuç, Porto and Rijkers, 2019). However, for households relying on the sale of agricultural goods for their income, lower consumption prices may not necessarily make up for the loss of income caused by the removal of tariff protection (Nicita, Olarreaga and Porto, 2014).

Consumption gains from trade may be pro-poor not only because of different consumption patterns, but because low-income households are more sensitive to price changes. Recent studies suggest that lower-income households are more likely to switch to more affordable goods compared to higher-income households when import prices decrease. For instance, in Switzerland, a sudden decrease in import prices was shown to increase welfare for lower-income households by about 30 per cent more than higher-income households, because lower-income households adjusted their expenditure more (Auer et al., 2024). Similarly, the poorest US households would gain four and a half times more than the richest households from a 10 per cent reduction in US import costs due to higher price sensitivities (Waugh, 2023).

(c) Distortions and barriers can lead to concentrated losses for some individuals

The impact of trade on individuals is mediated by many factors that can lead to concentrated and

persistent losses for some individuals. Distortions and barriers, such as mobility costs, informality or market power, impede adjustments by preventing individuals from moving towards gains from trade. They also limit the reach of the gains from trade, for instance by impeding some groups from participating in trade. In fact, the exposure to some of these distortions is closely linked to education and income as well as to other regional or individual characteristics, such as where people live or the types of jobs they have. As a result, where distortions and barriers are prevalent, trade can aggravate existing inequalities in the absence of complementary policies.

(i) Distortions and barriers affecting the distributional impacts of trade are significant and varied

Evidence suggests that the combined impact of distortions and barriers can be large, even in high-income economies. While it is difficult to quantify the impact of each distortion, proxies for the aggregate effects can be derived from observing mobility across occupations, sectors and regions, or by assessing the length of adjustment periods. Such proxies show that the adaptation costs to trade shocks for import-competing workers are high, and that the gains from trade do not reach everyone. For instance, studies show that the cost for workers of switching sectors or occupations after trade shocks is equivalent to several times a worker's annual wage (Artuç, Chaudhuri and McLaren, 2010; Dix-Carneiro, 2014; Traiberman, 2019). While these costs matter everywhere, they are particularly pronounced in developing economies, where they are estimated to be, on average, 33 per cent higher than in high-income economies (Artuç, Lederman and Porto, 2015). Similarly, mobility across regions tends to be relatively low within many economies, and such internal migration does not, at least in the short run, respond significantly to trade shocks (Topalova, 2007; Hakobyan and McLaren, 2016; Erten, Leight and Tregenna, 2019; Autor, Dorn and Hanson, 2023). As a result, an economy's adaptation to trade-opening tends to be relatively slow. Adjustment in some economies can still be ongoing up to two decades after liberalization (Artuç, Chaudhuri and McLaren, 2010; Dix-Carneiro and Kovak, 2017; Autor, Dorn and Hanson, 2021).

A high degree of labour market informality hinders the adjustment to trade openness. Within low-income economies, informal labour constitutes 89 per cent of the overall employment landscape. Workers in the informal sector typically earn lower incomes compared to formal sector workers with similar qualifications, and do not have the same benefits and protections as those in formal employment (ILO, 2023). Informality can slow down adjustment to trade shocks by locking in workers that fail to move towards more productive opportunities. For example, studies on Brazil and Mexico have found that the informal sector, which exhibits low entry barriers, absorbs workers after import shocks and that those workers remain in the informal sector for extended periods, rather than migrating to more productive regions or switching to formal employment in other sectors (Arias et al., 2018; Dix-Carneiro and Kovak, 2019). By allowing firms up to a certain size to operate without incurring formalization costs, informality also discourages productive firms from growing, for instance by capitalizing on export opportunities (Ulyssea, 2018; Dix-Carneiro et al., 2024). As a result, informality both reduces the gains from trade and prevents workers from moving towards the gains from trade.

High levels of market power enable firms not to pass lower costs on to workers and consumers, and also reduce the ability of workers to move towards opportunities. There is evidence that firms with market power do not reduce prices in line with costs savings when trade-opening lowers input costs, but rather increase their markups (De Loecker et al., 2016). In addition, a relevant share of trade-related costs savings is absorbed by intermediaries that operate in non-competitive environments. A number of studies on agricultural exports suggests that farmers' incomes would be substantially higher if exporting intermediaries behaved competitively (Dhingra and Tenreyro, 2020; Dragusanu, Montero and Nunn, 2022). Evidence from Kenya, Nigeria and Ethiopia finds that intermediaries capture most of the surplus of falling world prices rather than passing it on to consumers (Atkin and Donaldson, 2015; Bergquist and Dinerstein, 2020).

Market power matters not only in product markets but also in labour markets. This especially affects developing economies, where employer concentration is particularly high (Armangue-Jubert, Guner and Ruggieri, 2024). Wage markdowns have been found to be largest for skilled workers in large firms, and this limits reallocation incentives towards these more productive firms (Castillo, Garcia-Marin and Tapia, 2023). The effects of trade on workers can differ based on the market structure and the market power of the firms involved in international trade. In labour markets with few employers relative to workers (i.e., monopsony or oligopsony), export profits do not always reach workers and, instead, raise profits of firms (Amodio, Medina and Morlacco, 2022;

Felix, 2022; Amodio and Roux, 2024). Some large exporting firms have been found to offer compensation in the form of local amenities, such as housing or schooling, instead of wages in order to reduce workers' mobility (Méndez and Van Patten, 2022). Trade may even worsen concentration in the labour market. For example, in the United States, import competition from China enabled the only employers in the local labour markets to leverage their market power and reduce wages (Benmelech, Bergman and Kim, 2018). This labour market concentration may have played a role in the declining share of income allocated to labour, although current evidence does not find a strong link between trade and labour share declines (Abdih and Danninger, 2017; Karabarbounis, 2024).

The presence of state-owned enterprises (SOEs) can limit the reach of gains from trade. SOEs may limit competition-based gains from trade. For instance, some WTO accessions were found to reduce profits but increase productivity for private firms, while SOEs experienced no significant changes (Brandt et al., 2017; Baccini, Impullitti and Malesky, 2019). Evidence further shows that certain trade policy tools, such as licences, foreign direct investment restrictions or quotas, can be particularly distortive in the presence of SOEs or otherwise politically connected firms, as they tend to be the primary beneficiaries of such tools, which limits the expansion of more productive private firms (Khandelwal, Schott and Wei, 2013; Rijkers, Freund and Nucifora, 2017; Naidu, Robinson and Young, 2021). SOEs may also limit the pass-through of cost savings to consumer prices after tariff liberalization due to their lower sensitivity to costs (Han et al., 2016).

Underdeveloped capital markets can substantially reduce exports and prevent adjustment to trade shocks. Trade is more finance-intensive than domestic transaction because it requires capital for transportation, insurance and compliance with international regulations. As a result, underdeveloped financial markets reduce both the number of firms that export and their export values (Kohn, Leibovici and Szkup, 2016). These effects are not equal across firms, but are particularly severe for more financially constrained firms and firms operating in capital-intensive sectors, whereas foreign-owned firms are less affected, as they can access capital markets in several economies (Manova, 2013; Manova, Wei and Zhang, 2015). In addition, difficulties or obstacles for firms in reallocating capital across products or plants, for instance because of smaller firm or market sizes, or due to the absence of secondary markets, can slow down and distort adjustment. For example, a study on Peru found that when firms could not reallocate capital, investments could not respond to market opportunities, which increased misallocation of investments and led to the exit of productive firms from the market (Lanteri, Medina and Tan, 2023).

Excessively restrictive labour market regulations may impede workers from moving towards more productive firms and sectors. Strict employment protection legislation can limit firms' ability to lay off workers in the short run in response to negative shocks, thereby supporting employment and private consumption. At the same time, strict employment legislation can also impede the wage adjustment process and workers' transition to more productive jobs, thereby delaying the labour and output adjustment to new economic conditions (WTO, 2017). Research has shown that stringent employment protection regulation slows down the pace of job reallocation, especially at large firms subject to more labour regulations and in sectors requiring labour adaptation (Haltiwanger, Scarpetta and Schweiger, 2014). High dismissal costs due to employment protection legislation were found to mitigate the unemployment effects of trade shocks but result in a low job reallocation rate, slowing down the adjustment to trade shocks and limiting the expansion of productive firms (Kambourov, 2009; Ruggieri, 2022). Internal migration restrictions also impose a cost on adjusting to trade or other shocks. For instance, internal migration restrictions in China were found to reduce the welfare gains from trade-opening by 2 per cent (Zi, 2018). Capital market frictions and obstacles can also magnify the effects of labour market frictions on the distribution of the gains from trade by hindering the wage adjustment process (Artuç, Brambilla and Porto, 2022).

Barriers to access to education reduce adjustment to trade shocks. Retraining workers to facilitate adaptation to a changing economic environment could provide one solution to low labour mobility. Barriers to education, such as distance or cost, have been shown to limit the adaptability of regions. Cities close to colleges or universities respond better to the long-term decline of industries that provide the majority of local employment (Gagliardi, Moretti and Serafinelli, 2023). While young individuals in exposed regions are more likely to enrol in college, those from low-income households have significantly lower enrolment rates compared to those from wealthier households (Ferriere, Navarro and Reyes-Heroles, 2023).

Weak institutions also lower the gains from trade since inefficient contracting arrangements reduce exports and imports. Importers from economies with weak institutions are more often

required to use costly payment terms, like cash in advance, which limits consumption gains from trade (Antràs and Foley, 2015). One way to overcome contractual frictions is via the use of relational contracts, which rely on past experiences between buyer and seller and the expected future value of this relationship. However, these arrangements can also be costly. Trade between partners in the early stages of a buyer-supplier relationship can be inefficiently low until sufficient trust is built (Brugués, 2023). Exporters may be willing to forego a substantial share of their profits when spot market prices surge, in order to serve relational buyers at fixed prices (Macchiavello and Morjaria, 2015). Managers may assign highly productive workers to serve foreign buyers with which firms have relational contracts, as a means of protecting the relationship, even if these workers would provide more value elsewhere (Adhvaryu et al., 2020).

High internal trade costs mute the impact of trade on prices and limit access to export opportunities. A lack of infrastructure or an efficient logistics sector can cause domestic shipping costs to exceed international shipping costs. This hurts both consumers and workers in regions dependent on domestic shipping. In fact, the lack of pass-through from falling world prices to regions within an economy is not just due to intermediary market power, but also due to high internal trade costs (Atkin and Donaldson, 2015). In addition, underdeveloped infrastructure reduces the number of people that move towards locations specialized in comparative advantage sectors (Fajgelbaum and Redding, 2022). In line with these different effects, improvements in domestic infrastructure have been shown to spread the gains from trade more widely in different settings (Donaldson, 2015; Redding and Turner, 2015). Moreover, in the case of border regions, trade liberalization with neighbouring economies can help remote regions by moving them from the periphery to the centre of expanding bilateral trade (Bonadio et al., 2023).

High degrees of regional concentration impede adjustment to trade shocks. Given how domestic barriers affect internal migration, more specialized local labour markets may struggle to adjust to import competition. Cities highly dependent on a single sector were found to respond substantially worse to the decline of that sector compared to more diversified cities in several high-income economies (Gagliardi, Moretti and Serafinelli, 2023; Helblich et al., 2023). Effects have been particularly strong in the cities in the so-called Rust Belt of the United States, pointing to geographical distance as a potentially relevant factor. Meanwhile, workers in regions dependent on specific industries, whose skills are not transferable, suffer much larger earnings losses than workers in less industry-specific regions after a rise in import competition (Yi, Mueller and Stegmaier, 2024).

Barriers to the flow of information reduce trade and limit price declines. A lack of information about products or prices in different sectors or regions can significantly hinder the adjustment and the reach of gains from trade. Information frictions in some developing economies were estimated to account for 50 per cent of the price dispersion across markets, representing two thirds of the size of regulatory and physical trade costs (Allen, 2014; Startz, 2017). Several studies have found that the introduction of new technologies allowed producers to better match supply to demand in other markets and increase domestic or international trade (Jensen, 2007; Juhász and Steinwender, 2018). Increasing the availability of price information can further reduce price dispersion (Aker, 2010; Steinwender, 2018).

Barriers to the flow of information about new job and export opportunities and about regulations in export markets can hinder export growth. Workers need information about new job opportunities to make informed decisions about their career advancement and skills development. Research indicates that individuals strongly underestimate the potential returns from both migration and education, and are therefore reluctant to move or to obtain skills that are required by exporters. Simple interventions targeting these information gaps have been shown to substantially increase the likelihood that workers in some middle-income economies will access trade-related opportunities (Jensen, 2012; Baseler, 2023). Meanwhile, domestic firms wishing to participate in international trade need to gather essential information, including about export market regulations, market potential for their products, and the availability and reliability of foreign importers. However, this process can be significantly slow and costly, and can impede or delay the adjustment to trade-opening by slowing the expansion of the most productive firms to export markets, and the entry and exit of less productive firms (Eaton et al., 2021). This delay explains why the dynamic gains from trade openness are larger than the static gains (Alessandria, Choi and Ruhl, 2021).

Norms, habits, or local identities can further hamper the adjustment process to trade openness. Cultural factors, such as family structure, social capital, and ethnic and racial diversity, play a significant role in determining economic mobility (Chetty et al., 2014). Rigid social structures can

shape individuals' mobility towards specific economic opportunities, affecting their educational and geographical choices (Munshi and Rosenzweig, 2006, 2016). Strong local identity can also limit occupational and geographical mobility (Munshi and Wilson, 2008). Limited economic mobility often results in missed job opportunities, as individuals may be unable to move to areas or sectors with better employment prospects, thereby constraining the potential gains from trade openness.

(ii) Distortions and barriers disproportionately affect certain groups

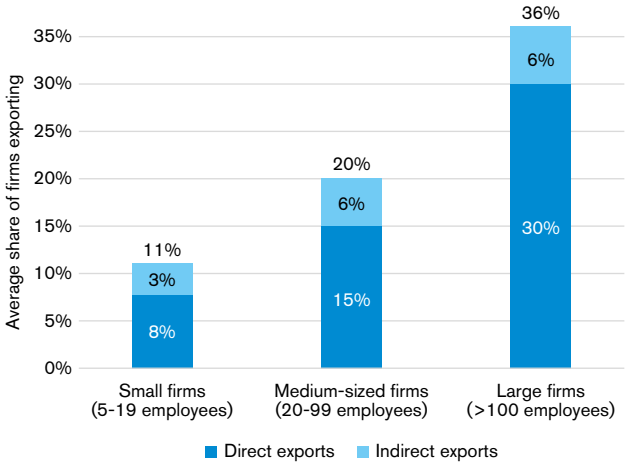
Distortions and barriers matter for inclusiveness because certain groups are particularly exposed to their detrimental effects. Aggregate statistics might fail to capture important trends at a more disaggregate level, such as disparities between local areas or social groups. For instance, certain groups are disproportionately less likely to benefit from poverty reduction. As of 2024, 10 per cent of women globally still live in extreme poverty. Furthermore, the incidence of poverty can differ substantially across subnational regions, with rural areas, which are home to 84 per cent of the world's poor, being notoriously poorer than their urban counterparts (ILO, 2023). These underlying trends are important because they can help identify particular groups or areas that are less likely to benefit from trade or other sources of welfare gain, often because they are more affected by distortions and barriers. For instance, evidence shows consistently that four groups – women, micro, small and medium-sized enterprises (MSMEs), unskilled workers, and workers in rural or remote areas – have less access to gains from trade because of economy-wide frictions and their specific constraints to accessing international market or adjusting to trade shocks. While less evidence is available for other groups, such as indigenous peoples and other minorities, it is likely that similar channels limit their gains as well (see Box C.4).

(iii) Micro, small and medium-sized enterprises

Trade provides important opportunities to MSMEs, but barriers, such as limited access to capital, limit their capacity to export. According to the World Bank Enterprise Surveys,[5] only 11 per cent of small firms, and 20 per cent of medium-sized firms, export, compared to 36 per cent of large firms, (see Figure C.8). MSMEs are less likely to trade than large firms. One reason for this is that they are less productive than large firms. However, MSMEs engaged in exporting activities can enhance their productivity and grow through learning effects and economies of scale. Understanding the issues that hinder MSMEs' participation to trade can prove very beneficial, given that, in a majority of economies, MSMEs account for a significant proportion of employment (WTO, 2016). The low participation of MSMEs in international trade is, in part, attributed to their heightened vulnerability to imperfect capital markets. MSMEs often encounter higher credit rationing, screening expenses and interest rates in comparison to larger corporations. They face significant credit constraints, with approximately half of their trade finance applications being declined, a stark contrast to the mere 7 per cent rejection rate experienced by MNEs (ADB et al., 2023; IFC and WTO, 2023). Evidence from West Africa suggests that MSMEs customarily pay higher interest rates than large corporate firms for trade finance. In Côte d'Ivoire and Senegal, large companies may be charged 4 to 5 per cent over the refinancing rates, while the corresponding premium for MSMEs stands at 7 to 9 per cent (IFC and WTO, 2022). This is particularly challenging given the costly conformity assessment procedures associated with regulations and standards in export markets (ITC, 2016). It also reinforces the negative effects of weak institutions, as they may require MSMEs engaged in trade to provide more upfront capital in transactions, for instance through costly payment terms such as cash in advance.

Obstacles to obtaining information and distributional costs are additional major barriers

Figure C.8: Lower participation of MSMEs in international trade



Source: Authors' calculations, based on World Bank Enterprise Surveys.
Note: The figure displays the average share of firms exporting by firm size. Exporters are defined as firms with an export share of at least 10 per cent of total sales. Indirect exports correspond to products sold domestically to third party that exports products. The analysis covers all available economies, based on the latest year available for each economy. Figures have been rounded up to the nearest whole number.

Box C.4: Trade and indigenous peoples

Trade-related economic activities, such as mining or infrastructure development, can harm vulnerable populations, such as indigenous peoples, when domestic policies are ineffective in protecting indigenous peoples' land, self-governance and cultural rights, in preventing deforestation and its impacts on livelihoods, and in ensuring access to essential services, including clean water and health (UNCTAD, 2014; OHCHR, 2016; Ceddia, Gunter and Pazienza, 2019). Inadequate intellectual property protection of indigenous peoples' traditional knowledge also make them vulnerable to unauthorized use or misappropriation of that knowledge, leading to commercial losses and the erosion of their cultural heritage (Goff, 2021).

While information on the participation of indigenous businesses in trade is still limited, indigenous communities have relatively low involvement in international trade. Recent studies on indigenous business in Canada reveal that indigenous-owned MSMEs are underrepresented among exporting firms, with 7.2 per cent of indigenous-owned MSMEs exporting in 2020 compared the average Canadian MSME rate of 12.1 per cent (Canadian Council for Aboriginal Business and Global Affairs Canada, 2023; Global Affairs Canada, 2023). The limited participation of indigenous communities in international trade can be attributed to various factors. According to the Canadian survey, the top export obstacles identified by indigenous-owned MSMEs are remoteness issues (including distance to customers, transportation costs and brokerage fees), knowledge issues (such as a lack of knowledge of local languages and cultures, or limited awareness of potential export markets) and border obstacles (including tariffs, non-tariff barriers, import quotas, customs duties and border security issues). Digital technologies are an important enabler for indigenous businesses to export. The likelihood of an indigenous-owned MSME exporting is six times higher when it utilizes e-commerce.

for MSMEs wishing to export. MSMEs often report comparatively greater impediments to finding foreign trading partners and to assessing demand for their products abroad, as well as resulting from customs procedures or language barriers (WTO, 2016; 2024a). MSMEs are also more affected than larger firms by geographical remoteness, as logistical and distribution costs account for a much larger share of their total costs than for larger firms (WTO, 2016).

Even when MSMEs export, the market power of large firms can limit their gains from trade. MSMEs have, in most instances, substantially less bargaining power than MNEs in global supply chains. Some value chains are organized around lead firms that control a number of dependent suppliers – so-called "captive value chains" – in which small suppliers hold close to no bargaining power (Gereffi, Humphrey and Sturgeon, 2005). As a result of these market power asymmetries, small suppliers, such as of coffee and garments, often receive lower prices (Boudreau, Cajal-Grossi and Macchiavello, 2023).

(iv) Women

Gender income inequality is high even though there is a slow but steady decline globally. According to the World Inequality Database,[6] women's share of pre-tax labour income marked a continuous increase in the last three decades, from an average of 27.1 per cent in 1995 to 30.3 per cent in 2019. While a majority of regions saw a constant or slightly falling gender wage gap until 2019, recent estimates report a sharp rise in the post-pandemic years, showing that the pandemic hit female workers particularly hard (Edwards, 2020). The slow decline in gender income inequality causes absolute gender inequality to remain high. Only 16 per cent of the top 1 per cent of labour income earners are women (Piketty, Saez and Zucman, 2018). Women globally are under-represented in high-wage jobs, but over-represented in low-paying jobs (Ortiz-Ospina and Roser, 2023).

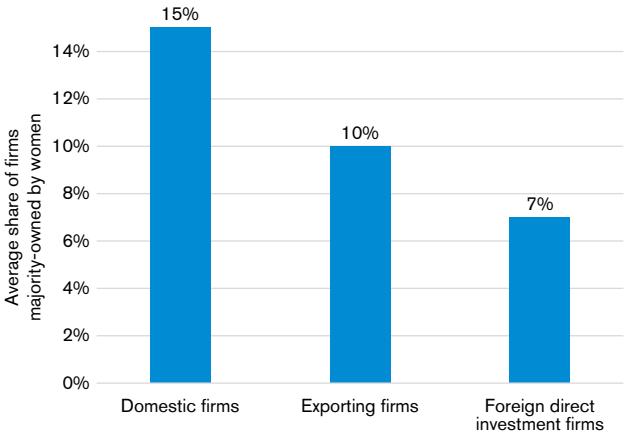
Trade is an important channel to boost female economic empowerment, but limited access to capital reduces their ability to trade. Companies involved in international trade tend to employ a relatively higher percentage of women. In developing nations, women comprise 33.2 per cent of the workforce in firms that engage in international trade, compared to 24.3 per cent in companies that do not export, and 28.1 per cent in those that do not import. In addition, women are more prevalent in companies participating in GVCs and in foreign-owned enterprises. Women make up 36.7 per cent of the workforce in GVC firms and 37.8 per cent in foreign-owned firms, which is 10.9 and 12.2 percentage points higher, respectively, than in non-GVC and domestically-owned companies (World Bank and WTO, 2020). There is a large literature that shows that women have less access to capital and

are particularly affected by imperfect capital markets. For instance, data from almost 10,000 firms surveyed in the Future of Business Survey[7] reveal that only 12 per cent of businesses led by women had received a bank loan, in contrast to 20 per cent of those led by men. Women entrepreneurs are less likely than men to utilize bank loans, and they often receive smaller loan amounts with higher interest rates and stricter collateral requirements (OECD, 2023b). These differences are particularly stark in trade. Women-owned businesses face a 50 per cent higher rejection rate in traditional trade finance applications compared to those owned by men (DiCaprio, Kim and Beck, 2017). In a recent study on trade finance in the Mekong area, among the few banks that provided gender-disaggregated data 3 per cent was the highest share of the bank's total trade finance allocated to women-owned businesses (IFC and WTO, 2023).

Norms and barriers to information can further limit access to capital and cause other obstacles that reduce women's participation in trade. Strict credit requirements, combined with gender-based social, cultural and legal barriers, can hinder MSMEs owned by women from accessing more formal financing sources (ITC, 2015; IFC, 2021). For instance, norms in some economies prevent women from having access to collateral due to inheritance or ownership restrictions. Social norms can limit women's educational options and careers, as their available time may be restricted due to expectations that they will spend more time than men on childrearing or other domestic responsibilities. These factors affect how women adjust to economic changes and engage in trade (World Bank and WTO, 2020). Norms can also impact information access. Professional networks are important for obtaining relevant information on foreign markets, partners and distributors and, as women often have smaller and less extensive professional networks compared to men, this increases the hurdles that women tend to encounter when navigating both domestic customs procedures and foreign regulations (Korinek, Moïsé and Tange, 2021; Sazedj and Tavares, 2022).

In light of these barriers, firms owned by women are less likely to engage in international trade and adjust to trade shocks less well, compared to firms owned by men. According to the World Bank Enterprise Surveys, only 7 per cent of firms with at least 10 per cent foreign ownership are owned by women, and only 10 per cent of exporting firms are owned by women, in contrast to 15 per cent of purely domestic firms (see Figure C.9). This is in line with the evidence that businesses owned by women tend to be smaller and, hence, face the same obstacles faced

Figure C.9: Lower participation of firms owned by women in international trade



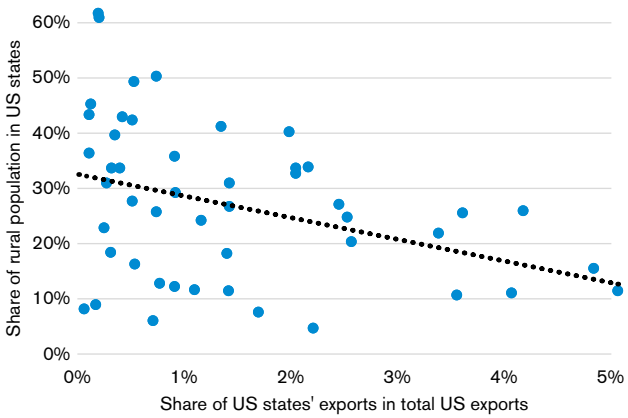
Source: Authors' calculations, based on World Bank Enterprise Surveys.
Note: The figure displays the average share of women-owned firms engaged in domestic and international trade and those with foreign direct investment participation. Exporters are defined as firms with an export share of at least 10 per cent of total sales. Foreign direct investment firms are those with at least 10 per cent foreign ownership. The analysis covers all available economies, based on the latest year available for each economy.

by MSMEs, as discussed above (World Bank and WTO, 2020). Female workers and business-owners also face specific mobility constraints that limit their ability to adjust to new job opportunities. Evidence suggests that while men and women may be equally mobile geographically, men are more likely to move for professional reasons, while women more often move for social reasons, such as for family reasons (Orkoh and Stolzenburg, 2020).

(v) Rural areas

Inequality between regions within an economy can be large, especially in trade. In 2016, real GDP per capita in regions of advanced economies at the 90th percentile was 70 per cent higher than that in regions at the 10th percentile (IMF, 2019). Most OECD economies have experienced a sustained increase in regional inequality (OECD, 2023a). Regional concentration in trade tends to be even stronger. Evidence from the United States shows a strong correlation between the population density of US states and their export shares (see Figure C.10). Similar patterns are observed in several other advanced and emerging economies when comparing city size and exports (Bakker et al., 2024). However, data from the Luxembourg Income Study[8] suggest that some middle-income economies witnessed a significant increase in the ratio of rural to urban earnings, from 56.4 per cent in 2005 to 72.4 per cent in 2019. Regional disparities in emerging

Figure C.10: Lower participation of the US rural population in international trade



Source: Authors' calculations, based on US Census Bureau as reported by the National Bureau of Economic Research (NBER).
Note: The figure displays the correlation between the share of rural population in US states and the share of those US states' exports in the total US exports. Texas and California were omitted from the chart for readability with minor impact on the trendline.

economies have trended down since 2010, after rising in the early 2000s, with the average speed of regional convergence picking up to more than 1 per cent by 2016 (IMF, 2019).

Gains from trade in rural areas are negatively affected by underdeveloped infrastructure, information frictions and market power of intermediaries. Consumers in remote areas of developing economies have been found to benefit from only a small part of the gains that result from falling international trade barriers (Atkin and Donaldson, 2015). The pass-through from tariff reductions to prices is also lower in rural areas in emerging economies, with lower consumption gains in areas further away from ports or borders (Ural Marchand, 2012; Nicita, 2009). Even in high-income economies with lower intra-national trade costs, the differential incidence of consumption gains from trade between rural and urban areas appears to be large. A recent study suggests that the inhabitants of urban centres in the United States spend a much larger share of their expenditure on imports and, hence, would enjoy 16 to 26 per cent larger welfare gains from trade-opening than inhabitants of rural areas (Jaccard, 2023). Rural disparities can also contribute to missed trading opportunities. For instance, internal trade costs can prevent producers in rural areas from accessing markets that reward quality upgrading, keeping these producers locked in low quality production unsuitable for exports (Bold et al., 2022). Underdeveloped infrastructure in rural areas can also aggravate information barriers. There is a persistent and sizeable digital divide between rural and urban areas (ITU, 2023a), which prevents rural firms from accessing information about export opportunities (World Bank and WTO, 2023b).

Workers in rural areas displaced by import competition face greater challenges in adapting due to limited regional economic diversity. Economic activities in rural areas tend to be less diversified than in urban areas. For instance, larger metropolitan areas in the United States tend to have a wider variety of economic activities and industries than smaller areas (Duranton and Puga, 2000; Macheras and Stanley, 2017). Similarly, employment in rural areas in the European Union tends to be concentrated in a narrower range of economic activities (Eurostat, 2013). In developing economies, where rural areas rely to a large extent on agriculture, the lack of diversification is even more pronounced (ILO, 2019). The limited economic activities and possibilities for mobility in rural regions make it harder for rural residents to find new jobs or invest in new professional activities, which increases the adjustment difficulties they may face due to trade openness.

(vi) Unskilled workers

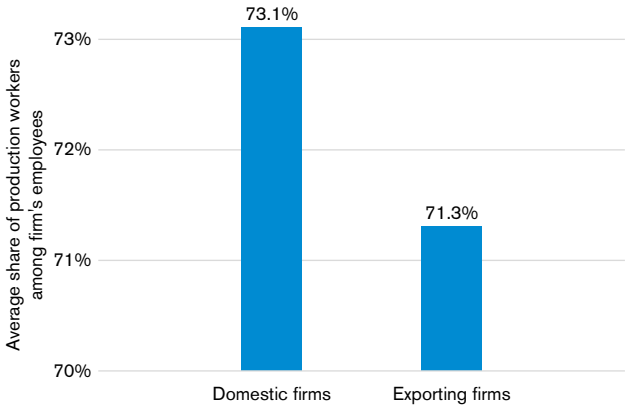
Wage inequality has been stagnant over the past decade, with recent data indicating a decline in some economies. According to ILO data for 38 economies, the skills premium – the ratio of earnings of high-skilled relative to low-skilled workers – fell from 2.3 in 2010 to 2.2 in 2022, with the premium being highest in middle-income economies, followed by high- and low-income economies. A recent study finds that, following the COVID-19 pandemic, considerable wage growth at the lower end of the distribution offset approximately 38 per cent of the increase in US wage inequality since 1980 (Autor, Dube and McGrew, 2023). In Germany, the ratio of top-decile to bottom-decile incomes declined by 10 per cent between 2022 and 2023 (Federal Statistical Office of Germany, 2024). This recent stabilization of wage inequality has been preceded by a steady increase in the skills premium in the 1980s and 1990s (Katz and Autor, 1999).

Exporters tend to have a larger skill premium, given that export trade is relatively skill-intensive, which limits the gains from trade for low-skilled workers. Exporting firm have a larger demand for skills because export trade requires more managerial roles covering different tasks, such as managing foreign regulations or global distribution.

According to the World Bank Enterprise Surveys, exporting firms tend to employ a higher proportion of non-production workers, such as managers, lawyers and marketing or logistics specialists, compared to non-exporting firms. Conversely, exporting firms tend to employ a relatively lower proportion of low-skilled workers (see Figure C.11). The need for specialized expertise leads exporters to reward skills more than firms not involved in foreign sales, resulting in a larger skills premium for exporters (Brambilla et al., 2012; Burstein and Vogel, 2017; Madanizadeh, 2021).

Distortions and barriers, such as norms or informality, can aggravate the unequal access of low-skilled workers to gains from trade. While the education levels of unskilled workers are low by definition, norms and social factors often lead to a high degree of intergenerational persistence in educational outcomes (Chetty et al., 2014; van der Weide et al., 2024). This is also related to unequal access to education in economies where schooling is costly. Displaced unskilled workers from low-income households can lack the financial resources needed to acquire new skills and transition to sectors that are not affected by import competition (Ferriere, Navarro and Reyes-Heroles, 2023). Norms and social factors may also limit occupational choices, to the detriment of unskilled workers in economies with a large informal sector. Evidence shows that being unskilled is strongly correlated with working in the informal sector, which lacks access to export opportunities (OECD, 2024).

Figure C.11: Lower share of low-skilled workers in exporting firms



Source: Authors' calculations, based on World Bank Enterprise Surveys.
Note: The figure displays the average share of production workers in firms engaged in domestic and international trade. Exporters are defined as firms with an export share of at least 10 per cent of total sales. The analysis covers all available economies, based on the latest year available for each economy.

More restricted access to capital further limits the adjustment of unskilled workers to trade shocks. There is a strong correlation between education and wealth (Pfeffer, 2018). Since adjustment to economic shocks like import competition often requires resources, such as financing periods of unemployment or retraining, this limits adjustment of unskilled workers, who usually have fewer financial resources. Differences in access to capital aggravate this relationship. Workers with lower levels of education and fewer skills tend to receive fewer job offers from distant locations and take longer to relocate after experiencing local disruptions. For instance, in the United States, 2 per cent of premature high school-leavers move states annually in the first year after leaving school, compared to 9 per cent of postgraduate degree-holders in the first year after completing their degree (Amior, 2024).

3. Fairer trade policies and domestic complementary policies are crucial to make trade more inclusive

Trade policies are often set at the economy-wide level, but their effects tend to be unequal across the population. Tariffs and non-tariff measures (NTMs), for instance, usually apply equally to all importers, independent of their size or location. However, this does not mean that their effects are identical for all. As consumption and employment differ across individuals, so does the impact of trade. As a result, setting trade policy in such a way that it does not inadvertently disadvantage certain groups is important to make trade more inclusive, although effects might be relatively small. Conversely, trade policy is sometimes set to shield certain groups from import competition; however, such interventions tend to impose significant costs on other parts of the economy and fail to reach their objectives.

Domestic distortions and barriers can lead to unequal effects from trade-opening, and domestic policies are required to address them. Trade policy can make access to trade more inclusive, and it can also help reduce distortions and barriers. However, since these distortions and barriers are rooted in structural causes, they need to be addressed through domestic policies in order to support a more inclusive economy.

(a) Tariffs and NTMs have uneven effects on individuals

Tariff incidence across the population is unequal, with low-income households typically

facing higher tariffs on their consumption. The application of higher tariffs to products commonly used by low-income households and to lower-value varieties within the same product category significantly increases the tariff burden on lower-income households compared to higher-income households. As a result, the tariff burden of the poorest 10 per cent is about five times higher than that of the richest 10 per cent (Furman, Russ and Shambaugh, 2017; Acosta and Cox, 2024). A disproportionate burden of tariffs on low-income households has also been found in a large number of developing economies, mainly due to high tariffs on food items (Ural Marchand, 2012, 2019; Artuç, Porto and Rijkers, 2021). However, there are also progressive aspects of tariff schedules. For instance, in the United States, poorer households import a significantly higher volume of low-value goods that are exempt from tariffs under "de minimis" rules (Fajgelbaum and Khandelwal, 2024).

Tariffs tend to place a larger burden on women's consumption than on that of men. Evidence across a broad set of economies finds that women, or households headed by women, pay relatively more tariffs, as they have a larger expenditure share on high-tariff items. For instance, households headed by women allocate a larger portion of their budget to agricultural products, which are often subject to high tariffs. This compresses their real income by 0.6 percentage points relative to households headed by men (Artuç et al., 2023). This gender disparity also applies to manufacturing products, including apparel (Gailes et al., 2018).

Temporary trade barriers and NTMs can reinforce the regressive impact of trade policy on consumption. Increased MFN tariffs, anti-dumping duties and safeguards measures on a number of consumption goods were found to increase their prices substantially. Since these goods were disproportionately consumed by low-income households in some emerging economies, these measures resulted in welfare losses among the poorest households that were twice as high as those of the richest households (Edwards et al., 2022).

The regressive nature of tariffs and NTMs is often linked to protecting specific groups of workers, but such protection tends to be ineffective. Many studies of a large number of economies have found that tariffs are higher, and NTMs more costly, in sectors that employ more low-wage workers or women, shielding them from import competition (Mendoza, Nayyar and Piermartini, 2018; Nicita, Olarreaga and Porto, 2014; Ural Marchand, 2019; Artuç, Porto and Rijkers, 2019; Bekkers et al., 2024). However, such measures often fail to increase the welfare of the protected individuals when the employment impact of protective trade policy is offset by higher consumer prices and reduced consumption. Protective trade policy may also fail if tariff increases lead to retaliation by trading partners, thereby impacting negatively protected and non-protected sectors in the economy by limiting foreign market access (Fajgelbaum et al., 2020; Autor et al., 2024). For instance, the Smoot-Hawley Tariff Act of 1930 raised the average tariff rate on US dutiable imports by 19 percentage points, and this is estimated to have led to a 4 to 8 per cent decrease in import volumes. However, retaliatory tariff responses from other economies caused exports to drop by 28 to 32 per cent, resulting in significant welfare losses for all the economies involved (Irwin, 1998; Mitchener, O'Rourke and Wandschneider, 2022). Due to political and economic factors, protective trade policy can also create lock-in effects, causing tariffs to remain in place even when protected sectors no longer require protection, while continuing to place a higher burden on low-income households (Acosta and Cox, 2024). Some GVC settings can also make some restrictive trade policies, such as antidumping duties, less effective, as targeted firms can circumvent these trade restrictions by relocating production to alternative plants in non-targeted third markets (Flaaen, Hortaçsu and Tintelnot, 2020).

Protective trade policy can raise costs in downstream sectors, which can more than offset the positive employment impact on protected industries. Restrictive trade policy on intermediates can increase input costs, making downstream sectors less competitive in third markets and thereby substantially reducing their exports (Flaaen and Pierce, 2019; Handley, Kamal and Monarch, 2024). Women are likely to be more affected by this situation, as sectors with higher numbers of female employees face higher tariffs not only on their outputs, but also on their inputs, due to trade protection of their upstream sectors (World Bank and WTO, 2020; Bekkers et al., 2024).

While export restrictions are sometimes implemented to protect consumers, they often prove ineffective due to the potential for retaliatory responses. During crises, some governments may seek to protect consumers from shortages or higher prices by implementing export restrictions. Recently, WTO trade monitoring data showed, for instance, how the COVID-19 pandemic and the onset of the war in Ukraine led to sharp increases in export restrictions, often on food items (WTO, 2020a; 2023a). While such measures might

constrain prices in the short run, they tend to aggravate crises elsewhere and to reduce crisis preparedness at home in the mid- to long-term, as they reduce the incentives for producers to invest in capacity (WTO, 2021b; Bacchetta et al., 2024). For instance, export restrictions on food items can be contagious, leading net importing economies to take counteracting measures that drive up the global prices of food items, which undermines the original policy (Giordani, Rocha and Ruta, 2016).

Reforming trade policies to address biases in tariffs or NTMs can support inclusive trade. As discussed above, while the protective effects of tariff schedules and NTMs on domestic industries tend to be limited, these measures tend to disproportionately impact women, low-income households and MSMES. Removing these biases can contribute to making trade more inclusive. For instance, improving agricultural market access to high-income markets significantly reduced poverty in rural areas of low- and middle-income economies (Porto, 2010; McCaig, 2011). At the aggregate level, rectifying trade policy biases tends to yield only small positive impacts on inclusiveness globally, as gains in equality in some economies may be offset by losses in others (Nicita, Olarreaga and Porto, 2014; Artuç, Porto and Rijkers, 2019; Bekkers et al., 2024).

Trade policy can also support inclusiveness by helping to address distortions and barriers that hinder equal participation. Trade costs may not only impose higher burdens on some groups, but may also indirectly amplify distortions and barriers. Lowering barriers to services trade is particularly important to make trade more inclusive. For instance, lowering barriers to trade in telecommunications and computer services can help to bridge the digital divide (World Bank and WTO, 2023a). Facilitating trade in financial services can also help to mitigate distortions associated with imperfect capital markets, including higher prices, reduced consumer choice and resource allocation inefficiencies, by boosting the productivity of firms that rely on these services (Arnold, Javorcik and Mattoo, 2011; Arnold et al., 2015). Trade-opening of high-skill services has also been shown to increase educational attainment, especially for girls, as high incomes in the sector lowered the relative cost of schooling and provided higher returns to education (Nano et al., 2021). Reducing services trade costs and implementing digitalization reforms could contribute to narrowing the gender wage gap (Bekkers et al., 2024).

Trade openness can help to address distortions linked to market structures. As discussed in Section C.3(a), trade tends to reduce informality by increasing the number of formal job opportunities. This effect can substantially amplify the welfare gains from trade liberalization by reducing resource misallocation in economies with large informal markets (Dix-Carneiro et al., 2024). Trade can also help to address the issue of product market power. When tariffs are reduced, the heightened competition from abroad can compel firms to reduce their markups and consequently their prices (Lu and Yu, 2015; Brandt et al., 2017; Gonzalez-Garcia and Yang, 2020; Impullitti and Kazmi, 2022). Trade can also alleviate the distortions introduced by inefficient SOEs by shifting resources to private exporting firms, thereby magnifying the gains from trade (Khandelwal, Schott and Wei, 2013).

Trade-opening can alleviate the impact of some obstacles in markets for factors of production. Trade has been found to substitute partially for financial development, and it reduces misallocation of resources across firms by raising the profits of the most productive firms (Finlay, 2024). Export profits can reduce the financial constraints of firms (Kohn, Leibovici and Szkup, 2016). GVCs are a key aspect of how trade reduces capital constraints in financially less developed markets. Some lead firms in GVCs were found to improve the liquidity of some financially constrained firms in the supply chain by providing financial support (Park, Lundquist and Stolzenburg, 2023). Export opportunities have also been found to incentivize local politicians to remove labour market barriers to internal migration (Tian, 2024). Trade can also contribute to institutional reforms that strengthen contracting institutions (Nunn and Trefler, 2014).

(b) Domestic policies are essential to make trade more inclusive

Making trade more inclusive is essential. The disparity between individuals who can effectively adjust to and prosper from trade openness, and those who cannot, poses a risk of widening inequality across social classes, regions, genders and age groups. Excessive inequality can be a hindrance within economies by impeding access to essential training and healthcare for the less fortunate or for the unemployed, thereby fuelling political tensions and potentially eroding support for trade openness (see the opinion piece by Stephanie Walter). The decision of whether and how to address inclusiveness rests with each government. While there is no "one size fits all" approach, economic growth, institutional reforms and sustainable debt management are important enablers to address inclusiveness. Improving resources mobilization is also an important factor for inclusiveness, especially in lower-income

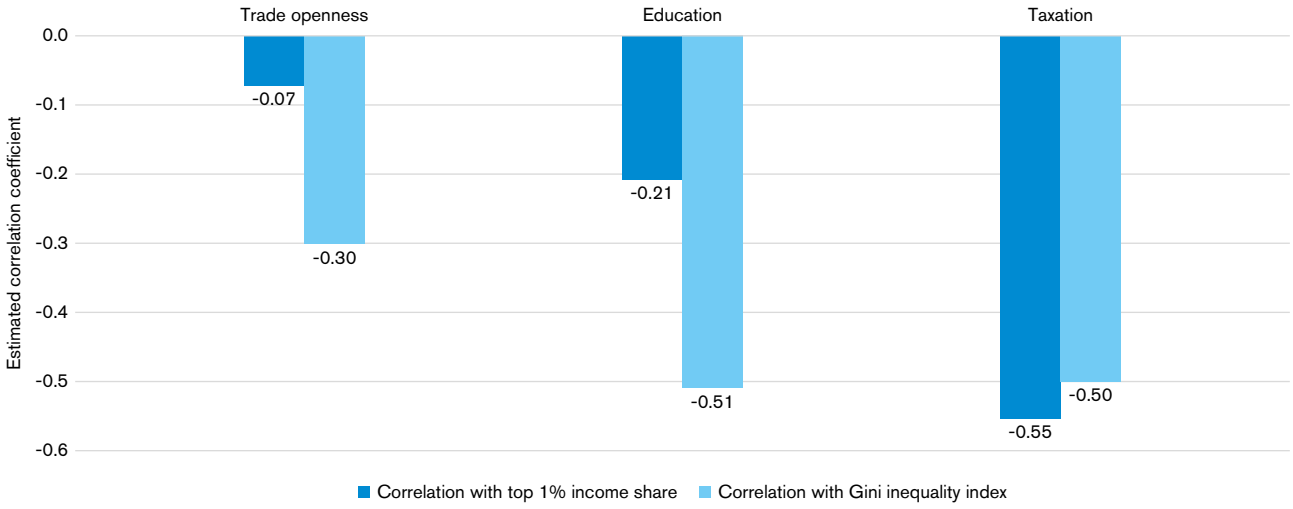
economies in which high external debt services and limited tax revenues significantly limit policy flexibilities.

Addressing inequality and promoting an inclusive economy require domestic policy reforms, rather than just trade policy reforms. Domestic policies to address inequality and inclusiveness encompass a broad range of measures aimed at reducing disparities in income and improving access to opportunities and resources among different social groups within the economy. Given the vast scope of these domestic policies, the following discussion focuses on a few select areas particularly relevant to the relationship between trade and inequality.[9] Although trade policy reforms can contribute to inclusiveness, domestic policies play a key role in this endeavour, including by making trade work for all. Unlike trade policy reforms, which primarily impact international trade dynamics, domestic policies have a more comprehensive reach, affecting the fundamental aspects of an economy and society that contribute to inequality and inclusiveness, including education, taxation and social protection. For instance, the quality of education and effective tax rates show stronger negative correlations with different inequality measures than trade openness (see Figure C.12). Numerous studies point to the crucial role that providing equal access to education plays in reducing inequality (Chetty et al., 2020) and to the robust long-term correlation between taxation and reduced income inequality (Piketty, 2003; Piketty and Saez, 2003; Atkinson, Piketty and Saez, 2011; World Bank, 2022).

Passive labour market policies are critical to reduce negative local spillovers and to facilitate adjustment to trade shocks. Passive labour market policies, such as unemployment benefits and other income support schemes, can mitigate the negative income effects of trade shocks (Bacchetta, Milet and Monteiro, 2019). These policies can facilitate adjustment by allowing displaced workers to invest more time in finding the right job match, which can lead to higher long-term incomes for workers, and increased productivity for firms and the wider economy (Nekoei and Weber, 2017; Farooq, Kugler and Muratori, 2020). Concentrated income losses in a local labour market, even in the short term, can result in reduced local consumption expenditure, potentially leading to job losses in sectors not directly affected by the initial shock. Passive labour market policies can help to mitigate such negative expenditure spillovers. However, these policies are sometimes criticized as being insufficient, as they cannot compensate for the non-monetary value of jobs such as personal growth opportunities, flexible work arrangements and recognition (Young, 2012; Helliwell and Huang, 2014).

Active labour market policies can substantially accelerate adjustment to trade shocks. These policies operate through training or job search assistance, on-the-job training and direct job creation. Active labour market policies tend to increase the efficiency of the labour market by easing job searches and reducing the obstacles between workers and vacancies. For instance, wage insurance programmes,

Figure C.12: Stronger correlation between inequality and education or taxation than trade openness, 2022



Source: Authors' calculations, based on World Inequality Database, UN Comtrade, OECD PISA Database and OECD Tax Database.
Note: The figure displays the estimated correlation coefficients between trade openness, education quality or effective tax rates and two different measures of inequality, namely the Gini coefficient for income and the share of total income received by the 1 per cent highest income earners. The correlation coefficients were normalized to allow for a comparison across different variables that are measured in different units.

Opinion piece

The complex interplay between inequality and attitudes about globalization

By Stefanie Walter

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It is often assumed that there is a strong link between inequality and attitudes to globalization, i.e., scepticism or openness to globalization. After all, trade and other forms of globalization have significant distributional effects, which suggests that those who are negatively affected are likely to be much more sceptical about globalization than those on the "winning" side.

Indeed, some of the biggest differences in views about globalization are related to inequalities in education and to regional economic inequality. Well-educated people, who tend to benefit the most from globalization, usually hold more positive views about it than people with lower levels of education (Menéndez González, Owen and Walter, 2023). And backlashes against globalization tend to be strongest in regions that have been negatively affected by economic shocks (such as trade or automation shocks). Support for populist and nationalist policies, parties and politicians tends to be higher in those regions (e.g., Colantone and Stanig, 2018; Milner, 2021).

Despite these trends, the relationship between inequality and globalization backlashes is less straightforward than it may initially appear.

First, popular backlash against political and socio-cultural globalization is often stronger than the backlash against economic globalization (Margalit, 2012). Many populist right-wing parties, for example, support free trade, but oppose international organizations, immigration and international rules that facilitate free trade but appear to constrain national sovereignty.

Second, although political actors opposed to globalization have become more vocal and powerful, there is little evidence that the public overall has become significantly more sceptical about economic globalization (Walter, 2021). Rather, savvy political actors have given globalization sceptics a much louder voice than they used to have in the past, so that globalization-related issues play a much more important role in domestic politics today than twenty years ago. Today, political competition is increasingly dominated by non-economic issues, such as national sovereignty, the environment, or immigration, that do not line up neatly on the traditional left-right political axis.

Third, the most vocal critics of globalization are usually not those individuals who have been hit hardest by globalization, but those who are worried about their economic and societal status going forward (Kurer, 2020). Such status anxiety is often caused by broad societal and economic transformations, including – but not limited to – transformations caused by globalization.

One of these structural changes is a decline in cross-country inequality. Several developing economies have been catching up with developed economies, and this is becoming increasingly visible to ordinary people in the developed economies, as these developing economies have started to export products that are globally competitive in areas that used to be the key comparative advantage of developed economies. These developing economies possess high-quality infrastructures that may be equal to, and sometimes better than, those of many Western countries. By hosting major sports events, like the Fédération Internationale de Football Association (FIFA) World Cup or the Olympics, these advances have become visible to the wider global public.

In these "rising" economies, many people see the current era – and globalization more generally – as an opportunity. These economies have also become more assertive at the international level, and are demanding more influence, to better reflect their growing economic weight and their priorities. In developed economies, however, these developments can amplify status anxiety, thereby providing both fodder for globalization-sceptical political actors and more negative views about globalization.

All of this suggests that, rather than shaping the views and the debate about globalization directly, the effects of inequality on people's perceptions of globalization are conditioned by the economic, societal and political context in which they play out.

Disclaimer

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which provide additional income temporarily to displaced workers who are re-employed at a lower wage, can be effective policies to shorten the transition to reemployment (Dix-Carneiro, 2014). The analysis of a particular US wage insurance programme, designed for workers displaced by trade, shows that it effectively reduced unemployment and increased the cumulative earnings of eligible workers by subsidizing earnings when the new job paid less than the previous one (Hyman, Kovak and Leive, 2024). Positive effects on income and re-employment probabilities have also been found for on-the-job training support, job search assistance and re-employment bonuses (WTO, 2017).

Reforms of labour market institutions can shape the adjustment to trade shocks. Success in facilitating economic adjustment involves finding an appropriate balance between labour market flexibility and employment security. Reducing highly restrictive dismissal costs in parallel to trade-opening can facilitate the reallocation of workers and lead to substantially higher welfare gains. For instance, high firing costs in a rigid labour market were shown to slow intersectoral worker reallocation by 30 per cent, reducing gains in real output and labour productivity following trade-opening (Kambourov, 2009; Coşar, Guner and Tybout, 2016).

Addressing excessive market power can contribute to a fairer distribution of the gains from trade. In some economies, the increasing dominance of a few large firms has been a major contributor to rising inequality (Autor et al., 2020). This has prompted discussions and reforms related to competition policy, for instance with respect to large technology firms. In the context of international trade, there are often noticeable market power asymmetries between MNEs or intermediaries and small suppliers. For instance, in the coffee industry, large MNEs often dominate the market, controlling prices and terms of trade. Small coffee farmers in developing economies lack the market power and resources to negotiate better terms, resulting in significant income disparities. "Fair trade" certifications can address market power asymmetries by enhancing the bargaining power of producers in developing economies through improved access to markets, fair pricing practices, and social premiums for community development (Dragusanu, Montero and Nunn, 2022). Fair trade certifications have been found to boost farmer incomes by more than 30 per cent (Zavala, 2023). Quality certification programmes can serve a similar purpose by reducing the difference between final consumer prices and farmer incomes (Macchiavello and Miquel-Florensa, 2019; Rifin and Nauly, 2020). Greater mutual recognition, harmonization and transparency in sanitary and phytosanitary (SPS) measures and technical regulations can help to reduce anti-competitive practices by lowering entry barriers for exporters, fostering a level playing field and reducing the ability of dominant firms to use regulatory differences to their advantage (Fernandes, Lefebvre and Rocha, 2021).

4. Inclusive trade is set to undergo transformation amid emerging global trends

Trade is affected to a large extent by structural macroeconomic trends. These trends shape the overall economic environment in which trade occurs, including factors of production and the policy and regulatory framework. Looking ahead, there are three major developments that strongly affect both trade flows and within-economy inequality, namely the digital revolution, climate change and increasing geopolitical tensions. In affecting both trade and inequality, these trends also change the nature and dynamics of inclusive trade, and how it interacts with inequality.

Digitalization can democratize international trade by providing access and opportunities to more participants. Digital technologies can increase access to information, markets and services for traditionally underrepresented groups in trade, such as women, young people, and MSMEs (Pergelova et al., 2019). Digital trade, in particular, has allowed for direct business-to-consumer trade by MSMEs of smaller, lower-value shipments, and digital platforms have created the connections and audience required for international transactions (IMF, 2023). Women and young people also particularly benefit more from digital trade, as they face fewer barriers compared to physical transactions (World Bank and WTO, 2023b). For instance, more than 80 per cent of sellers in the e-commerce marketplace Etsy are women, and are twice as likely to be young adults (IMF et al., 2023). Digital industries, with their flexible locations, have contributed to changes in within-country migration patterns, prompting some remote workers to relocate from urban to rural areas, thereby distributing the gains from trade more widely (Bick et al., 2024).

Yet, a significant digital divide between and within economies remains, creating additional burdens and reducing trade opportunities. Although the share of the global population with internet access and mobile coverage continues to increase, significant differences remain, especially within developing economies, for example between urban and rural areas, between men and women, and

between large and small firms (ITU, 2023b; OECD, 2021). In addition, digital services tend to cluster in urban areas in which there are larger pools of highly skilled workers and established trade infrastructures; as a result, the benefits of digitalization are not accruing equally across regions (Nano and Stolzenburg, 2021; Springford, Tordoir and Resende Carvalho, 2024).

Socio-cultural differences can further reduce digital access for certain groups. For example, in many developing economies, women face greater digital exclusion (Rashid, 2016; ITU, 2023a). Further, while women in certain developing economies have mobile phones, they still lack smartphone access relative to men, which holds them back in terms of the access to the latest digital technologies (Blanchard, Gollin and Kirchberger, 2023). These differences have implications for within-country learning, health and economic resilience (Arisoy, 2022; Azzopardi-Muscat and Sørensen, 2019; Shah and Shah, 2023; WTO, 2021b). The COVID-19 pandemic highlighted the critical role of equitable access to digital technologies in maintaining schooling, access to health resources, and business operations. The pandemic changed perceptions of the internet, so that it is now considered to be an essential public service, which underscores the need for equitable and expanded access (Greig and Nelson, 2022).

An increasingly pressing issue for inequality linked to digitalization is labour replacement and disruption by artificial intelligence (AI). AI can have a positive impact on labour productivity, especially in smaller firms (Damioli, Van Roy and Vertesy, 2021), and it can facilitate trade through the automation of tasks, access to information, and other capabilities that might otherwise require costly outsourcing (Garg, Mahajan and Ghosh, 2022). However, while AI can support firm competitiveness and internationalization by increasing productivity and reducing costs, it also threatens to render a growing number of jobs obsolete, and this could impact inequality. Services jobs in which women are principally employed are potentially those most at risk (Acemoglu, 2024). Various studies highlight the threat of AI to employment in certain positions (Kim, 2019; Mesquita, Oliveira and Sequeira, 2021), particularly in white-collar jobs, including coding, accounting and research (Molla, 2023; Talmage-Rostron, 2024), all of which are digital services that are frequently traded by smaller enterprises (Kerner and Kitsing, 2023).

The future impact of digital trade on inclusiveness remains uncertain. Although digital trade offers opportunities for development and inclusiveness (see Box C.5), access disparities in digital technologies could create challenges for equality and international trade participation, and AI-driven labour adjustments remain a potential concern. Ultimately, new digital technologies will continue to emerge, and it is important that all workers can use and access those technologies. As underscored in Section C.4, policymakers must focus on digital access, especially internet service provision, as well as education and training, are essential to ensure that all segments of populations can use new digital tools and services going forward.

Climate change is expected to impact international trade negatively, and to exacerbate within-economy inequality. Climate change has adverse effects on health and on access to drinking water, food and land, with significant trade-related impacts on agriculture, fishing and movements of people (Stern, 2007; WTO, 2022). Vulnerable groups, often residing in marginal areas with limited recovery capacity, face higher risk from climate-related hazards (Islam and Winkel, 2017). This exacerbates inequality, particularly affecting disadvantaged groups and women, due to differing task allocations. For example, due to societal norms in some areas, women may be more likely to undertake tasks like retrieving water, gathering firewood and subsistence farming, all of which are becoming more challenging due to climate change. Disadvantaged groups are especially vulnerable to market and price changes, given the volatility of food prices and the relatively higher share of income they already spend on nutrition. Indigenous peoples are also particularly vulnerable to climate change and trade-linked environmental impacts, such as deforestation, that threaten their access to land and natural resources (Abman and Lundberg, 2020; Jerez, 2021; Renglet, 2022).

The global shift towards renewable energy sources and sustainable practices has reshaped trade dynamics. This transformation has not only spurred innovation and investment, but has also opened new avenues for cross-border collaboration and trade partnerships. For instance, sustainable entrepreneurship has witnessed a significant surge in Europe, leading to the emergence of innovative green technologies and services that are increasingly in demand around the world (Crecente, Sarabia and Teresa Del Val, 2021). Similarly, climate change-induced challenges in regions like Nigeria have prompted the creation of new businesses focused on mitigation and adaptation activities, with potential for exportation of green products and expertise (Akuwudike, Mac-Ozigbo and Igbokwe-Ibeto, 2020). This trend is not only fostering economic growth, but is also contributing to

Box C.5: Microtech opportunities in developing economies

Short-term work by independent workers who use digital platforms to find employment, commonly referred to as microtech and digital gig work, are transforming livelihoods in internet-connected developing areas, offering new opportunities for young people, in particular, and potentially impacting migration patterns by creating more local work (Onkokame, Schoentgen and Gillwald, 2018). In many African economies, for instance, mobile internet-enabled devices and rural internet access points provide crucial connection to the digital economy, enabling workers to participate in microwork (i.e., small tasks undertaken online which contribute to a larger task or project) and earn income without leaving their communities.

The growth of AI has further driven demand for datasets created through microwork, providing new employment avenues for digitally connected individuals. This trend is evident in economies like Namibia, where digital microwork has become a viable livelihood strategy for those who face difficulties in accessing formal or stable employment opportunities (Keskinen et al., 2022).

However, this emerging sector faces significant challenges, such as the necessity for access to international payment systems. Local payment infrastructures are often fragmented and lack interoperability across borders, making it difficult for workers to receive their earnings (Onkokame, Schoentgen and Gillwald, 2018). Societal norms and infrastructure limitations create ongoing challenges to digital access by different demographic groups. This creates frictions and challenges to joining the digital labour market, leading to particularly low levels of digital labour in Africa (Onkokame, Schoentgen and Gillwald, 2018; Mothobi, 2021). Despite these issues, the potential for microwork to empower individuals in developing regions remains substantial, provided that supportive infrastructures and policies are in place to address these hurdles (Ngene, 2022).

While digital gig work offers flexibility and opportunities, it can also negatively impact the working conditions of some by creating job insecurity and unstable income, as it typically involves project-based, short-term contracts without long-term stability (ILO, 2021b). Gig workers often lack traditional employment benefits, such as health insurance, paid leave and retirement plans, making them more vulnerable in times of need. In addition, they may experience irregular work hours, which can affect their overall income and work-life balance. These challenges highlight the importance of regulatory frameworks to protect gig workers' rights.

resilience in communities vulnerable to the effects of climate change. As the transition to greener economies intensifies, the entrepreneurial landscape will continue to evolve, offering diverse opportunities for sustainable development and environmental stewardship.

International trade will play a pivotal role in mitigating the impacts of climate change while also addressing within-country inequality. International trade will be needed to access resources following climate-related events, smooth cost spikes, and support innovation by entrepreneurs through knowledge transfers (WTO, 2021b; 2022). Initiatives like targeted investments in marginalized communities and capacity-building programmes can contribute to ensuring that the benefits of trade and climate action are more equitably distributed by enabling local businesses to participate in green supply chains. Removing trade barriers to climate-related goods and services can further improve access to the latest mitigation tools and technologies (Ouwehand and Layton, 2021).

Geopolitical tensions disrupt trade and undermine inclusiveness efforts. Fragmentation – i.e., the unwinding of trading relationships and the recourse to unilateral, rather than multilateral, policies – presents a major risk to progress in reducing poverty and inequality and particularly affects vulnerable groups, such as low-income households, women and MSMEs (WTO, 2023c). This reality has been exemplified by recent shocks, such as the COVID-19 pandemic and the ensuing price inflation, and persistent conflicts in the world, which have increased economic fragility. Disrupted infrastructure and logistics, exclusion from international markets or services like payment systems, and interrupted shipments or receipt of goods and services, are all relatively more challenging for smaller enterprises and those with less resources. Some decoupling strategies, such as reshoring through greater automation, may also disrupt labour markets in some sectors. While technological advancement in robotics and AI can facilitate the reshoring of some activities (typically in high-income economies), it can also

reduce the number of reshored jobs by making some imported inputs and tasks (typically those undertaken in developing economies) redundant and making automation more cost-effective (WTO, 2023c). Even outside of a specific geopolitical shock, the threat of such disruption is especially detrimental to more vulnerable populations, including some women, young people and the elderly (ITC, 2023). These challenges may be compounded by trade barriers arising from disrupted infrastructure, heightened corruption and severed business connections. Moreover, fragility disproportionately affects more unequal economies, and the escalation of inequality itself exacerbates fragility. By 2030, it is projected that two-thirds of the world's extreme poor will reside in fragile or conflict-impacted economies (Corral et al., 2020).

Overall, the digital revolution provides many opportunities for inclusive trade, but they also create challenges, which are aggravated by climate change and geopolitics. Overcoming the challenges to inclusive trade created by the digital divide, climate change and geopolitical uncertainty reinforces one of the key messages of this chapter: domestic policies are key to making trade inclusive. These include, for instance, broadening access to digital infrastructure, providing financial support, increasing access to credit for underserved populations, and promoting education and training. Trade policy can play a role in maximizing the opportunities of digitalization, for instance by improving market access through streamlined regulation and procedures. As discussed in Chapter D, international cooperation can help foster synergies for inclusiveness by aligning policies and resources to collectively address economic disparities and promote equal access to global trade benefits.

5. Conclusions

In the right policy environment, trade can deliver aggregate welfare gains and poverty reduction, and can support inclusiveness without necessarily raising inequality. This, indeed, has occurred in many economies, which aligns with recent studies showing that trade is not systematically linked with inequality. Rather, it is country-specific factors, such as which sectors exhibit comparative advantage, that have a greater influence on determining who benefits from trade and who faces losses from increased competition. Thus, trade may either increase or decrease inequality.

While a large majority of individuals gain from trade, a small share of the population encounters negative income effects from import competition. Trade can provide new opportunities for those who have been negatively affected by import competition, but seizing these opportunities requires adjustment. Distortions and barriers can render that adjustment difficult and costly. As a result, domestic policy is necessary to support adjustment and to remove domestic distortions and barriers, in order to make trade more inclusive. As the digital revolution, geopolitical tensions and climate change increasingly affect the inclusiveness of trade, the importance of domestic policies to provide a level playing field domestically will become ever more important.

Domestic factors that prevent inclusiveness across economies also limit the inclusiveness of trade within economies. The effects of trade highlight the fact that inclusiveness across and within economies are closely linked, as they are driven by similar factors. From excessive market power to underdeveloped infrastructure, many underlying country-specific factors are critical for trade to generate growth, and for that growth to be inclusive. This emphasizes the importance of the domestic policy environment in which trade operates, and it sets up a clear policy agenda that can unlock the potential of trade to benefit all. At the same time, trade policies are not necessarily neutral in terms of distributional effects. It is important that policymakers be aware of this and, to the extent possible, that they strive for trade policies that do not unnecessarily and unfairly disadvantage any particular group.

Some of these domestic factors can only be addressed through international cooperation. International trade cooperation is essential to address the challenges to accessing export markets encountered by domestic MSMEs and women-owned businesses. Similarly, coordinated competition policy responses may be needed to address global market concentration by some MNEs. Connecting rural areas to larger markets may also require market access to neighbouring economies. Efforts to collect disaggregated data (e.g., firm-level, gender, employment or household data) at national and international levels can enhance the ability to evaluate the impact of policies on different groups of the population, and to monitor and adjust them accordingly. Chapter D discusses the critical role of international cooperation in more detail.

Endnotes

1 See https://wid.world/.

2 This general trend holds also for other inequality measures, such as the share of top 1 per cent of income earners in total income, or the share of the bottom 50 per cent. Estimates using alternative data sources obtain similar results (Pinkovskiy et al., 2024). Post-tax inequality has declined even faster, although the difference is marginal.

3 Using highly disaggregated data on both consumption and employment patterns in the United States and simulating a 10 per cent fall in trade costs, Borusyak and Jaravel (2024) find that all income deciles benefit on average, and that the gains are slightly higher for poorer households, ranging from 2.0 per cent in the bottom decile to 1.8 per cent for the top decile. However, over 99 per cent of the variance of welfare changes from trade shocks arises within, rather than across, income deciles.

4 Under so-called “de minimis” rules, imports may enter an economy duty-free if their value remains below a certain threshold. In the United States, this threshold is equal to US$ 800.

5 See https://www.enterprisesurveys.org/en/enterprisesurveys.

6 See https://wid.world/.

7 A collaboration of Facebook (now Meta), the Organisation for Economic Co-operation and Development (OECD) and the World Bank, available at https://web-archive.oecd.org/temp/2023-02-13/476400-the-future-of-business-survey.htm.

8 See https://www.lisdatacenter.org/.

9 See WTO (2017) and Grundke and Arnold (2022) for more comprehensive discussions.