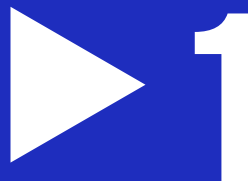


Trade policy and labour markets:

Indicators and evidence

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► Introduction

The world's growth and prosperity are heavily fuelled by international trade. In 2021 exports and imports constituted roughly 57 per cent of world gross domestic product (GDP), slightly down from a high of 61 per cent in 2008.¹ The value of world merchandise trade rose from roughly US\$1.1 trillion in 1977 to US\$22.5 trillion in 2021, while commercial services rose from US\$3.9 trillion in 2010 to US\$5.9 trillion in 2021.²

The transformative effects of international trade on economies, specific sectors and labour markets have been widely analysed over recent decades using a broad range of frameworks and indicators.³ Broad-based country-wide assessments have given way to sectoral and firm-level analysis. This shift has contributed to more in-depth analysis of the distributional effects of trade on the labour market, such as inequalities between and within capital and labour, countries, regions, and types of firms and workers (WTO 2017). However, the scope of analysis of the labour market remains markedly limited to employment and wage effects, albeit with more granularity.

Two recent ILO publications provide an in-depth analysis of the relationship between methodological approaches and data availability to explore the effects of trade on a wider set of labour market impact indicators. *Trade and Decent Work: Handbook of Assessment Methodologies* (ILO 2021a) critically reviews the theory and empirical models that have been utilized in the literature on the labour market effects of trade. *Trade and Decent Work: Indicator Guide* (ILO 2021b) highlights a set of labour market indicators, based on the ILO's Decent Work Agenda (ILO 2013), that allow a more comprehensive analysis of the labour market effects of trade. The two publications offer insights into research techniques and tools for studying the impact of trade on various aspects of employment, such as working arrangements, working conditions, and other qualitative elements related to "decent work".⁴

An underlying theme within both the Handbook and the Guide is that the heterogeneous nature of trade policies has important determinative effects on the channels through which trade affects labour markets and the

1 [World Bank World Development Indicators](#).

2 The value of merchandise trade is measured as the average of exports and imports (WTO 2022).

3 See WTO (2017) for a summary of the literature on the labour market effects of trade.

4 Decent work "is a multifaceted concept and refers to work that is productive and delivers a fair income, together with rights at work, social protection and the promotion of social dialogue". (ILO Decent Work).

magnitude of this impact. Goldberg and Pavcnik (2016) draw attention to a dilemma between the conceptualization of trade policy and the focus of trade research. They argue that the emphasis of trade research has shifted from trade policy to trade frictions (such as transportation, information and communication costs). This shift is attributed to the challenges in measuring trade policy, and has resulted in the literature overlooking important changes in labour market and broader economic developments related to trade policy. Therefore, a comprehensive treatment of trade and labour market outcomes requires consideration of a wider range of dimensions of not only labour but also trade. To this end, the current chapter reviews the evolution of the effects of trade policy on the labour market, using a variety of trade and labour indicators. The different instruments of trade policy are based on the framework provided by UNCTAD and WTO (2012), which also disaggregates trade between trade flows, trade costs and trade composition for the purpose of theoretical and empirical applications of trade.

Section 1.1 opens with an overview of the relationship between trade and labour markets based on general trade policy goals and objectives. Section 1.2 presents a discussion of the various dimensions and indicators of trade policy, and the link with employment and wages based on the empirical literature. Section 1.3 turns to labour market indicators beyond employment and wages, especially in the context of analysing the effects of trade on decent work using the ILO's Decent Work Indicators. Section 1.4 concludes the chapter and suggests avenues for future research.

► 1.1 Historical context of trade policy and labour markets

Trade policies are the rules, regulations and formal practices that govern international trade. Throughout history, national, bilateral and multilateral trade policies have had an impact on and transformed labour markets around the world. These policies consist of a variety of actions and instruments for the general purpose of strengthening economic growth and development, promoting and protecting domestic industries, increasing domestic employment opportunities, enhancing consumer welfare, and cooperating with trade partners in areas of national interest. Thus, trade policy is often

inherently linked to labour market objectives (see Corley-Coulibaly, Grasselli and Postolachi, and der Boghossian, both in Volume 2).

Trade instruments, for the purposes of this chapter, fall into two broad areas: tariffs and non-tariff measures (NTMs). NTMs can include a range of measures that have an economic effect on the international trade of particular products, or products from particular countries or regions. They can also promote exports of particular domestic industries and set framework conditions for rules and cooperation in specific areas, including areas that promote general welfare. Most contemporary trade policies focus more on NTMs than on tariffs. Although the World Trade Organization (WTO) defines free trade as “rules dedicated to open, fair, and undistorted competition” (WTO n.d.), this ideal has proved to be fairly elusive over the years.

Tariffs, the oldest instrument of trade policy, are essentially taxes imposed on imported goods. They have historically been used for geopolitical purposes, to generate revenue or to limit imports in certain sectors (thereby protecting them from outside competition, especially in the case of infant industries). The concept of absolute and comparative advantage, central to classical trade theory, provides the case for a shift from autarky to free trade. The Ricardian two goods–one factor paradigm, in particular, offered a useful foundation for all countries and individuals to benefit from free trade. One of the earliest applications of tariffs was the Corn Laws, tariffs placed by the United Kingdom on various agricultural products in the nineteenth century to protect domestic agriculture. Although less common than import tariffs, export tariffs can be imposed, thus acting as a tax on a nation's exports.

Indeed, the first wave of globalization was ushered in at the beginning of the nineteenth century by stable low tariffs and the adoption of common monetary standards (López-Córdova and Meissner 2003; Collier and Dollar 2002). This straightforward yet well-coordinated trade policy, as well as a decline in other trading costs (for example, shipping and communication costs), led to the development of a global trading regime based on south–north flows of low-value-added raw materials and commodities and north–north flows of high-value-added manufactured goods – a trade arrangement institutionalized through colonialism (Mitchener and Weidenmier 2008; Beckert 2015).⁵

In terms of the labour market, a rise in routine factory work, rapid urbanization, higher productivity and higher wages for workers in advanced economies were all aided by the reduction in tariffs and opening of new

5 An industry-level example representative of this trend is provided by Beckert (2015) for the cultivation of cotton and its use in downstream industries.

international markets. However, this period was also characterized by widespread unfavourable working conditions, particularly in the industrial sector (Stearns 2013), as well as by the capitalization of low-skilled labour (Katz and Margo 2014). These adverse labour conditions included long working hours, lax safety regulations and precarious employment arrangements. Meanwhile, many developing countries' economies were being reoriented to facilitate commodity exports and natural resource extraction to link to manufacturing supply chains in the North (Wallerstein 1974).

During the period of the two World Wars (1914–45),⁶ trade policy became severely restrictive among the world's leading economies. This was exacerbated by the financial crisis of 1929, leading to the Great Depression. Tariffs were raised by a wide range of countries (for example, in the United States, the Smoot-Hawley Tariff Act of 1930 increased tariffs by an average of 40–48 per cent on over 20,000 imported goods); quotas were imposed on specific goods such as automobiles (Mitchener, O'Rourke and Wandschneider 2022); and imports from non-allied countries were severely curtailed in order to protect domestic industries through "beggar-thy-neighbour" policies.

However, following this turbulent time of conflict and sluggish economic growth, there was a revived interest in the reintegration of the global economy. There were significant tariff reductions among the advanced economies and the removal of other NTMs in a series of formal negotiations, or "GATT rounds", which started in 1947.⁷ The GATT framework aimed to liberalize international trade by treating each member equally under the most favoured nation (MFN) concept, but the system was dogged from the outset by the pervasive use of discriminatory practices. These practices included customs unions, free trade areas, preferential trade arrangements and voluntary export restrictions to (among other things) support regional integration (particularly European integration), to foster development in developing countries, and to protect domestic labour markets and specific industries (Pomfret 2001; Carpenter 2009).⁸ By 1985, "half of the major

6 O'Rourke (2018) provides a good overview of the decline in global trade in the 1930s.

7 The GATT (General Agreement on Tariffs and Trade) rounds consisted of the Geneva Round (1947 with 23 countries participating); Annecy Round (1949 with 13 countries participating); Torquay Round (1951 with 38 countries participating); Geneva Round (1956 with 26 countries participating); Geneva Dillon Round (1960–61 with 26 countries participating); Geneva Kennedy Round (1964–67 with 62 countries participating); Geneva Tokyo Round (1973–79 with 102 countries participating); and the final Geneva Uruguay Round (1986–94 with 123 countries participating). The final round led to the establishment of the WTO, which absorbed the function of facilitating the negotiation of multilateral agreements.

8 Although it can be argued that customs unions, free trade areas (Article XXIV) and preferential trade arrangements (1979 Enabling Clause) all fall under the scope of GATT rules, the same cannot be said of safeguard actions such as voluntary export restrictions (Carpenter 2009).

GATT signatories' imports [were] being granted other than MFN treatment" (Pomfret 2001, 126), and ultimately "only the least favoured nations pa[id] the MFN tariff; others pa[id] a preferential tariff or none at all" (Carpenter 2009, section 5). This situation led to a raft of new regional trade agreements (RTAs) in the 1990s that included deeper commitments on a range of non-trade issues such as investment, labour and the environment. Thus, the challenge that the WTO faced, once it had replaced the GATT system, was one of combining the many and various overlapping trade agreements into a coherent multilateral framework, or "multilateralizing regionalism", as Baldwin and Low (2009) described it.⁹

Alongside the proliferation of RTAs came rapid and extensive changes in trade composition, such as increased intra-industry (as opposed to inter-industry) trade, as well as the formation of agglomerated production clusters linked to GSCs in advanced economies. Participation in GSCs changed regional specialization patterns and dramatically increased trade in intermediate commodities. A strong theoretical framework for comprehending this phenomenon was provided by the "new trade theory" pioneered by Krugman (1979).

This period, which is frequently referred to as "hyperglobalization" (Rodrik 2011; Subramanian and Kessler 2014), is characterized by a stronger integration of the global South into the international trading system. This is underscored by the entry of China into the WTO in 2001, the increase in North–South RTAs, and the enhanced prominence of South–South trade. Additionally, intra-firm trade within multinational enterprises increased (Krugman 1995; OECD 2002), and by 2010 had reached 80 per cent of all trade within global production networks (UNCTAD 2013a). The *new* trade theory approach, developed by Melitz (2003), likewise changed the focus of the trade literature from industries and agglomerations to specific enterprises and workers.

The rise in female labour force participation and a corresponding increase in manufacturing formal employment helped to fuel this process of rapid industrialization, particularly in the four Asian tigers (Hong Kong, China; Republic of Korea; Singapore; and Taiwan, China). However, in the majority of developing economies, employment remained primarily concentrated in the agricultural sector or in the extraction of natural resources. Additionally, informality was pervasive (Ohnsorge and Yu 2022). In economies with high levels of informal employment, there were mixed labour market outcomes because of the generally weak labour institutional environment, which was

9 The GATT system refers to the 1947 agreement and the subsequent rounds of negotiations under its aegis.

linked, in many instances, to downward pressure on wages and working conditions. In advanced economies, the offshoring of production became linked to job polarization (an increase in low- and high-wage jobs and a decline in middle-wage jobs) (Firpo, Fortin and Lemieux 2011).

A shift in trade policy towards a more protectionist stance, which started around 2017 and was characterized by increased tariffs and quotas, laid the foundation for a strong reaction. This took the form of a trend towards “deglobalization”, which has been marked by a greater emphasis on regional trade, shortening of supply chains, heightened geopolitical considerations, and an overall decline in integration and interdependence between some economies. An example of this trend is the US–China trade war, which began in 2018 and has since seen a sustained drive towards the “decoupling” of the two largest trading economies in the world.¹⁰ In 2018 there was an increase in tariffs, most notably between the United States and China on a wide range of goods and services traded between the two countries.¹¹ The United Kingdom’s exit from the EU (Brexit), which resulted in widespread changes in tariffs between the United Kingdom and several of its largest trading partners, is another example of a significant change in tariffs.¹²

These trends have been accelerated even further by global health emergencies such as the COVID-19 outbreak and geopolitical crises such as the war of aggression in Ukraine. These events have widely disrupted supply chains on both the demand and the supply sides, prompting calls for “near-shoring” or “friend-shoring” – the systematic reorientation of supply chains towards like-minded nations. There is initial evidence of supply chain diversification at the firm level, including the decision taken by certain multinational enterprises to relocate production from China to Viet Nam in 2023, increased vertical integration of the automotive supply chain, and long-term supply agreements to replace energy, food and minerals originally sourced from the Russian Federation (*Economist* 2022; Lincicome 2022). It should be added that, in the wake of repeated crises, many GSCs appear

10 A variety of additional measures were also undertaken, including reductions in export licence approvals, software restrictions, delisting of companies from stock exchanges, and a decline in foreign direct investment.

11 US–China bilateral tariffs increased substantially between January 2018 and January 2020. In the case of the United States, they increased from 3.1 per cent to 21 per cent for Chinese goods, while in the case of China they increased from 8 per cent to 20.9 per cent for US goods (Bown 2020).

12 The United Kingdom has since been negotiating separate agreements with countries which were formerly trading with it under EU-wide agreements. See the [ILO Labour Provisions Hub](#) for a complete list of the RTAs signed by the United Kingdom in 2021.

to have become dysfunctional, and developing countries are struggling to preserve livelihoods and minimum living standards (UNCTAD 2022).

Furthermore, the suspension of the WTO's multilateral adjudicating function at the appellate level,¹³ and the replacement and modernization of RTAs, have led to a shift in the type and orientation of agreements currently being negotiated between countries, with a greater focus on regionalization and sustainability provisions. In particular, there is an emphasis on issues such as supply chain sustainability, corporate social responsibility, labour rights and gender, which has strengthened dialogue and cooperation surrounding these issues.

► 1.2 Assessing trade policy and labour markets

The existing body of theoretical and empirical research that examines the impact of trade policy on labour market outcomes employs a diverse set of measures to conceptualize the notion of trade. These trade measures are well summed up in UNCTAD and WTO (2012), which focuses on trade costs (through both tariffs and NTMs), trade flows (exports and/or imports), trade composition (at the industry and product level) and GSC participation (backward and forward linkages).

Table 1.1 lists some common trade policy instruments, their definition, and some impacts based on specific policy examples. The literature mainly limits impacts to trade costs, trade flows and welfare effects. Indeed, accurately measuring trade policy and its impacts, especially on labour markets, has proved to be a complex task, primarily as a consequence of the inherent challenges associated with quantifying and establishing a direct link between trade policy and its corresponding outcomes (Goldberg and Pavcnik 2016). This is the result of a combination of factors including the difficulty in measuring NTMs, the scarcity of data, endogeneity problems, and agency behaviour in terms of anticipation or uncertainty of trade policy. This is problematic because, as has already been mentioned, the outcomes of trade policy are heterogeneous and depend on the idiosyncrasies of the country,

¹³ As an alternative and temporary measure, the Multi-Party Interim Appeal Arbitration Arrangement, subscribed to by 25 Members, has been set up to arbitrate WTO disputes in the absence of a functioning WTO Appellate Body.

sector and other macroeconomic policies that are being enacted. In fact, one of the widely accepted effects of international trade is that it improves overall welfare while simultaneously having wide-ranging and long-lasting negative distributional impacts.

This section reviews traditional trade policy instruments, their measurement, and their direct or indirect relationship with labour market outcomes. It should be noted that, for the sake of clarity, each measure is listed separately and in its most disaggregated form. In practice, however, such measures are often employed in combination as part of an overall trade policy “stance” (UNCTAD and WTO 2012).

► **Table 1.1 Trade policy instruments, examples and impacts**

Trade policy instrument	Definition	Policy example and impacts
Tariffs	Taxes levied on imported goods	Corn Laws of the United Kingdom (1815): The repeal of the Corn Laws led to increased grain imports, a subsequent decline in domestic production and reduced inequality (Irwin and Chepeliev 2020). The reduced inequality has mainly been attributed to location-specific redistribution of income from landowners to workers (Heblich, Redding and Zylberberg 2022). Smoot–Hawley Tariff Act (1930): Irwin (1998) finds that although the enactment of the Smoot–Hawley Tariff Act led to a decline in the volume of US imports of between 12 and 20 per cent, there were only small efficiency losses. However, retaliatory measures by other countries led to a decline in US exports of between 15 and 32 per cent and welfare losses of between 8 and 16 per cent (Mitchener, O'Rourke and Wandschneider 2022).
Import quotas and tariff rate quotas	Import quotas are quantity restrictions on imported goods; tariff rate quotas combine import quotas and tariffs by allowing lower tier tariffs on a specific quantity of imports.	Dairy Import Licensing Program of the United States (1995): Langley, Somwaru and Normile (2006) show that removing US dairy tariff rate quotas will reduce domestic milk production by around 6 per cent, resulting in higher global dairy prices in the absence of countervailing measures.

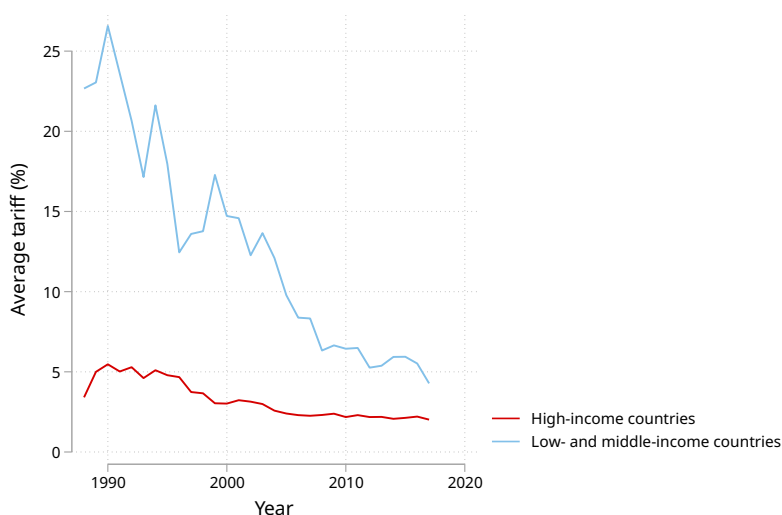
Trade policy instrument	Definition	Policy example and impacts
Anti-dumping measures	Duties levied on goods that are found to have a lower import price than the price in the exporter's domestic market	South Africa poultry anti-dumping measures (2001–22): Cochrane, Hansen and Seeley (2016) find that South Africa's anti-dumping duties imposed on US poultry imports, beginning in 2001, reduced such imports to practically zero and diverted trade to suppliers in the EU and other economies. Edwards et al. (2022) estimate that the price effects were passed along to consumers and contributed to a 40 per cent increase in poultry prices in South Africa between 2012 and 2021.
Voluntary export restraints (VERs)	A voluntary limit on the quantity of a specific good's export	Japan automotive imports to the United States (1981): Berry, Levinsohn and Pakes (1999) find that VERs raised domestic sales, increased profits of domestic companies, reduced consumer welfare and led to a substantial amount of foregone tariff revenue in the United States.
Export subsidy/export credit	A payment or subsidized loan to a firm or individual that ships goods abroad. It can be specific (a fixed amount per unit) or ad valorem (a percentage of the export value).	EU Common Agricultural Policy (1962): Borrell and Hubbard (2000) find that the policy has led to depressed prices of agricultural goods, overproduction in the EU, under-production outside the EU, and considerable negative costs, of around US\$75 billion to the global economy, due to misallocation of resources.
Technical barriers to trade (TBTs)	Measures stemming from countries' implementation of technical regulations and standards	TBT measures in the agricultural sector of developed countries (varying years): Disdier, Fontagné and Mimouni (2008) find that TBTs lead to a reduction in imports from developing countries but not developed countries.
Sanitary and phytosanitary (SPS) measures/standards	Measures used to protect humans, animals and plants from additives, toxins and contaminants	Hazard Analysis Critical Control Points introduced by the United States (1959): Anders and Caswell (2009) find that the measure reduced imports, but had a positive impact on trade flows from developed countries and a negative impact on trade flows from developing countries.
Sustainability provisions in trade agreements	Measures used to establish commitment, cooperation and/or compliance with environmental or labour standards	Labour provisions in trade agreements: Studies by the ILO (2016a) and Carrère, Olarreaga and Raess (2022) find that labour provisions in trade agreements do not reduce or divert trade but instead increase trade flows similarly to trade agreements without labour provisions.

Source: Authors' compilation.

1.2.1 Tariffs and labour markets

Tariffs have historically played a crucial function in the regulation of international trade. More generally, they have been used to achieve economic, political and social objectives, including as a component in the industrial strategy of many countries. Over recent decades, a reduction in tariffs has coincided with and supported the shift to liberal markets,¹⁴ and tariffs have been utilized as important tools for countries to adjust their trade policies towards regionalism or multilateralism (Rodrik 2011). Figure 1.1 shows how tariffs changed in relation to countries' income levels between 1990 and 2020. While relatively high tariffs were still maintained by low- and middle-income countries in the 1990s, they have since declined and are approaching convergence with those of advanced economies, which had previously undergone a wide range of tariff reductions throughout the GATT years. Nevertheless, differences remain across regions (figure 1.2) and industries.

► **Figure 1.1** Evolution of tariffs in countries by level of income, 1990–2020

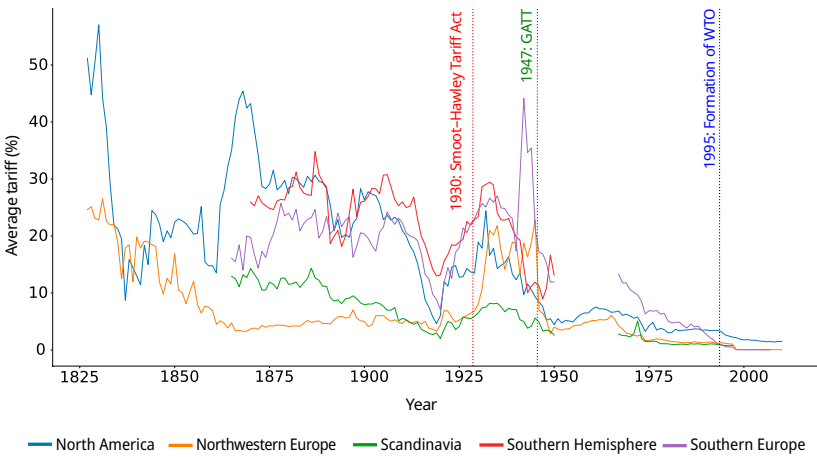


Note: The figure utilizes the weighted mean of applied tariffs for all products.

Source: World Bank World Development Indicators.

¹⁴ This includes changes such as freedom of capital movement and a general trend towards deregulation.

► Figure 1.2 Evolution of tariffs by region, 1825–2014



Source: Fouquin and Hugot (2016). The region Scandinavia includes economies based in modern-day Denmark, Finland, the Faroe Islands, Greenland, Iceland, Norway and Sweden. The region Northwestern Europe comprises economies based in modern-day Belgium, Switzerland, Germany, France, the United Kingdom, Ireland, Luxembourg, Monaco and the Netherlands. The region North America comprises economies based in the modern-day United States and Canada. The region South America comprises economies based in modern-day Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, the Falkland Islands, French Guiana, Guyana, Peru, Paraguay, South Georgia and the South Sandwich Islands, Suriname, Uruguay and Venezuela. The region Southern Europe comprises economies based in modern-day Albania, Andorra, Bosnia and Herzegovina, Cyprus, Spain, Gibraltar, Greece, Croatia, Italy, Kosovo, North Macedonia, Malta, Montenegro, Portugal, San Marino, Serbia, Vatican City and the former Yugoslavia.

In international trade, there are two types of tariffs that are imposed on goods and services entering or exiting a country. The first is *ad valorem*, which comprises a percentage of the value of the good or service in question. The second is *specific*, which comprises a fixed currency amount for a fixed amount of the good. The former remains predominant in international trade. Tariffs can be further disaggregated using multiple different distinctions and rates (see table AI.1 in Appendix I for types of tariff and data sources). Generally, all tariffs are applied at the product level using the Harmonized Commodity Description and Coding System, developed by the World Customs Organization to categorize products.¹⁵

¹⁵ The Harmonized System consists of more than 5,000 groups of products, each of which has a six-digit code. For more information see [World Customs Organization](#).

Throughout history, various economic theories have provided the rationale for the implementation of tariffs, but neoclassical theories view tariffs as market distortions within a system of free trade. This concept has been further developed by modern trade theories that emphasize the role of factors such as economies of scale and network effects to provide a more nuanced understanding of the role of tariffs.

Many different objectives are frequently cited as grounds for using tariffs. To name but a few, these include the effects on domestic industries, consumers, labour markets, tax revenue, economic efficiency and income redistribution. First, tariffs can be used to safeguard domestic industries (the infant industry argument) until they are able to compete in foreign markets. Second, tariffs influence consumption patterns, making consumers less likely to buy more expensive imported goods in preference to their cheaper domestic counterparts. Third, tariffs can be used to achieve a wide range of labour market outcomes, which are primarily focused on improving job creation and incomes. Fourth, especially in the case of developing countries, tariffs are often a significant source of income for governments that have weak tax systems and constraints on other means of raising revenue. Finally, tariffs can have important effects on the income distribution of societies, either by increasing the cost of imported goods or by increasing profits and wages through the protection of domestic industries.

A wide range of research that has examined, in broad terms, the effects of tariffs on labour markets is listed in table AI.2 in Appendix I. When examining the effects of tariffs, there has traditionally been more emphasis on employment and wage consequences. Overall, these studies highlight some intriguing aspects regarding the effects of tariffs, such as the observation of significant variation by country type (advanced or developing), sector, worker and occupation.

One of the main conclusions of these studies is that, in reaction to tariff changes, wage adjustment often takes precedence over industry employment in developing and emerging economies (see, for example, the literature review provided by Goldberg and Pavcnik (2016)). Linked to this, additional research demonstrates that tariff changes only partially account for the rise in inequality in developing countries (Attanasio, Goldberg and Pavcnik 2004; Goldberg and Pavcnik 2005).

This is in sharp contrast to the effects observed in advanced economies, where changes in tariffs have led to steep changes in employment and smaller changes in wages. One common method for evaluating the changes brought about by tariffs is to consider how they affect import and export competition. There are numerous examples of this in the literature, with the

WTO's inclusion of China and its trading relationship with the United States serving as a notable example of how trade costs and uncertainty for China were significantly reduced. Examples of studies that assess the effects of exports/imports on labour market outcomes include those that focus most prominently on local labour markets, such as Autor, Dorn and Hanson (2013) and Feenstra, Ma and Xu (2019). In fact, there is a rich literature utilizing the impact of such import competition for a wide range of countries. Edwards and Jenkins (2015) show that increased Chinese imports led to a reduction in manufacturing output and employment in South Africa. Traiberman (2019) reviews the effects of import competition on the occupational structure in Denmark and finds that worker earnings were primarily impacted through the channel of occupational choice. Medina (2022), using data from Peru, finds that low-quality import competition leads to firms switching to production of higher-quality varieties and reducing prices.

In another instance of tariffs being reduced between a developing and an advanced economy, Faber (2014) examines the impact of US tariff reductions on Mexican consumers. He finds that, as tariffs are lowered, the import of cheaper, higher-quality goods from the United States increases real income inequality because of the different effects of inflation on household income. By contrast, Porto (2006) evaluates a similar framework for analysing the price effects of tariff reductions and shows that the benefits of MERCOSUR (the Southern Common Market) extend to low- and middle-income families in Argentina. In a more recent analysis of the price and wages channels, Borusyak and Jaravel (2021) find that the influence of trade on overall inequality is modest because the distributional effects of trade costs are concentrated within educational and income groups rather than between groups.

1.2.2 Non-tariff measures and labour markets

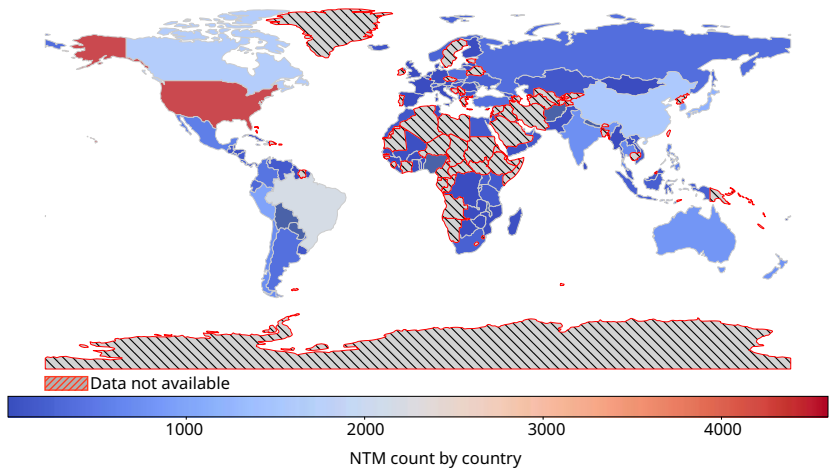
Historically, the use of NTMs has lagged behind the implementation of tariff barriers. The earlier types were established in the form of bans, quotas or technology requirements with the goal of limiting imports. Despite sharing many of the same objectives as tariffs, NTMs also have a wider range of objectives, such as those relating to public health, safety and the environment. They aim to regulate trade flows in order to achieve public policy goals, address externalities and improve social welfare. While they are sometimes also referred to as non-trade barriers, the terms are differentiated now whereby non-trade barriers are utilized to refer to a narrower set of

trade-restrictive measures, whereas NTMs refer to a broader set of measures which might not necessarily have trade-restrictive effects (UNCTAD 2013b).

There is a wide range of classifications of NTMs. The classification given by UNCTAD (2019) divides NTMs into three categories: technical measures, non-technical measures and export-related measures (see table AII.1 in Appendix II). Some of these measures (such as tariff rate quotas, quotas and inspections) frequently overlap with one another in terms of both their overall structure and how they are applied. Additionally, the variety of measures presents unique challenges for the quantification of NTMs. One of the most common approaches is to approximate a tariff equivalent (ad valorem equivalent (AVE)) for an NTM, which means that the effect of that particular NTM on trade flows is the same as the given tariff (for further discussion of this see Chapter 2). One popular methodology to calculate AVEs is to use a gravity-based approach (UNCTAD and WTO 2012).

Given the wide variety of NTMs used by countries, the remainder of this section will focus on some of the most prevalent types, with widespread application, such as VERs, quotas, SPS measures, TBTs, and contingent trade-protective measures such as anti-dumping duties. Furthermore, certain NTMs, such as quotas and VERs, exhibit a general tendency of decreasing prevalence; while others, such as TBTs and SPS measures, show an upward trajectory in terms of prevalence. According to Ghodsi et al. (2017), high-income economies are the primary users of NTMs, possibly owing to the fact that they can afford higher-quality goods and are therefore more inclined to demand stricter standards. However, when examining the prevalence of NTMs across different countries, a more nuanced perspective emerges (figure 1.3).

► Figure 1.3 NTMs in force by country, July 2023



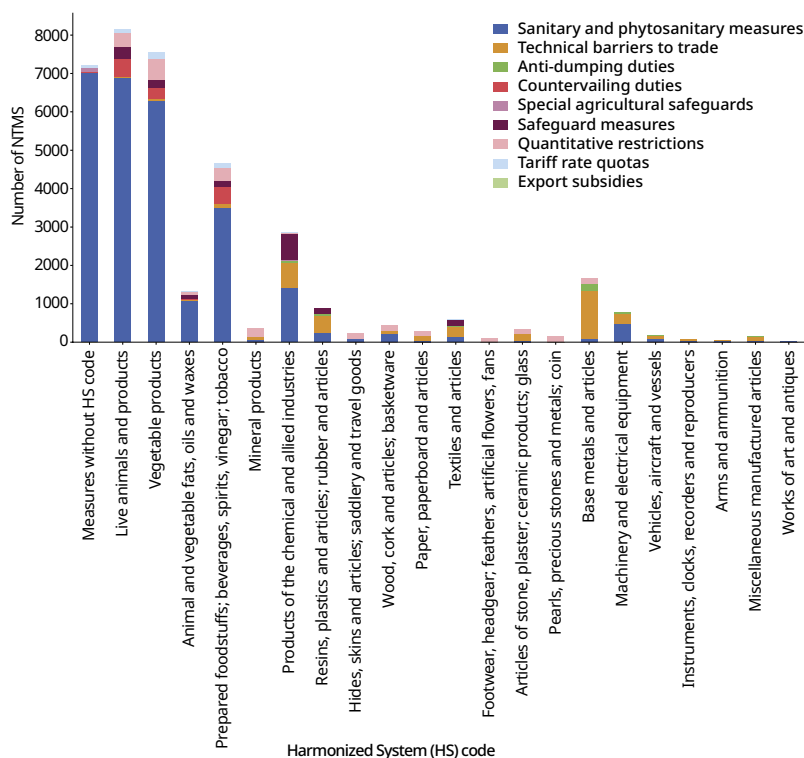
Source: [WTO Integrated Trade Intelligence Portal \(I-TIP\)](#).

Given the diversity of NTMs that are utilized by countries, there is a range of outcomes with respect to the particular characteristics of the sector, firm type and worker type when it comes to employment and wages. NTMs are particularly important, relative to other industries, in the agricultural and other primary industries because of the predominance of SPS measures and TBTs (figure 1.4).¹⁶ A detailed list of studies looking at the impact of NTMs on trade flows is provided in table AII.2 in Appendix II.

Regarding the impacts of specific NTMs, as noted earlier, there is a dearth of studies which look directly at the labour market outcomes. However, NTMs have been extensively analysed in terms of their impact on trade flows, which can often be utilized to provide an indication of subsequent effects on labour market outcomes such as employment. Within this context, an examination is conducted of the literature pertaining to various NTMs, including quotas, TBTs and trade-contingent measures.

¹⁶ These measures are more prevalent in agriculture owing to food safety concerns; for more information, see the relevant WTO pages explaining agreements with respect to [SPS measures](#) and [TBTs](#).

► Figure 1.4 NTMs in force by product category, July 2023



Source: I-TIP.

Quotas have been extensively analysed in previous studies. The prevailing theoretical viewpoint regarding quotas suggests that they are expected to result in trade diversion and a decrease in overall trade quantities compared with a scenario without quotas. The WTO Agreement on Textiles and Clothing (ATC) presented a significant case study in the examination of quota removal.¹⁷ By 2005 the ATC had effectively eliminated numerous quotas pertaining to textiles trade. Fugazza and Conway (2010) examine the empirical evidence pertaining to the removal of quotas as a result of the ATC, in order to ascertain the presence of both trade creation and diversion. While they do not explicitly analyse the implications for labour markets, trade diversion had considerable negative effects on the textile sector in many countries; for example, the ATC caused textile manufacturing to plummet in numerous European countries (see Ernst, Ferrer and Zult (2005); and Truett and Truett (2016) for the case of Spain).

¹⁷ WTO Agreement on Textiles and Clothing.

Another of the NTMs that has been extensively evaluated is VERs. The theoretical perspective on these measures also holds that they are likely to raise international prices and cause significant trade diversion. One prominent example of VERs relates to Japanese car exports to Western countries. While the labour implications of this measure have been sparsely studied, it has been found to affect the quality of the product that is subject to VERs. For example, in the case of Japanese VERs on cars exported to the United Kingdom, Japanese manufacturers shifted to exporting larger and newer models in order to maximize their profits (Walker 2017). Additionally, these measures benefited foreign manufacturers based in the United Kingdom, rather than UK manufacturers. Nevertheless, the study finds that there were positive employment effects of these foreign manufacturers expanding their presence in the UK market.

TBTs have also undergone thorough evaluation regarding their impact, revealing a significant effect at the firm level. In their study, Wei, Tu and Zhou (2023) observe that TBTs result in notable redistribution of resources within firms. They also note that firms that choose to exit a market affected by TBTs, as well as those that remain, experience favourable outcomes. Those that leave achieve larger export growth from reallocating to other markets, while those that remain achieve higher prices and higher quality by staying in the market and conforming to the new regulations. However, the effects on export flows are nuanced, with TBTs both reducing overall exports (Essaji 2008; Orefice 2017; Grundke and Moser 2019) and reducing the extensive margin – that is, decreasing the probability that a firm is likely to participate in international trade (Ali 2019; Fontagné and Orefice 2018). However, there are likely to be positive product-level effects such as improved quality.

Contingent trade-protective measures aim to offset the negative trade effects arising from perceived unfair foreign trade practices such as dumping or export subsidies that cause injury to a particular domestic industry. The measures available to address these challenges include anti-dumping duties, countervailing duties and safeguard measures. Edwards et al. (2022) evaluate the effects of these measures on consumer prices for specific goods in South Africa. They find that an increase in applied tariffs led to an increase in consumer prices in the poultry sector and a reduction in the welfare of households. Other studies report more varied results. For instance, Vandenbussche and Zanardi (2010) find industry-specific effects, while Besedeš and Prusa (2013) find persistent effects on lowered trade flows, even after the measures are lifted.

1.2.3 Non-tariff measures and global supply chains

NTMs are also particularly important in terms of their impact on the GSC participation of countries since they are central to the regulation of cross-border production networks. Measures such as technical requirements, SPS measures, rules of origin and customs procedures are likely to determine the costs firms face in creating and operating production networks across countries. In other words, a higher level of tariffs and NTMs is likely to impede the access of domestic firms to foreign inputs. Consequently, greater participation in GSCs is likely to be associated with lower tariffs and fewer NTMs. Cadestin, Gourdon and Kowalski (2016) estimate that, for Latin American countries, the cost impact of NTMs on intermediate goods is roughly equivalent to a 15 per cent tariff. There is empirical evidence to suggest that both tariffs and NTMs have a negative impact on backwards GSC participation and that policies that reduce trade costs can promote GSC participation (Raimondi et al. 2023).

However, there is another perspective in the literature based on the advantages of NTMs. For example, Inui et al. (2021) find that harmonization of technical standards by a country makes it better able to integrate into GSCs. To this end, Kim (2021) provides a measure of NTMs called the Bilateral Regulatory Distance, which measures patterns of NTMs between a bilateral pair of countries and the impact of these NTMs on GSCs. He also shows that a country can enhance its participation in forward GSCs by utilizing international standards to harmonize its NTMs. Ghodsi and Stehrer (2016) provide a much more elaborate framework for evaluating the impacts of NTMs on GSCs and how the imposition of such measures affects labour market outcomes such as productivity. The findings reveal a fairly nuanced picture where the impact of NTMs on the labour market varies depending on the sector and the specific channel through which they are implemented.

Furthermore, NTMs are rarely used in isolation and are usually combined with changes in tariffs. In fact, much of the current trend of “deep trade agreements” combines the use of an extensive set of NTMs together with tariffs to achieve desired objectives. Studies that evaluate the effects of such combinations of measures usually look at aggregate outcomes in terms of economic growth and welfare. Examples of studies that evaluate the joint utilization of tariffs and NTMs are given in table AII.3 in Appendix II.

► 1.3 Decent work: Going beyond employment and wages

The previous section considered the differences between various trade measures and their effect on labour market outcomes, drawing on both theoretical frameworks and empirical findings. The literature on the labour market effects of trade primarily focuses on employment and wages because of the important role that job creation and improvement of living standards play as central objectives of trade policy. Other labour market concerns often lie beyond the purview of trade policy, and usually extend beyond the scope of neoclassical trade theory. Nevertheless, trade policy can potentially affect other aspects of the labour market. The rise of non-traditional work arrangements, such as short-term contracts and irregular working hours linked to export-oriented sectors, has been accompanied by a decline in overall working conditions (Ostry and Spiegel 2013; ILO 2015, 2016b, 2020).

This section will examine supplementary labour market indicators based on the framework developed in the ILO's *Trade and Decent Work: Indicator Guide* (ILO 2021b). The purpose of this framework is to offer a comprehensive view of the interaction between trade policy and domestic labour markets by considering the concept of decent work.¹⁸ The Guide includes 46 indicators based on 11 key aspects of decent work based on employment, labour relations, and working terms and conditions.

While employment and wages are commonly examined within the context of traditional trade theory frameworks, other aspects of decent work are often not included. This is due to the limitations of traditional trade theory models and a lack of available data. However, contemporary trade theories provide better frameworks for analysing the effects of trade policy, particularly related to working terms and conditions, such as informality, occupational safety and health (OSH) and working poverty, which are the focus of other chapters in this volume.¹⁹ Thus, the remainder of this section will shed light on two additional indicators related to working terms and conditions: the gender wage gap and social security, which have been under-studied in the literature.

¹⁸ Therefore, these indicators can prove valuable in assessing, benchmarking and monitoring progress towards the achievement of decent work in the context of trade.

¹⁹ For example, Ernst and Leung (Chapter 9) focus on trade and informality; Sekerler Richardi, Ghani and Pham (Chapter 6) study a broader range of working condition outcomes including informality, social security and health insurance; and Moreno-Brid et al. (Chapter 4) analyse working poverty, among other issues.

1.3.1 The gender wage gap

The gender wage gap is a commonly employed metric for measuring the disparity between men and women in the labour market. It is also a measure of progress towards achieving SDG 8.5, which aims to attain equal remuneration for work of equal value by the year 2030. The gender wage gap is calculated as the percentage difference between the average gross hourly earnings of men and women. According to the ILO's *Global Wage Report 2018/19* (ILO 2018), the global gender pay gap in 2016 was approximately 20 per cent, indicating that "on average, women are paid approximately 20 per cent less than men around the world" (p. 23). The estimates vary from a high of 34 per cent in Pakistan to a low of -10.3 per cent in the Philippines (where women earn more on average than men). This ILO study investigates, further, the underlying causes of the wage disparity between men and women and finds that it can be only partially explained by the differences in worker characteristics between men and women. Other factors, such as discrimination, the segregation of women into low-paying occupations and women's traditional role as caregivers, also contribute. According to the World Bank and the WTO (2020), it is evident that women who are engaged in formal employment within trade-related sectors tend to receive higher earnings compared with their counterparts in the informal economy. However, it is worth noting that these women often find themselves occupying positions situated at the lowest levels of the organizational structure.

According to neoclassical trade theory, specifically the Heckscher-Ohlin model, increased trade is expected to have the effect of reducing women's wages relative to men in advanced economies, while increasing them in developing economies where women make up a larger portion of the unskilled labour market. Empirical findings vary, however. The trade liberalization strategy, during the period of consolidation under NAFTA, appears to have increased the gender wage gap in Mexico (Domínguez-Villalobos and Brown-Grossman 2010), while trade reforms have reduced the gap in Bangladesh and Pakistan (Fontana 2007; Siddiqui 2009).

Recent models, such as that of Juhn, Ujhelyi and Villegas-Sanchez (2014), emphasize trade-induced technological upgrading, where tariff reductions increase productivity and processes that decrease reliance on physical tasks that favour men, thus increasing women's relative employment and wages in blue-collar jobs. Despite recent gains in female education, however, technological advances have tended to require skills that are more prevalent

in the male workforce (Berik 2000). Gender segregation in vocational education, largely due to gender norms, enhances this effect.

Additionally, models that underscore collective bargaining and power dynamics between workers and employers, as well as among (male and female) workers, are less optimistic about trade liberalization's abilities to close the wage gap. Although tariff liberalization could enhance women's real income more than their male counterparts' (Artuc et al. 2021), it could also undermine women's bargaining power through increasing foreign competition and the supply of low-skilled women for manufacturing (Berik 2011).

Consequently, governments have increasingly used NTMs, such as labour provisions in trade agreements, to enhance women's employment opportunities and advantages in export-oriented industries (der Boghossian, Volume 2). Approximately half of trade agreements containing labour provisions include references to gender issues, including the elimination of discrimination in respect of employment and occupation. López Mourelo and Samaan (2017) observe a statistically significant decrease in the gender wage gap in Cambodia's textile sector, which they attribute to the labour provisions outlined in the 1999 Bilateral Textile Agreement between Cambodia and the United States. According to UNCTAD (2020), trade policies that focus on products and services produced by women as employees or business owners can be designed to enhance equality between men and women through a combination of tariff reduction and NTMs.

1.3.2 Social security coverage

Social security encompasses the provision of benefits aimed at safeguarding individuals from various forms of economic vulnerability, including unemployment, limited access to affordable healthcare, inadequate family support, and overall poverty and social exclusion (ILO 2013, 169). The ILO's *Trade and Decent Work Indicator Guide* includes three major statistical indicators pertaining to social security: i) the share of the population above the statutory pensionable age benefiting from an old-age pension; ii) the percentage of GDP going to public social security expenditure; and iii) the share of the labour force contributing to a pension scheme (ILO 2021b, 68).²⁰ The provision of social protection coverage plays a significant role in advancing many of the goals under the SDG Agenda (ILO 2021b, 33).

²⁰ Additionally, the legal framework encompasses seven indicators that include unemployment insurance, maternal and parental leave, and safeguards relating to employment termination.

According to the ILO's *World Social Protection Report* (ILO 2021c), the average global public expenditure on social protection, excluding healthcare, amounts to 12.9 per cent of GDP. However, there is a significant disparity in the extent of coverage across different countries, with high-income countries spending an average of 16.4 per cent of GDP, while low-income countries spend an average of just 1.1 per cent. In addition, the report asserts that insufficient allocation of resources to social protection has resulted in significant disparities in coverage, thereby exacerbating the vulnerability of individuals, particularly those who are most disadvantaged. Thus, economies categorized as lower income, lower middle income and upper middle income would be required to allocate 15.9, 5.1 and 3.1 per cent, respectively, of their GDP to effectively address the existing gaps in coverage (ILO 2021c).

Trade liberalization may also have an effect on the provision of social protection. Theoretically, trade-induced growth and higher government revenue can lead to greater funding for social protection or more incentives to implement social security legislation. If, however, liberalization increases or shifts employment statuses and working patterns towards those associated with poor social protection coverage, the effect could be negative. Consequently, a country's social security programmes may be jeopardized by a shrinking tax base and declining government revenue (including from tariff revenue).

There is empirical support for both hypotheses. However, the studies on both sides do not identify specific trade policy measures, and instead focus on trade flow indicators. Positively, some analyses of advanced economies reveal a positive correlation between trade exposure and the growth of public transfers (Rodrik 1998a and 1998b, cited in Rodrik 2018). Another study by Avelino, Brown and Hunter (2005) of 19 Latin American countries finds a positive correlation between trade openness and social security expenditures.

Of the studies finding a negative correlation, the literature focuses primarily on advanced economies. According to Fischer and Somogyi (2009), globalization has resulted in weaker employment protection legislation for all employees in countries belonging to the OECD. Additionally, Olney (2013) suggests that certain OECD countries have also made concessions in their labour regulations to entice foreign direct investment. Based on an analysis of 90 countries, Häberli, Jansen and Monteiro (2012) revealed that countries with a higher proportion of trade within RTAs had lower levels of labour protection, a result wholly driven by high-income nations. According to Shaffer (2019, 23), social security programmes in the United States "have been compromised because of reduced tax receipts due to tax cuts and lower economic growth", partly as a result of technological progress and trade

liberalization. As a solution, the author proposes that trade liberalization should be contingent on NTMs, such as international tax agreements, and domestic safeguards, including the introduction of social programmes that provide basic healthcare, guaranteed income, housing, child support, public education and job training.

► 1.4 Conclusions

This chapter examines the effects of trade policy on the labour market using various types of trade and labour indicators. International trade is governed by national, bilateral, regional and multilateral trade policies that have shaped global labour markets. These policies consist of a variety of actions and instruments designed to stimulate economic growth and development, promote and protect domestic industries, increase domestic employment, enhance consumer welfare, and cooperate with trade partners to advance other domestic interests.

Theoretically, trade policy instruments affect the labour market by influencing trade flows, cost structures and market composition. These changes affect, among other things, prices, labour demand and supply, skills needed and employment contracts.

Several aspects of the labour market, including employment, wages and income inequality, have been extensively examined in the literature, and the empirical findings shed light on how trade policy affects these variables. The analysis reveals differential impacts of tariffs and NTMs by sector, geographical region, and individual firm and worker characteristics. Additionally, there are wide-ranging impacts of NTMs and the chapter delves into their role in addressing health, safety and environmental objectives in addition to economic ones. The role of NTMs in promoting social safeguards including international labour standards and improving GSC integration is also important.

Although there is less research on labour market dimensions beyond employment and wages, existing theoretical and empirical literature provides valuable insights. This literature sheds light on the challenges involved in analysing the transmission of trade policy effects on various aspects of employment, such as working arrangements, working conditions, and other qualitative factors that correspond with the concept of decent work.

This is especially important since the period after the global financial crisis of 2008–09 has been marked by a deceleration in the globalization process. Furthermore, certain economies are implementing trade policies that are more restrictive in nature, leading to a significant shift in the type and configuration of such policies. This aligns with the current patterns of declining global trade, reduced cross-border investments, and limited individual mobility.

There have also been notable shifts in the structure of trade, with a growing emphasis on services trade and the increasing prevalence of digitalization, as opposed to the traditional focus on physical goods.²¹ According to the WTO (2023), digitally delivered services exports have been outpacing both goods exports and other services exports. The persistent health and geopolitical crises have expedited certain trends, such as regionalization and localization, that have resulted in immediate and long-term effects on GSCs.

Thus, this review would aid in the consideration of an analytical framework for future trade and sustainable development analyses. In fact, a more inclusive conception of the labour market that focuses on decent work would contribute to trade policy not only promoting growth, but also improving the well-being and living standards of workers worldwide.

21 World Bank World Development Indicators.

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► Appendix I. Tariffs

► Table AI.1 Common types of tariff indicators

Type	Definition	Source
Most favoured nation (MFN)	The normal non-discriminatory tariff charged by a country under WTO rules	WTO Tariff Analysis Online (TAO) facility
Preferential	Tariffs charged under free trade agreements	WTO TAO facility
Bound	The maximum MFN tariff level for a given commodity	WTO TAO facility
Applied	Tariffs actually charged on imports	WTO TAO facility
Simple average rate	Tariffs averaged across product lines	WTO TAO facility
Weighted average rate	Tariffs weighted by the value of imported goods	WTO TAO facility
Ad valorem	Tariff calculated as a fixed percentage of value of a good	WTO TAO facility
Specific	Tariff calculated as a fixed charge on a good	WTO TAO facility
Compound	Tariff with both an ad valorem and specific component	WTO TAO facility
Tariff quota	Two-tiered tariffs, with different rates for different quantities	WTO TAO facility

► **Table AI.2 Studies on the effects of tariffs on labour market outcomes**

Study	Results
Madanizadeh and Pilvar (2019)	10 per cent increase in weighted tariffs increased labour force participation rate (LFPR) by 4–6 per cent.
Pierce and Schott (2016)	Removal of tariff uncertainty by the United States on China led to a decrease in employment in the United States.
Kovak (2013)	Regions facing a larger liberalization-induced price decline faced larger declines in the wages of workers.
Amiti and Davis (2012)	A reduction in tariffs by 10 per cent led to a wage decrease for workers in domestic-focused companies, yet resulted in a wage increase for those in exporting companies.
McCaig (2011)	Tariff cuts contributed to a decline in poverty rates in certain regions of Viet Nam.
Stone and Cavazos Cepeda (2011)	Negative relationship between tariffs and wages.
Topalova (2010)	Relative poverty declined less in areas that had a higher concentration of industries losing tariff protection.
Attanasio, Goldberg and Pavcnik (2004)	Tariff reductions in Colombia led to skill-biased technical change.
Francois and Baughman (2003)	Tariffs in the steel industry contributed to a net job loss.
Reventa (1997)	Tariff reductions and subsequent trade liberalization led to wage decreases for manufacturing workers in Mexico.

► Appendix II. Non-tariff measures

► Table AII.1 Categorization of NTMs by UNCTAD

Technical measures	Sanitary and phytosanitary (SPS) measures
	Technical barriers to trade (TBTs)
	Pre-shipment inspection and other formalities
Non-technical measures	Contingent trade-protective measures
	Non-automatic import licensing, quotas, prohibitions, quantity control measures and other restrictions not including SPS measures or measures relating to TBTs
	Price control measures, including additional taxes and charges
	Finance measures
	Measures affecting competition
	Trade-related investment measures
	Distribution restrictions
	Restrictions on post-sales services
	Subsidies and other forms of support
	Government procurement restrictions
	Intellectual property
	Rules of origin
Exports	Export-related measures

Note: One of the main sources for the indicators related to these measures is available at [I-TIP](#).

► **Table AII.2 Studies on the labour market effects of NTMs**

Study	Results
Leonardi and Maschi (2021)	NTMs alleviated the negative effects on employment of import competition and enhanced the wages of manufacturing workers.
Yew, Al-Amin and Devadason (2020)	A reduction in NTMs led to positive gains in employment in the short run. However, in the long run, there were wage losses for the unskilled group.
Porto (2018)	The effects of NTMs on the labour market depended on the structure of labour market adjustments.
Reza et al. (2016)	Reduction of NTMs due to the Transatlantic Trade and Investment Partnership (TTIP) could lead to diverging results, with positive income effects but negative real wage effects for low-skilled labour

► **Table AII.3 CGE studies that incorporate NTMs**

Study	Type	Model	Sectors	Results
Walmsley and Winters (2005)	Ex ante	GTAP	Increase in quotas for skilled and unskilled labour in developed countries	Overall increase in global welfare
Brown et al. (1996)	Ex ante	CGE	NTMs in services sector cut by 25 per cent; industrial and agricultural tariffs also cut	Positive effect on GDP
Francois, McDonald and Nordström (1996)	Ex ante	CGE; GTAP	Changes in the form of quotas	Positive effects on GDP and trade
Goldin and van der Mensbrugghe (1996)	Ex ante	CGE; RUNS	NTMS in agricultural sector	Positive effect on GDP
Harrison, Rutherford and Tarr (1996)	Ex ante	CGE; GTAP	Export subsidies	Positive effect on GDP
Hertel et al. (1996)	Ex ante	CGE; GTAP	MFA quotas	Positive effects on GDP and trade

CGE = computable general equilibrium; GTAP = Global Trade Analysis Project; RUNS = Rural/Urban–North/South (Burniaux and van der Mensbrugghe 1991).

