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Abstract

This paper investigates the impact of aid for trade (AfT) targeted at trade policies on the participation of recipient countries in global value chains (GVCs), and how this impact varies with their prevailing political regimes. In democratic countries, the need for the authorities to account for the interests of various stakeholders (e.g., lobbies, trade unions) can compromise the allocation, use, and effectiveness of AfT. In contrast, less democratic regimes are typically more insulated from political pressures, which may lead to more effective outcomes of aid. At the same time, integration into some complex GVCs requires efficient and democratic institutions, to which these products are sensitive. Employing a sample of 110 countries and data covering 2002-2018, we control for standard determinants of GVC participation, while examining the effect of AfT and the moderating role of the political regime in place. Our estimation addresses the endogeneity of aid through an appropriate instrumentation strategy. Our results suggest that the effect of AfT is mostly positive in autocratic regimes, indicating more effective trade policy reforms. When we account for regional disparities, we find evidence that AfT for trade policy is also impactful in some democratic regimes. This might suggest that the efficacy of AfT is not strictly regime-dependent, but hinges on the government's commitment to carry out significant reforms leading to greater participation in the global economy.

Keywords: Aid for trade, global value chains, political proximity, political regime.
JEL Classifications: F10, F14.

ملخص

تبحث هذه الورقة في تأثير المعونة من أجل التجارة (AfT) التي تستهدف السياسات التجارية على مشاركة البلدان المتلقية في سلاسل القيمة العالمية (GVCs)، وكيف يختلف هذا التأثير باختلاف أنظمتها السياسية السائدة. وفي البلدان الديمقراطية، قد تؤدي الحاجة إلى مراعاة السلطات لمصالح مختلف أصحاب المصلحة (مثل جماعات الضغط والنقابات العمالية) إلى المساس بتخصيص واستخدام وفعالية المعونة من أجل التجارة. وعلى النقيض من ذلك، فإن الأنظمة الأقل ديمقراطية عادة ما تكون أكثر عزلة عن الضغوط السياسية، وهو ما قد يؤدي إلى نتائج أكثر فعالية للمساعدات. وفي الوقت نفسه، يتطلب الاندماج في بعض سلاسل القيمة العالمية المعقدة مؤسسات فعالة وديمقراطية، وتكون هذه المنتجات حساسة لها. وباستخدام عينة مكونة من 110 دولة وبيانات تغطي الفترة 2002-2018، فإننا نتحكم في المحددات القياسية للمشاركة في سلاسل القيمة العالمية، مع دراسة تأثير المعونة من أجل التجارة والدور المعتدل للنظام السياسي القائم. يتناول تقديرنا التجانس الداخلي للمساعدات من خلال استراتيجية الأجهزة المناسبة. وتشير نتائجنا إلى أن تأثير المعونة من أجل التجارة إيجابي في الغالب في الأنظمة الأقل ديموقراطية، مما يشير إلى إصلاحات أكثر فعالية في السياسة التجارية. وعندما نأخذ في الاعتبار الفوارق الإقليمية، نجد أدلة على أن المعونة من أجل التجارة بالنسبة للسياسة التجارية لها تأثير أيضا في بعض الأنظمة الديمقراطية. وقد يشير هذا إلى أن فعالية المعونة من أجل التجارة لا تعتمد بشكل صارم على النظام، ولكنها تتوقف على التزام الحكومة بتنفيذ إصلاحات مهمة تؤدي إلى مشاركة أكبر في الاقتصاد العالمي.

1. Introduction

Launched in 2005, the Aid-for-Trade Initiative aims to help developing countries achieve greater integration into the global economy by increasing their trading capacity and supporting their implementation of trade-related reforms and WTO agreements.[4] Aid for trade (AfT) encompasses all Official Development Assistance (ODA) flows that fall under one of three broad categories: economic infrastructure; productive capacity building; and trade policy and regulations as well as trade-related adjustments.[5] Between 2006 and 2023, a total amount of $730 billion worth of AfT was disbursed to developing countries, with African and Asian countries receiving 73 per cent of the total.[6]

The literature on the AfT-trade-nexus is relatively well-established. Previous studies have focused on the impact of AfT on the exports of developing countries, highlighting an overall positive effect on the total exports of AfT recipient countries (Ghimire et al., 2016; Hühne et al., 2014) as well as on their bilateral exports to AfT donors (Aboushady et al., 2025, Lemi, 2017; Pettersson and Johanssen, 2013; Helble et al., 2012). Furthermore, several studies have indicated that the impact of aid for trade policy and trade-related adjustments is greater than that of other types of aid (Aboushady et al., 2025; Lee and Oh, 2022; Martinez-Zarzoso et al., 2017). In the same vein, Hoekman and Shingal (2024) show a positive relationship between AfT provided by EU donors and their exports to recipient countries. Yet, AfT provided by EU institutions and non-European states increases imports from recipient countries.

Building on the existing literature, this paper aims to expand on previous analyses by investigating the role of the third component of AfT (AfT for trade policy) in helping recipient countries achieve greater integration into the global economy through global value chains (GVCs). We examine the impact of AfT on the following types of GVC participation: backward (i.e., importing inputs and intermediates necessary for the production and exports along a certain value chain), forward (i.e., exporting goods incorporated in third-country exports), and total GVC participation (the sum of forward and backward flows). We also explore how international politics determines the allocation of aid, and how the effectiveness of AfT is moderated by the political regime in place in recipient countries, adding a political economy dimension to the analysis.

We focus on AfT for trade policy as it targets directly and explicitly trade policy reforms that should enhance the integration of the recipients into the global economy. Aid in this category supports recipient countries' participation in multilateral trade negotiations and implementation of commitments under multilateral trade agreements, including, for example, the revision of non-

[4] WTO page about aid for trade. Available at: https://www.wto.org/english/tratop_e/devel_e/a4t_e/about_aid4trade_e.htm
[5] OECD Aid for Trade Dashboard. https://www.oecd.org/en/data/dashboards/aid-for-trade.html
[6] WTO infographic: Aid for Tade. Developing trade for shared prosperity. Available at: https://www.wto.org/english/tratop_e/devel_e/a4t_e/DD_Aid-for-Trade_Main_trends_Infographic_Web.pdf

tariff measures (NTMs). It also supports the implementation of some regional trade agreements and of trade facilitation measures, such as the streamlining of export and import procedures. Furthermore, this type of aid helps countries adjust to trade policy measures imposed by other countries. In summary, aid disbursed under this category should directly promote the participation of recipient countries in GVCs.

Our paper makes several contributions to literature. Firstly, we expand the analysis beyond the exports' performance of aid-recipient countries to investigate a more comprehensive measure of their participation in the global economy through GVCs. By focusing on GVC participation, we cover imports (backward participation) and exports (forward participation), both of which are critical for a country's integration into the global economy. The GVC focus is therefore broader than exports and is more meaningful for developing countries, for which GVC participation can provide numerous opportunities for growth and development. The most significant benefit of GVC participation is perhaps the opportunity it presents to latecomer industrialisers to 'plug into' a specific segment of the value chain, without having to recreate the entire chain domestically (Nano and Stolzenburg, 2021).

Second, the paper contributes to the small but growing body of the literature on the AfT-GVC nexus in three main aspects. While the first two build on previous work, the last aspect offers original insights into the AfT-GVC relationship. Firstly, unlike authors who have employed a gravity model focusing on bilateral GVC participation, we use an empirical setting that accommodates the multilateral aspect of GVC participation, while distinguishing between total GVC participation, forward participation, and backward participation. Given the global nature of trade in value chains, our empirical framework is more appropriate than a gravity model whose bilateral context fails to capture the international dimension of GVC participation. Secondly, a significant proportion of the current literature on aid and GVC participation assesses the effectiveness of Chinese aid or the overall ODA in stimulating GVC-related trade. Few papers have employed AfT data to examine its efficacy in promoting the participation of recipient countries in GVC-related trade.[7] Our study therefore contributes to the burgeoning stream of the literature examining the relationship between AfT and the GVC participation of AfT beneficiaries. This is important in view of the particular significance of AfT to trade of recipient countries, as demonstrated by recent research.

Finally, we adopt a political economic approach by accounting for two issues. First, we draw on the literature showing the predominance of political considerations in aid allocation (e.g. Boone, 1996; Youssef and Zaki, 2023) and address the likely endogeneity of aid (i.e. the reverse causality between aid and GVC trade). Previous research has acknowledged this endogeneity issue and has

[7] Kang and Shin (2020), Kim et al. (2022), and Gnangnon (2023).

largely addressed it by using lagged values of the aid variable.[8] This is motivated by the high persistence of the AfT flows over time. However, in the presence of autocorrelated errors, this latter characteristic weakens the ability of lagged values of AfT to suitably address endogeneity. Second, based on the literature on the potential relationship between the political environment in recipient countries and the effectiveness of aid (Islam, 2003; 2005; Dollar and Pritchett, 1998), we examine how the outcome of AfT interacts with the prevailing political regime. In democracies, aid allocation and usage can be complicated at both the international and domestic levels due to the presence of different stakeholders (including lobbies, trade unions and various chambers) whose various interests are accounted for, which can reduce the efficacy of aid. At the same time, the accountability of the government could lead to more effective outcomes (Youssef and Zaki, 2023). Conversely, in less democratic regimes, the decision to negotiate for aid is likely to emanate from a centralized power without lengthy domestic negotiations, and the use of aid could lead to more efficient outcomes. When it comes to participation in GVCs, however, the role of efficient and democratic institutions can be particularly important, since some GVCs can be more complex and sensitive to institutional quality.

To our knowledge, this is the first study to examine the political dimension of AfT allocation in the context of GVC trade, and the first to empirically investigate the potential for regime-dependent AfT effects on the participation of recipient countries in GVCs. Examining whether the effect of AfT on the GVC participation of recipient countries depends on their political regime is relevant and timely. In fact, there is evidence that major donor countries tend to provide more aid to countries with democratic regimes, as well as countries on the path of 'democratization' (Alesina and Dollar, 2000; Askarov et al., 2022). Indeed, among all recipients of AfT for trade policy, countries with democratic regimes had the largest amount over 2002-2018 with a mean annual value of $385.2 million. Yet, as pointed above, the literature is inconclusive about the effectiveness of aid in democratic regimes. Therefore, investigating whether the efficacy of AfT varies with the political regime in place in aid-recipients is informative, especially in view of the large amounts of this type of aid that democratic regimes have received recently.

In order to examine the impact of AfT on participation in GVCs, we use figures for AfT from the OECD Creditor Reporting System (CRS), alongside data on GVC participation for 110 recipient countries from the EORA dataset over the period 2002-2018. Our choice of the time interval is constrained by the availability of GVC data from the EORA dataset. We proceed in two steps: First, we draw on the literature on the politics of aid allocation to instrument AfT. Second, we show how the impact of AfT on GVC participation may depend on the political regime in recipient countries. In this respect, we use the Polity5 dataset and distinguish between three main types of political regimes: democracies, autocracies, and anocracies. While controlling for standard

[8] With the exception of Xu et al. (2022) who implement an instrumentation strategy to deal with this issue. Gnangnon (2023) uses lagged values of AfT across several estimation strategies and implements the generalized method of moments (GMM) when applying the quantiles via moments estimation. The latter essentially entails using lagged values of the regressors. We note that his findings do not showcase tests related to the validity of the GMM instrumentation strategy.

determinants of GVC participation, our models indicate that AfT is positively associated with greater participation in GVCs, primarily in autocratic regimes. These findings hold for total, backward, and forward participation, and they largely remain robust when the sample is divided by income levels and geographical regions. This is not to suggest that AfT is exclusively effective in autocratic regimes. Indeed, when we account for regional groupings, our models indicate that AfT significantly contributes to participation in GVCs in countries with democratic regimes.

Altogether, our results may imply that the effective use of AfT to carry out significant trade policy reforms is what matters for greater GVC participation. This commitment to substantial trade policy reforms seems to be more detectable in the case of countries with autocratic regimes. It is also worth mentioning that autocratic regimes are usually less open to trade. The positive effect of AfT flows directed toward streamlining recipients' trade policies and strengthening their trade links with the rest of the world may also reflect the success of AfT in making trade policies in autocratic regimes more open.

The remainder of the paper is organized as follows. Section 2 reviews the literature. Section 3 presents some stylized facts. Section 4 summarizes the methodology and data. Section 5 presents the results and section 6 concludes.

2. Literature review

We begin this section with an overview of the literature on the determinants of GVC participation. Next, we shed light on the growing body of work examining the nexus between AfT and GVC participation. Given the importance of political and strategic interests in aid allocation, as well as the potential influence of the political environment in recipient countries on aid effectiveness, we follow up with a succinct survey of the stream of the literature addressing the political economy of aid allocation and efficacy.

2.1. Determinants of GVC participation

The vast majority of the empirical analyses assessing the determinants of trade in GVCs was carried out in a setting akin to an export demand model, reflecting the significant overlap between the drivers of international trade and the specific drivers of GVC participation[9]. We refer to this empirical framework as the "GVC participation model".[10] This model posits that a country's participation in GVCs hinges on several key determinants. These can be broadly classified into

[9] For reference: Gnangnon (2019), and Lee and Oh (2022).

[10] Although the "GVC participation" model was the main workhorse of researchers who investigated trade in GVC, few authors opted for a gravity setting (Buelens and Tirpak, 2017; Lee, 2019). We limit our exposition to the studies employing the GVC participation model given their significance in the literature and because we adopt the same analytical framework.

two categories: structural determinants[11] and policy determinants. Structural determinants include – *inter alia*- a country's economic size (e.g., its GDP), its geographical location and distance to major GVC hubs, its factor endowments (including resources, land, and skilled and unskilled labor), the industrial capacity, and institutional quality. Policy determinants encompass trade policy, investment policy, trade agreements, and certain macroeconomic policies, such as the exchange rate policy. While most of these determinants are also key determinants to a country's international trade, some are rather GVC-specific, such as the industrial capacity, the resource endowments, and the distance to GVC hubs. The effects of these policy and non-policy determinants on countries' total, forward, and backward participation in GVCs can also be heterogeneous.[12]

One of the main structural determinants of GVC participation is a country's economic size, as measured by its GDP. As per the literature on GVC determinants, a country's GDP has a negative impact on its backward participation (Banerjee and Zeman, 2020) and a positive impact on its forward participation (Kowalski et al., 2015). This finding can be explained by the size of the domestic market. In a larger market, backward integration tends to be lower due to the large pool of domestic suppliers from which to source intermediates.

A country's geographical location and distance from main GVC hubs are associated with trade costs. Therefore, geographical proximity to main GVC hubs is associated with higher GVC participation (Taglioni and Winkler, 2016). Greater distances imply, however, costs that accumulate along value chains and that are likely to prompt distant countries to specialize in upstream sectors in order to avoid such cost accumulation (Antràs and de Gortari, 2020). Consequently, a country's distance from the main GVC hubs is likely to be associated with high forward GVC participation, and low backward (Kowalski et al., 2015) and total GVC participation (Fernandes et al., 2020).

Furthermore, the effect of factor endowments varies according to the type of factors and the type of GVC trade flow. Availability of land and natural resources is associated with increased forward participation as these resources are often used as inputs in downstream industries (Antràs, 2020). An abundance of low-skilled labor is associated with increased specialization in downstream assembly activities, and therefore high backward participation in GVCs. In contrast, an abundance of mid-to high-skilled labor is rather associated with higher forward GVC participation. Finally, capital endowments are associated with increased backward GVC participation but do not seem to matter for forward linkages (Fernandes et al., 2020).

[11] Structural determinants, or non-policy determinants, are those factors shaping GVC participation that cannot be changed through policy in the medium term. For more details, see Kowalski et al. (2015).

[12] Backward GVC participation is measured by the Foreign Value Added (FVA) in country *i* exports, which is the value added in a country's exports whose inputs are produced by foreign industries. Forward participation is measured by the Domestic Value added (DVX) which is the domestic value added that is embodied in the exports of other countries (Fernandes et al., 2020; Borin and Mancini, 2019).

The effect of a country's domestic industrial capacity on its participation in GVCs is not clear-cut. When a country has a large industrial capacity (i.e., a large domestic supplier base), it needs to import less through backward flows. Conversely, it tends to participate more in GVCs through forward linkages (Antràs, 2020; Fernandes et al., 2020). Montfaucon et al. (2022) confirmed these findings for African countries but also identified positive effects of industrial capacity on total GVC-related flows. Conversely, other studies suggest that a country's industrial capacity (as measured by the domestic manufacturing value added) is rather associated with increased backward participation and reduced forward participation (Kowalski et al., 2015).

The quality of institutions is also among the key structural determinants of GVC participation. Indeed, studies suggest that institutional quality is more important for GVC-related trade than for "traditional" trade, due to the crucial role of institutions and contract enforcement in maintaining firm-to-firm relationships, a defining feature of GVCs. Fernandes et al. (2020) found that institutional quality, as measured by the political stability index, was important for backward GVC participation among 100 countries. Similar findings apply to African countries' backward GVC participation, demonstrating the importance of political stability in upgrading Africa's engagement in value chains (Montfaucon et al., 2022).

Trade policies and investment-related measures are among the key policy factors affecting GVC participation. Restrictive trade policies and cumbersome FDI-related regulations can increase the cost of trading inputs and intermediate goods along GVCs. In value chains characterized by sequential stages, trade costs can accumulate along the production stages, substantially increasing the cost of the final product. Recent empirical evidence suggests that imposed tariffs are negatively associated with backward participation, while the faced tariffs hamper forward participation (Yanikkaya et al., 2023). Furthermore, both tariffs negatively affect total GVC participation. In contrast, earlier studies found no clear association between imposed tariffs and backward participation, but a negative effect of these tariffs on forward GVC linkages. Indeed, imposed tariffs can undermine a country's access to inputs and, consequently, its processing and forward integration capacity (Fernandes et al., 2020). Similarly, regional trade agreements (RTAs) are positively associated with GVC participation. It is, however, difficult to determine causality as the conclusion of RTAs may either precede or follow the development of value chains. Kowalski et al. (2015) found that the proportion of imports covered by RTAs is positively associated with backward GVC participation, though no significant impact on forward participation was observed. At the same time, FDI openness and FDI inflows are found to be positively associated with total GVC participation (Montfaucon et al., 2022). This is due to the pivotal role that FDI flows and multinationals play in the development of GVCs. Adarov and Stehrer (2021) examine the impact of FDI and capital stock on GVC participation in 19 European countries across 26 sectors from 2000 to 2014. Their findings highlight the positive effect of inward and outward FDI flows and capital stock on GVC participation. Banerjee and Zeman (2020) demonstrate the positive impact

of inward FDI stocks on both total and backward GVC participation across 43 countries between 2000 and 2014.

2.2. AfT and GVC participation

Recently, a strand of literature has emerged examining the role of aid in stimulating the participation of recipient countries in GVCs. Overall, the outcome of AfT is uneven across different types of aid, forms of GVC participation, and income levels of beneficiaries. For instance, Kang and Shin (2020) use a GVC participation framework to assess the effectiveness of AfT in boosting the forward and backward participation of 128 developing countries. Their findings suggest that total AfT flows, as well as AfT for trade policy and regulation, have a positive effect on backward participation and a negative effect on forward participation. Furthermore, AfT allocated to trade policy and regulation is particularly important for backward participation in low-income and lower middle-income countries, whereas AfT for productive capacity building is more relevant for backward participation in upper middle-income countries. Using a gravity model, Kim et al. (2022) examine the impact of AfT on the bilateral backward GVC participation of recipients. They found that, while aggregate AfT increased GVC participation only in the case of upper middle-income countries, it was insignificant for low-income and lower middle-income countries. Similar results were found for AfT targeting infrastructure and AfT for trade facilitation. Zhang and Martinez-Zarzoso (2022) assess the effectiveness of the ODA of new donor countries in fostering the bilateral backward GVC participation of recipient countries. Although bilateral aid was found to have a positive effect on the backward participation of recipient countries, the total aid received by recipient countries was found to be more effective in stimulating their GVC participation. Xu et al. (2022) demonstrate the positive impact of Chinese aid on the domestic value added exported by aid recipients. In the context of a GVC participation model, Xu and Sun (2023) showed that Chinese aid was effective in fostering forward participation among recipients, with infrastructure-targeted aid proving particularly successful in this regard. Lastly, a recent working paper by Gnangnon (2023) studies the effect of aggregate AfT, as well as its three categories, on the GVC participation and position of 80 recipient countries between 2002 and 2018. While AfT is found to promote backward participation across the entire sample, it positively and significantly affects forward participation only in the case of recipients in the lowest quantiles (of the distribution of the GVC indicators). Furthermore, it stimulates engagement in downstream activities among countries in the upper quantiles.

2.3. Aid and politics

2.3.1. Aid allocation: political considerations

Literature provides several motives for aid allocation by donors. These include the strategic interests of donor countries, the humanitarian needs of recipients, the economic and political interests of powerful groups within the donor states, and the bargaining dynamic between donors

and recipients (Dollar and Pritchett, 1998; Schraeder et al., 1998). A significant number of country-specific studies, as well as considerable empirical analyses encompassing numerous countries, have pinpointed the predominance of political and strategic factors in aid allocation. In his empirical investigation of 96 countries, Boone (1996) found that political proximity between the donor and the recipient is an influencing factor of aid. Schraeder et al. (1998) examined the determinants of aid disbursed to 36 African countries by four major donors during the final decade of the Cold War. Their analysis underlines the pivotal role of the strategic interests of donors. This is the case of France, whose aid policy was mainly driven by cultural and colonial ties; of Sweden, with Swedish aid governed to a large extent by ideological considerations (favoring socialist-oriented regimes); and of the American aid strategy, significantly affected by the political proximity of recipients and by their regime (supporting capitalist regimes). Drawing on the political economy of foreign aid, Hopkins (2000) argues that many donors use aid as a means to nurture ties with former colonies (e.g. France and Britain), strengthen and maintain their deeply rooted influence in recipient countries (e.g. the United States with Liberia, Panama, and the Philippines), and maintain regional stability. The importance of Egypt to the stability of the Middle East, for example, was behind the US-backed International Monetary Fund's agreements with Egypt in the late 1980s and early 1990s (Momani, 2004). Several empirical studies have also demonstrated the prominence of strategic considerations in aid allocation. For instance, Alesina and Dollar (2000) show that, all things being equal, former colonies receive more aid than other countries. In a large-scale empirical investigation spanning 175 recipients over a period extending well beyond the Cold War years (1970–2003), Powell and Bobba (2006) found evidence of the remarkable role of political proximity (as measured by the correlation between the recipient and the donor's voting in the United Nations' General Assembly) as an explanatory factor of total and bilateral aid. In another paper, Bobba and Powell (2007) demonstrate that aid among allies is not based on purely economic considerations but is primarily driven by political and strategic incentives.

2.3.2. Aid efficacy and the political environment in recipient countries

A growing body of literature also investigates the possible influence of the political environment of aid recipients on the effectiveness of aid: that is, its role in addressing the social and economic needs of recipient countries. In this context, three competing hypotheses can be formulated. The first one stipulates that aid is more likely to be effective in autocratic regimes. The second argues that aid is more prone to be beneficial in recipients with democratic regimes. A third standpoint contends that what matters for the efficacy of aid is the commitment to implementing reforms, irrespective of the political regime in place. *In extenso*, the latter point of view could imply that there is no difference in the effectiveness of aid between democratic and authoritarian regimes.

Islam (2003) was one of the first empirical studies to provide evidence in support of the first hypothesis. Based on a sample of African and Asian countries, Islam (2003) examines whether the effect of aid on growth is conditional on the political regime. His analysis shows that aid only

significantly boosted growth in totalitarian regimes. One possible explanation is related to the work of Nelson (1990), who posits that authoritarian systems are more insulated from popular pressure and vested interests, and are therefore more capable of making rational decisions. This is also the reasoning of Haggard (1990) who postulates that autocratic regimes are more likely to have the necessary autonomy when designing and implementing policies.

The second hypothesis is based on the idea that, unlike autocracies, democratic institutions would constrain the state to act in the general interest and provide an institutional environment that is stable and conducive to investment and growth (Przeworski and Limongi, 1993). In this respect, Islam (2005) shows that political instability (assassinations, coups d'état, and revolutions) can hinder the impact of aid on economic growth, even in the presence of good policies. In the same vein, Sandbrook and Barker (1985) and Van de Walle (2001) argue that the autocratic regimes and neopatrimonialism were the primary causes of political instability, corruption, and administrative mismanagement, which impeded capital accumulation and growth in several African countries.

Lastly, the third hypothesis underlines the importance of a strong and genuine commitment to reforms on the part of aid recipients for aid to be effective (Dollar and Pritchett, 1998). Indeed, Dollar and Pritchett (1998) conclude that aid, even if conditional, would fail to achieve its aims in environments lacking strong support for reforms. Similarly, Przeworski and Limongi (1993) conclude that what matters for economic performance, and hence aid effectiveness, is not the regime type *per se*, but what they coin "state autonomy". That is, the ability of the authorities to implement policies they deem necessary and avoid those they deem undesirable. Boone (1996) supported this argument by showing that there is no difference between democratic and autocratic aid recipients in how aid is used. This suggests that key factors affecting aid use are likely to be independent of the nature of established regimes. Along the same lines, Svensson (1996) developed a model that shows how the rent-seeking behavior of powerful interest groups can reduce the efficiency of aid, irrespective of the political regime in place. This model highlights the importance of examining the interaction between the political economy context of recipient countries and the aid received.

After having overviewed the main strands of the literature and before moving to the empirical investigation, we present some stylized facts about the evolution and structure of AfT, participation in GVCs, and the political regimes in place.

3. Stylized facts

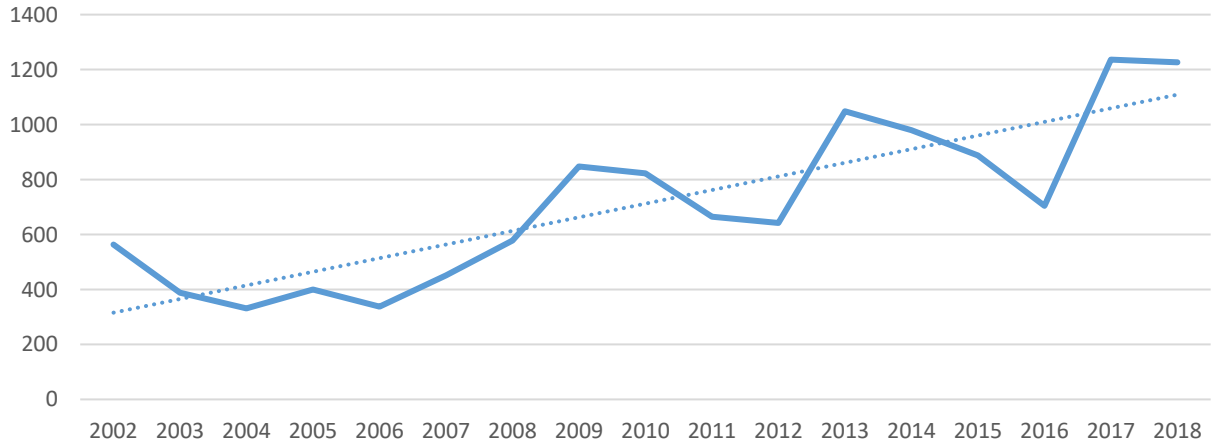
3.1. Overview of aid for trade policy

We begin this section with a brief overview of the evolution of aggregate AfT flows before providing a more detailed analysis of our main AfT component of interest: aid for trade policy and

trade-related adjustments. Figure A1 in the Appendix depicts the yearly evolution of aggregate AfT flows from 2002 to 2018. Although the AfT Initiative was officially launched in 2005, our analysis begins in 2002, the first year with consistent data on annual AfT disbursements. While more recent AfT data is available, our analysis is restricted to the aforementioned time span due to the availability of EORA data on GVC participation. The figure shows an obvious upward trend in the aggregate AfT disbursed by donor countries between 2002 and 2018, with an average annual growth rate of almost 9.3 per cent and a mean annual amount disbursed of $42.7 billion. This increase in the aid flows reflects the commitment of donor countries to assist recipients in their endeavors targeting a deeper integration into the world markets (Aboushady et al., 2025). The increase in aggregate AfT was primarily driven by flows addressing the infrastructural needs of aid-recipients, which grew from $9.8 billion in 2002 to $42.4 billion in 2018, averaging an amount of $25.7 billion per year. The rise in aggregate AfT during the examined period was also driven by AfT directed towards improving the productive capacities of recipients, with a mean annual amount of $20.8 billion.[13]

When it comes to AfT aimed at strengthening trade capacities and improving trade policy of recipients, there has been a visible upward trend throughout the period covered (Figure 1). Even though aid flows targeting trade policy and trade-related adjustments were modest in value compared to the other AfT components, with a mean yearly disbursed amount of $712.1 million, they experienced significant growth over the years: with an average annual growth rate of 8.9 per cent. Indeed, while the mean disbursed value was only $524.2 million between 2002 and 2010, this figure surged to $923.6 million over 2011-2018.

Figure 1. Evolution of AfT for trade policy flows (in millions of US dollars), 2002-2018

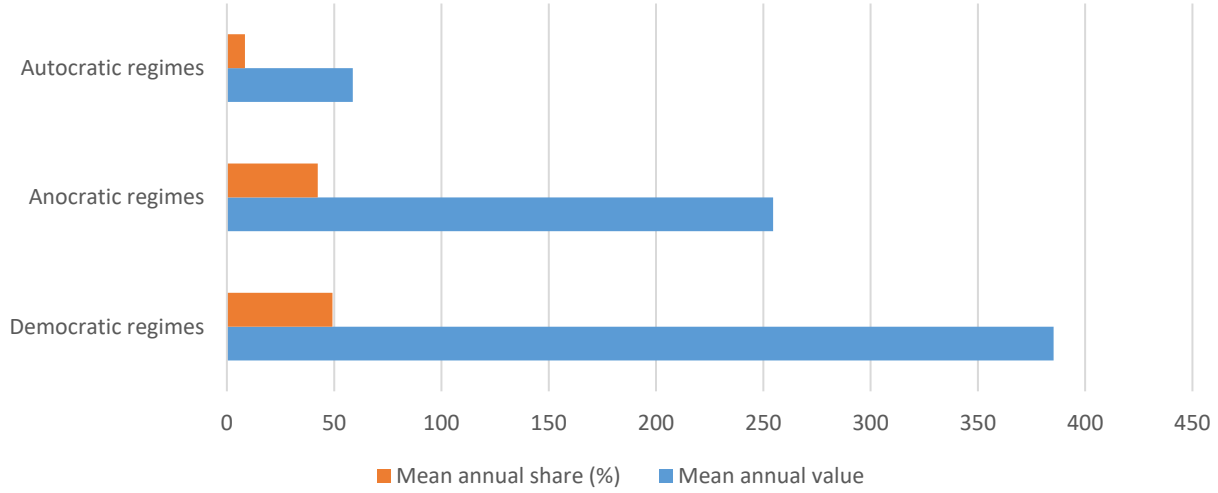


Note: i) Authors' computations based on the OECD Creditor Reporting System; ii) the aid measurement encompasses bilateral and multilateral aid flows; iii) the dashed line is the linear trend.

[13] Figures are based on the OECD Creditor Reporting System.

Although the last decades witnessed a comprehensible increase in AfT aimed at enhancing recipients' trade capacities, significant variations in the amounts received prevail among them. Specifically, an important heterogeneity is noticeable among recipients when categorized according to the political regime in place: democratic, anocratic[14], and autocratic (Figure 2). The figure shows that recipient countries with democratic regimes received the largest amounts of AfT targeting trade policy (with a mean annual value of $385.2 million); followed by countries with an anocratic regime (with an average yearly amount of $254.5 million). In terms of proportions of the total aid received, countries categorized as democracies came on top with a mean annual share of 49.2 per cent; they were followed by recipients with anocratic regimes (with a mean annual proportion of 42.3 per cent). Countries with autocratic regimes received the least amounts of aid for trade policy, with a mean annual value of $58.6 million. These disbursements amounted to an average of only 8.4 per cent of the total aid aimed at trade policy over the period of study.

Figure 2. AfT for trade policy received (mean annual values and shares in total), by political regime of recipients

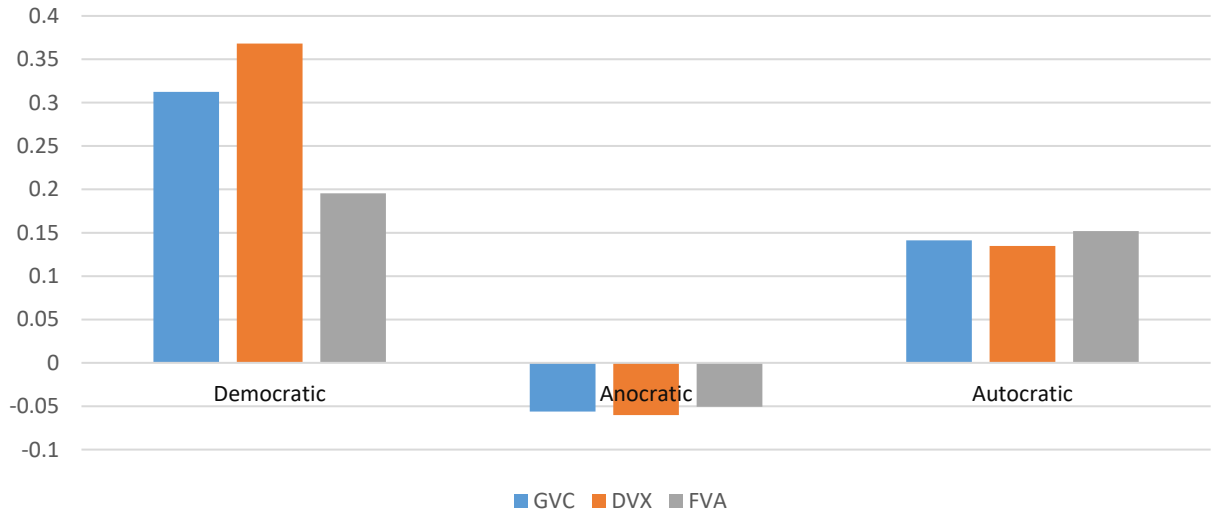


Note: i) Authors' computations based on the OECD, Creditor Reporting System; ii) AfT for trade policy encompasses bilateral and multilateral aid flows; iii) following a common practice, we use the Polity 2 indicator from the Polity5 dataset to categorize recipients across the three political regimes: "Autocratic" regimes have an index ranging between -10 and -6, "Anocratic" regimes have an index ranging from -5 till 5, and "Democratic" regimes have an indicator greater than 5.

We conclude this part by presenting correlation coefficients between GVC participation and each of its components (forward participation or DVX – and backward participation or FVA) on the one hand, and AfT for trade policy on the other hand. We investigate these correlations while clustering our sample countries by political regimes, income categories, and regional groupings, respectively. Figures 3 to 5 depict these correlations.

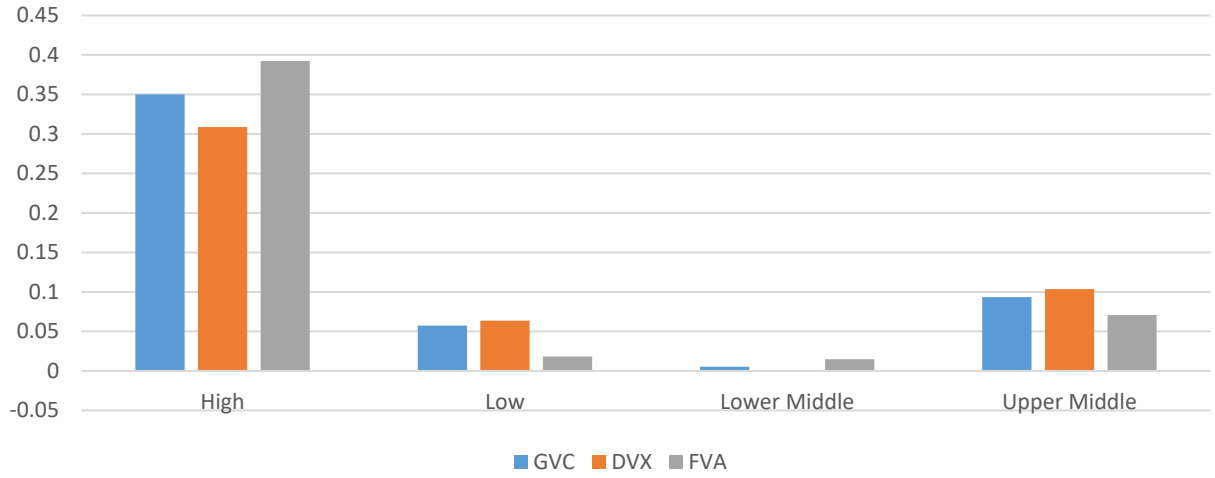
[14] Anocratic regimes are 'intermediate' regimes, i.e., regimes that are between democratic and autocratic ones.

Figure 3. Correlation coefficients between AfT for trade policy and GVC participation, by political regime



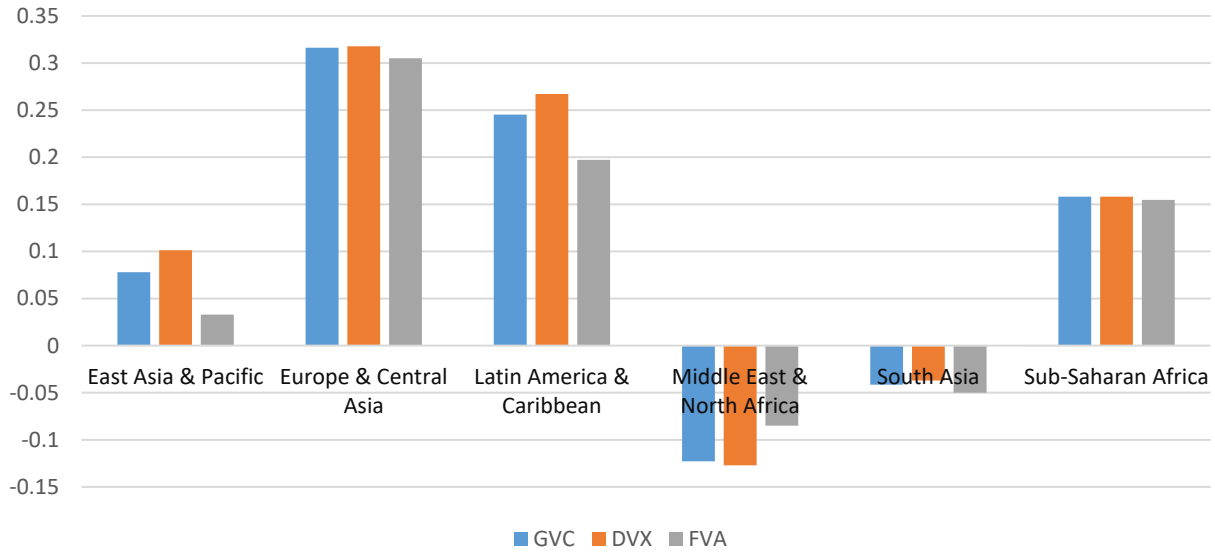
Note: i) Authors' computations; ii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iii) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports; iv) following a common practice, we use the Polity 2 indicator from the Polity5 dataset to categorize recipients across the three political regimes: "Autocratic" regimes have an index ranging between -10 and -6, "Anocratic" regimes have an index ranging from -5 till 5, and "Democratic" regimes have an indicator greater than 5.

Figure 4. Correlation coefficients between AfT for trade policy and GVC participation, by income category



Note: i) Authors' computations; ii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iii) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports.

Figure 5. Correlation coefficients between AfT for trade policy and GVC participation, by region



Note: i) Authors' computations; ii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iii) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports.

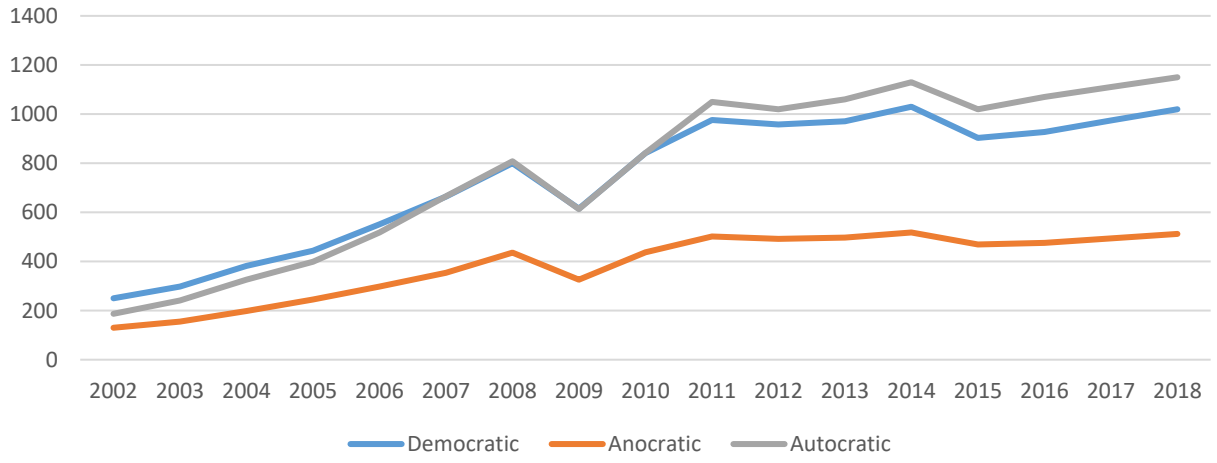
Overall, the figures show a positive – sometimes strong – association between aid for trade policy and GVC participation of recipient countries. Typically, and within a given group of countries, the correlation is of the same magnitude for the two components of GVC participation: forward and backward participation. When considering political regimes, the strongest correlations are found in democratic regimes, followed by autocratic ones. Interestingly, as seen in Figure 2, democratic regimes and autocratic regimes received, respectively, the largest and smallest aid amounts during the period covered. Thus, the two groups of countries on the opposite sides of the aid spectrum are the ones with the most significant correlations between aid and GVC participation. In recipient countries with anocratic regimes, however, the association between trade in GVC and aid is negative. When viewed through the lens of income levels, aid is positively associated with GVC participation mostly in high-income countries. Lastly, an overview of the correlations across regional blocs shows a positive relationship in all regions, except for countries in the Middle East and North Africa, and countries in South Asia.

3.2. GVC participation of recipients: a focus on the political regimes in place

In view of our hypothesis regarding the importance of the political regime in place when it comes to the relationship between AfT and GVC participation of recipients, we briefly shed light on the GVC participation of the aid-beneficiaries across the three political regimes defined earlier. Figure 6 depicts the GVC participation of aid-recipients across anocracies, autocracies, and democracies over the examined period. The figure shows the predominance of autocratic and democratic

regimes in terms of GVC participation, with a mean annual value of $777 billion and $741.4 billion, respectively. The figure also reveals an upward trajectory in GVC participation across the three political regimes. Interestingly, autocratic countries experienced the fastest growth in GVC participation, with an average annual growth rate of 13.3 per cent, compared to 10.2 per cent for democracies and 10 per cent for anocracies.

Figure 6. GVC participation (in billions of US dollars) of aid-recipients across the three political regimes, 2002-2018



Source: i) Authors' computations; ii) following a common practice, we use the Polity 2 indicator from the Polity5 dataset to categorize recipients across the three political regimes: "Autocratic" regimes have an index ranging between -10 and -6, "Anocratic" regimes have an index ranging from -5 till 5, and "Democratic" regimes have an indicator greater than 5.

Examining the two components of GVC participation -forward and backward flows- reveals that, irrespective of the political regime, forward participation (DVX) typically exceeded backward participation (FVA), as depicted in Figures A2 to A4 in the Appendix. Furthermore, the figures reveal a similar pattern in the evolution of forward and backward participations among aid recipients within each of the political regimes. That is, within each group of countries, periods characterized by a decline in forward participation were generally also marked by a drop in backward participation, and vice versa. In contrast to Figures A3 and A4, Figure A2 reveals that the group of countries experiencing the largest variations in the difference between the two components of GVC participation was the cluster with autocratic regimes, for which forward participation has significantly exceeded backward participation over time. These results may be driven by resource-rich countries, such as oil exporters, or countries exporting raw materials and agricultural commodities, which became increasingly specialized in upstream segments of the value chain, as depicted by the widening gap between forward and backward GVC participation over time.

The stylized facts section reveals several interesting findings. On average, recipients with democratic regimes had the largest annual shares of aid for trade policy, while those with autocratic

regimes received the least. At the same time, autocratic regimes participated the most in GVCs, with their GVC trade becoming increasingly concentrated in forward flows. Initial correlations between aid for trade policy and GVC participation suggest a positive association in both democratic and autocratic regimes. This effect is more pronounced in high-income countries and in some regions, such as Europe and Central Asia. It is also worth noting that initial correlations between AfT and GVC participation produce negative results for the MENA region and countries in South Asia. The next step is to verify these findings empirically.

4. Methodology

The objective of this paper is to examine the impact of AfT on GVC participation in 110 aid-recipient countries between 2002 and 2018. To achieve this, the following specification is defined:

$$GVC_{it} = \alpha_0 + \alpha_1 \ln(AfT_{it}) + X'_{it}\beta + PR'_{it}\delta + \sum_a \psi_a (ln(AfT_{it}) \times PR_{ait}) + \eta_i + e_{it} \quad (1)$$

Where GVC_{it} refers to GVC participation of country *i* in year *t.* To measure GVC participation, we use the EORA dataset covering backward and forward GVC participation. Backward participation is measured by the foreign value added (FVA) in country *i* exports, whereas forward participation is measured by the domestic value added (DVX) in other countries' exports. GVC refers to total GVC participation: the sum of FVA and DVX (Fernandes et al., 2020, Borin and Mancini, 2019).

The main independent variable of interest is AfT_{it} measured by aid for trade policy disbursed to country *i* in year *t*. We are interested in analyzing the impact of this category of AfT, as it targets directly trade policy reforms that should enhance the integration of the recipients into the world economy.

X_{it} is a vector of time-variant control variables that are likely to affect GVC participation. It includes a combination of structural and policy determinants of GVC participation, such as the GDP to control for the development level, applied tariffs to control for trade policies, the manufacturing value added as a share of GDP to control for the industrial capacity, and the average distance from the main GVC hubs (weighted by GDP) to control for remoteness. All control variables are considered in natural logarithm and are obtained from the World Development Indicators database.

In view of the potential impact of the political regime of recipient countries on the effectiveness of aid, we include a vector incorporating dummy variables reflecting the political regime in place in aid-recipients (autocracies, anocracies, and democracies) (PR_{it}), and a set of interaction terms between the aid variable and the political regime dummies. The latter dummies are based on the Polity 2 index retrieved from the Polity5 database.

The specification also incorporates country-specific effects (η_i). They control for country characteristics that do not vary in time (or that vary slowly over time) and can affect GVC participation. This is the case, for instance, of their resource endowment. Finally, e_{it} is the error term. The definition of all variables and the data sources are summarized in Table A1 in the appendix. The descriptive statistics are summarized in Table A2.

Given the reverse causality between AfT and GVC participation, we adopt an instrumental variable approach where aid for trade policy is instrumented using two instruments. Building on the politics of aid allocation, the first instrument measures the 'political proximity' or the similarity of votes at the UN general assembly between AfT-recipients and the main GVC hubs that are members of the security council (China, the US and France[15]). Our choice of this instrument is motivated by the fact that loans and aid from countries and international financial institutions can be, to a significant extent, politically motivated (Easterly, 2005; Youssef and Zaki, 2023). The second instrument of the aid received by a recipient country is the (mean) aid received by 'similar' recipient countries. Indeed, the amount of aid received by a given country is likely correlated with the value of aid obtained by the group of recipients with similar economic and institutional features (Aboushady et al., 2025). We use the GDP and the quality of institutions to identify five groups of similar recipient countries, while employing principal component analysis. A series of tests shows that our instrumentation strategy is appropriate. First, the under-identification test (Anderson Canonical Correlations LM Test) rejects the null hypothesis, indicating that the instruments are correlated with the endogenous variables[16]. Second, the Cragg-Donald Wald F Statistic shows that the instruments are not weak (above the 20% bias threshold). Finally, the overidentification test, based on the Sargan Statistic[17], indicates that our instruments are valid.

Equation (1) encompasses our baseline models whose results are reported in subsections 5.1 and 5.2 below. In addition to the baseline models, we alter equation (1) at two levels in order to investigate two issues. First, and in lieu of employing total GVC participation as the dependent variable, we use, alternatively, forward participation (DVX) and backward participation (FVA) as our dependent variable. Second, we examine whether significant differences prevail in terms of the relation between our explanatory variables and total GVC participation among the sample countries when we account for, respectively, income and geographical heterogeneity across aid-recipients. The results are shown in subsection 5.3 below.

[15] We replace Germany with France as Germany is among the main GVC hubs but isn't a permanent member of the security council.
[16] Statistic: 38.643, p-value: 0.0000.
[17] p-value: 0.1933

5. Empirical results

5.1. Baseline results

Table 1 depicts the results of the baseline models, estimated without accounting for the likely reverse causality issue. Initially, we introduce only the controls and our explanatory variable of interest – aid for trade policy (AfT). The results are largely consistent with the literature, although the coefficients are not always statistically significant. The recipient country's GDP has a positive and significant impact on its participation in GVCs. Industrial capacity is also associated with increased total GVC participation, the coefficient is not significant. Tariffs (as measured by the average of the tariffs imposed by the country and the one faced by its main trade partners) and distance to GVC hubs are both negatively associated with total GVC participation, though only the distance coefficient is significant.

Our explanatory variable of interest -AfT- appears to have a positive impact on total GVC participation; however, the magnitude of the coefficient is quite small. These results remain consistent when the political regime dummy variables are introduced as additional explanatory variables (column 2 of Table 1), with autocracies serving as the reference category. The coefficients of the political regime variables are insignificant, implying that anocratic and democratic regimes in recipient countries do not affect GVC participation differently to autocracies (the reference category). The interaction term including the political regime and the AfT variable produces interesting results. As shown in the third column of Table 1, the interaction terms have negative and significant coefficients, suggesting AfT has a smaller impact on total GVC participation in recipients with anocratic and democratic regimes, compared to those with autocratic ones[18]. These results appear to align with the literature on the effectiveness of aid in autocratic regimes (Islam, 2003). As previously explained, autocratic regimes may be shielded from popular pressure and vested interests, giving them more autonomy when designing and implementing policies (Nelson, 1990; Haggard, 1990).

[18] The impact of aid on GVC participation of a recipient with an autocratic regime is given by the coefficient of aid (0.0515). The impact of aid on GVC participation in a recipient country with an anocratic regime is given by the sum of the coefficient of the interaction term (-0.0356) and the coefficient of aid (0.0515). Analogously, the effect of aid on GVC participation in a recipient with a democratic regime is the sum of -0.0302 and 0.0515.

Table 1. Baseline results

	GVC	GVC	GVC
Ln(GDP)	0.734***	0.766***	0.753***
	(0.0461)	(0.0484)	(0.0486)
Ln(Tariff)	-0.0283	-0.0278	-0.0259
	(0.0204)	(0.0209)	(0.0209)
Ln(Avg. Distance)	-1.004***	-0.972***	-0.991***
	(0.0558)	(0.0587)	(0.0591)
Ln(Manuf/GDP)	0.0281	0.0200	0.0238
	(0.0306)	(0.0342)	(0.0342)
Ln(Aft)	0.0229***	0.0214***	0.0515***
	(0.00362)	(0.00381)	(0.0119)
Anocracy		0.0709	0.0704
		(0.0497)	(0.0498)
Democracy		0.0553	0.0532
		(0.0532)	(0.0531)
Anocracy*Ln(Aft)			-0.0356***
			(0.0125)
Democracy*Ln(Aft)			-0.0302**
			(0.0128)
Constant	-23.87***	-23.96***	-24.06***
	(0.753)	(0.772)	(0.771)
Observations	1,344	1,240	1,240
R-squared	0.775	0.778	0.780
Number of code2	96	88	88

*Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

5.2. Controlling for the endogeneity between GVC and AfT

As previously mentioned, aid can be endogenous. In general, AfT is designed to help recipient countries to reform their trade policies in a way that increases their participation in the global economy. Nevertheless, the allocation of AfT may be significantly influenced by the participation of these recipient countries in GVCs in the first place. In other words, some countries may receive (more) aid from donors because they are already part of GVCs. This could apply to exporters of natural resources or agricultural commodities, or to labor-abundant countries participating in downstream assembly stages. To control for possible endogeneity, we use the IV approach explained earlier. The results are illustrated in Table 2[19].

The results of the control variables are mostly in line with the literature, although not always with significant coefficients. The interaction between AfT and the political regime in recipient countries shows the effect of aid on total GVC participation in each political regime. The results are, again, in line with the literature supporting the efficacy of aid in autocratic regimes. The effect of AfT on total GVC participation in autocratic regimes is positive and significant, whereas the same coefficients are insignificant in the case of anocratic and democratic regimes. These results may be explained by the fact that autocracies are more likely to be closed to trade, compared to

[19] IV results are run with the command ivreg2. Given that we must instrument both aid for trade and its interaction with the political regime, Stata output includes the results of the interactions for the three political regimes, without removing a reference category. Thus, each coefficient shows the instrumented impact of aid for trade for each type of political regime.

democratic regimes (Milner and Kubota, 2005; Chen and Li, 2018; Milner and Mukherjee, 2009). Indeed, our initial data analysis in Section 3 revealed that recipients with autocratic regimes participated less in GVCs at the beginning of the study period, before substantially increasing their GVC engagement over time and eventually exceeding other recipients. Even though autocratic regimes received the smallest average amount of AfT targeting trade policy reforms, these aid flows may have supported their trade policy reforms and significantly promoted their GVC participation, compared to other recipients.

Table 2. GVCs and Political Regime – IV estimation

	GVC
Ln(GDP)	0.689***
	(0.0547)
Ln(Tariff)	-0.0259
	(0.0217)
Ln(Manuf/GDP)	0.0285
	(0.0351)
Ln(Avg. Distance)	-1.022***
	(0.0723)
Autocracy*Ln(AfT)	0.148***
	(0.0309)
Anocracy*Ln(AfT)	0.0482
	(0.0320)
Democracy*Ln(AfT)	0.0187
	(0.0234)
Constant	-25.91***
	(1.387)
Observations	1,240
R-squared	0.991

*Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

5.3. Extensions

5.3.1. Forward and backward GVC participation

In this section, we extend the analysis by examining the impact of AfT on backward (FVA) and forward (DVX) GVC participation separately, all the while using our IV strategy. Table 3 shows the results. The controls have the expected signs. Compared to previous results, tariffs have a negative and significant effect on backward GVC participation20. This is consistent with the literature on the determinants of GVC participation, which emphasizes the adverse effects that imposed tariffs can have on the imports of the intermediates necessary for production and exports along the value chain. The results are also consistent with recent empirical evidence from Yanikkaya et al. (2023). The coefficient of the tariff faced by the recipient is also negative for forward GVC participation but is statistically insignificant. Regarding the interaction terms, our findings suggest positive and significant effects of AfT on backward and forward GVC participation in autocracies. The coefficient is also slightly higher for backward than for forward

[20] In the specification with FVA as the dependent variable, we use the imposed tariff (simple mean) of the recipient country as our tariff measurement. In the specification where DVX is the dependent variable, we use the average of the tariff applied (simple mean) by the main partners of the recipient country as the tariff measurement.

GVC participation. Although in autocracies, backward GVC flows were substantially lower than forward GVC flows over time (see Section 3), AfT targeting trade policy seems to have contributed to maintaining these flows over the study period. The impact of AfT in anocracies is also positive and significant for backward GVC participation. Indeed, several sub-components of the aid for trade policy category relate to streamlining border procedures, revising and simplifying NTMs, and facilitating trade. These reforms are expected to have a positive impact on the imports of intermediates along the value chain.

Table 3. Backward vs. Forward Linkages – IV estimation

	Aft Trade Pol.	
	FVA	**DVX**
Ln(GDP)	0.466***	0.805***
	(0.0684)	(0.0569)
Ln(Tariff)	-0.0585**	-0.0136
	(0.0260)	(0.0135)
Ln(Manuf/GDP)	0.0383	0.0301
	(0.0441)	(0.0365)
Ln(Avg. Distance)	-1.076***	-0.936***
	(0.0901)	(0.0761)
Autocracy*Ln(AfT)	0.194***	0.114***
	(0.0391)	(0.0320)
Anocracy*Ln(AfT)	0.150***	0.00125
	(0.0412)	(0.0336)
Democracy*Ln(AfT)	0.0388	0.00601
	(0.0291)	(0.0250)
Constant	-23.48***	-27.01***
	(1.710)	(1.467)
Observations	1,240	1,240
R-squared	0.987	0.991

*Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

5.3.2. Income level

To account for the income-heterogeneity of aid-recipients, we estimate the model (with total GVC participation as the dependent variable) while distinguishing three income groups of aid beneficiaries: upper middle-, lower middle- and low-income countries. We also implement the IV strategy. The main results are shown in Table 4. The results of the interaction terms are insignificant for all categories, except for autocracies in lower middle-income countries and, to a lesser extent, anocracies in low-income countries. The results are in line with our previous findings on the efficacy of AfT in non-democratic regimes. Including the income dimension to the analysis allows us to single out the effect of AfT across various income groups. All in all, the results suggest that AfT matters more for GVC participation in non-democratic regimes at the lower part of the income scale.

Table 4. Income level – IV estimation

	GVC Upper middle income	GVC Lower middle income	GVC Low income
Autocracy*Ln(AfT)	0.00110	0.136**	
	(0.0646)	(0.0529)	
Anocracy*Ln(AfT)	-0.0235	0.0457	0.0632**
	(0.0647)	(0.0749)	(0.0262)
Democracy*Ln(AfT)	0.0666	0.0325	-0.195
	(0.0495)	(0.0599)	(0.223)
Observations	473	570	138
R-squared	0.993	0.986	0.934

*Notes: (i) The regressions include controls, an intercept and country fixed effects; (ii) the coefficient of autocratic low-income countries was dropped. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

5.3.3. Regional heterogeneity

Our final extension involves examining the effect of AfT on total GVC participation of aid-recipients with different political regimes categorized by region. We use the IV approach in our estimations. Similar to previous findings, AfT matters for the GVC participation of autocracies. This result holds for all regions except for Latin America and the Caribbean, and the Middle East and North Africa regions. In fact, we find no evidence of the success of aid for trade policy in countries located in the latter two regions, regardless of the nature of the political regime in place. Interestingly, AfT appears to be more effective in promoting GVC participation in democratic regimes located in Europe and Central Asia and in Sub-Saharan Africa, whereas it has a negative outcome on GVC participation in democracies located in East and South Asia and the Pacific region. The positive outcome of AfT in some democracies is in line with the literature on the importance of democracy for aid efficacy (Sandbrook and Barker, 1985; Przeworski and Limongi, 1993; Van de Walle, 2001). It is also aligned with the research on the significance of commitment to reforms and state autonomy for aid effectiveness, regardless of the nature of the political regime in place (Dollar and Pritchett, 1998; Boone, 1996). The negative impact of aid on GVC participation in some other democracies can be explained by the strand of work that stressed the importance of shielding public policies from vested interests to design and implement sound policies (Haggard, 1990). In fact, democratic regimes can be vulnerable to political pressures from powerful groups that can undermine the effectiveness of policies and aid.

Table 5. Regional heterogeneity – IV estimation

	Europe and Central Asia	East, South Asia and Pacific	LAC	MENA	Sub-Saharan Africa
Autocracy*AfT	0.0526**	0.103**	-0.00258	-0.0295	0.0697**
	(0.0229)	(0.0515)	(0.0644)	(0.0358)	(0.0304)
Anocracy*AfT	0.0411	-0.0479	0.0319	0.0191	0.0267
	(0.0810)	(0.0775)	(0.0938)	(0.0204)	(0.0478)
Democracy*AfT	0.115***	-0.131*	-0.0299	-0.122	0.142***
	(0.0346)	(0.0697)	(0.0308)	(0.0790)	(0.0444)
Observations	145	282	313	116	384
R-squared	0.991	0.993	0.988	0.973	0.986

*Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The regressions include controls, an intercept and country fixed effects.*

6. Conclusion

This paper investigates the impact of aid for trade policy on the participation of 110 recipient countries in GVCs between 2002 and 2018. To do so, we draw on the literature on the politics of aid allocation to instrument the AfT for trade policy variable and then examine how the efficacy of the latter may depend on the political regime in recipient countries. To our knowledge, this is the first study in the literature on GVC and AfT that undertakes such an investigation.

Our key finding suggests that AfT for trade policy is mostly positively associated with the GVC participation of autocratic recipient countries. The results hold for both forward and backward participation in GVCs. Our main results are consistent with the argument advanced by several scholars that government autonomy in autocratic regimes enables it to use aid more efficiently and implement the necessary reforms. Our extended empirical analysis accounts for income and regional disparities across aid-recipients and corroborates our main results. It shows that the effect of AfT for trade policy on GVC participation is more pronounced in non-democratic lower middle-income and low-income regimes. It also pinpoints the positive relation between aid and GVC participation in non-democratic regimes across nearly all regional groupings, except for countries in Latin America and the Caribbean, and countries in the Middle East and North Africa. Interestingly, when extending the baseline model to account for regional heterogeneity among recipient countries, AfT for trade policy appeared to have a positive effect on GVC participation in democratic countries in Europe and Central Asia, and Sub-Saharan Africa.

Taken together, the results of the specifications with regional groupings might suggest that, abstracting from the political regime in place *per se*, what could matter for the efficacy of aid is the commitment of the authorities and their capacity to implement significant reforms, as suggested by many researchers. The absence of significant effects of AfT in Latin America and the Middle East, for example, may reflect the lack of substantial trade policy reforms, regardless of the political regime of aid-recipients. Our findings also indicate that AfT may help in 'opening' typically closed economies. Indeed, non-democratic regimes are more likely to be less open to trade (Milner and Kubota, 2005; Milner and Mukherjee, 2009). Moreover, AfT for trade policy is specifically designed to support trade policy reforms in recipient countries, with the aim of opening their economy and strengthening their international trade ties. Thus, the consistent positive effect of aid on GVC participation in countries with non-democratic regimes also reflects the success of such aid flows in opening these closed economies to international trade and enhancing their participation in value chains.

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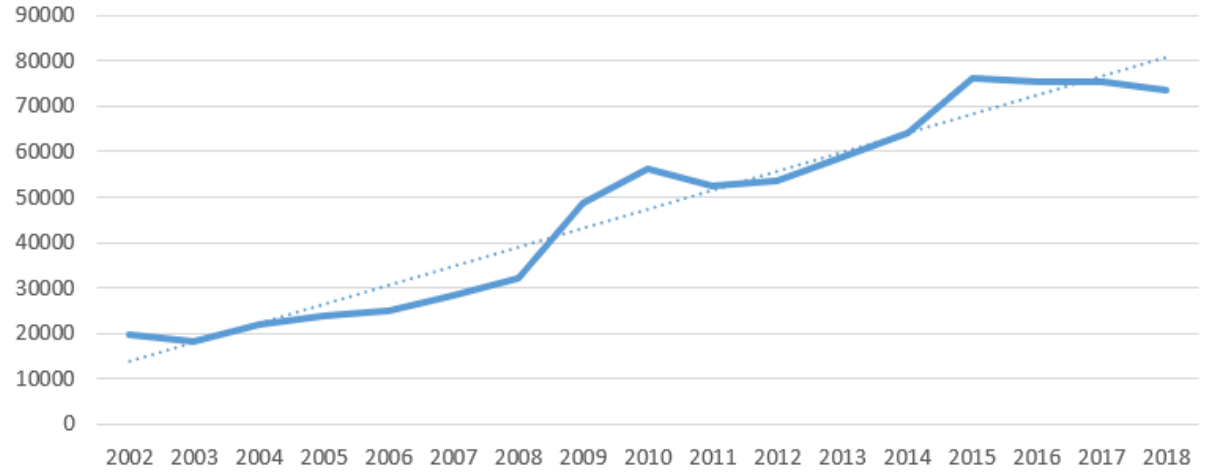
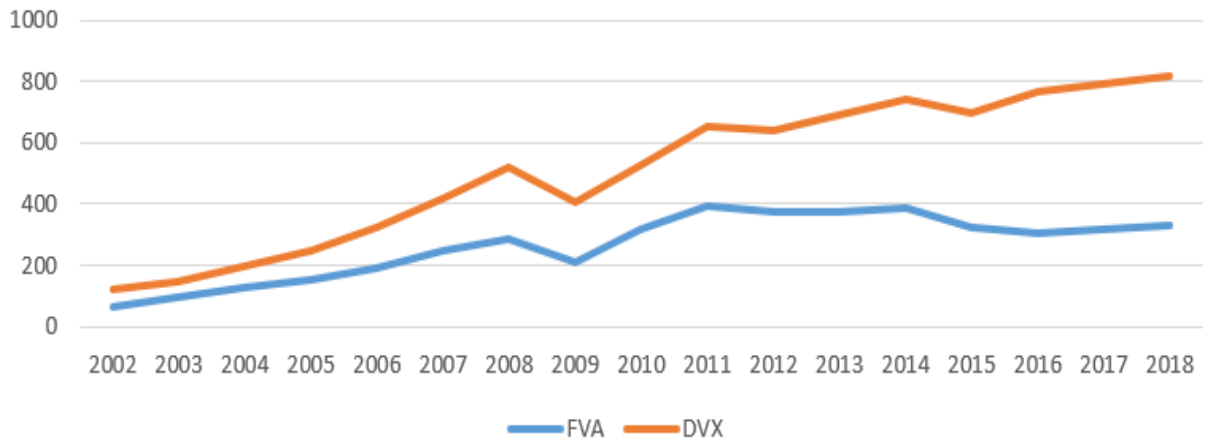
Appendix

Figure A1. Time evolution of aggregate AfT flows (in millions of US dollars), 2002-2018



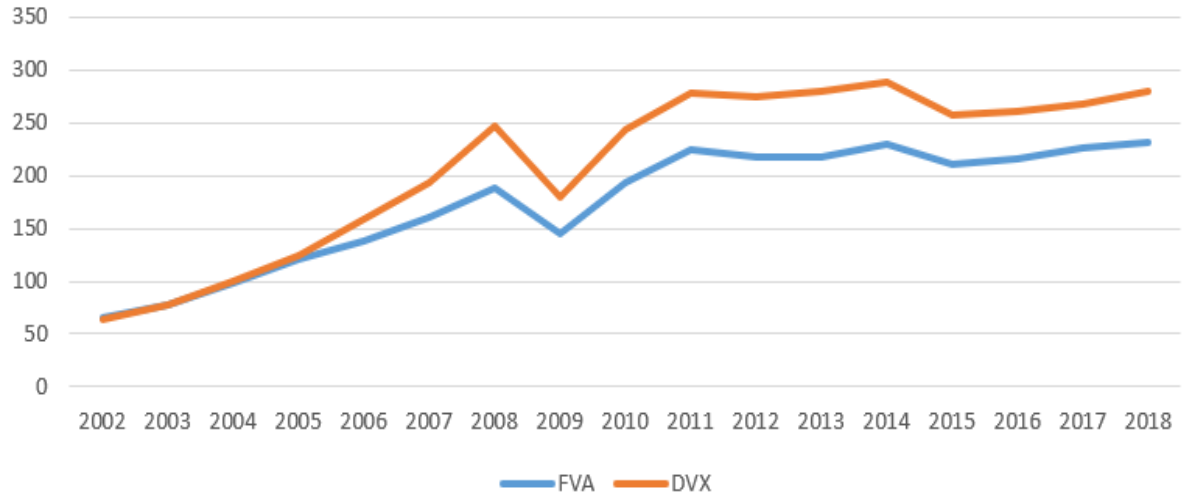
Note: i) Authors' computations based on the OECD, Creditor Reporting System; ii) the aid measurement encompasses bilateral and multilateral aid flows; iii) "aggregate AfT" is the sum of three aid components: a) aid targeting the productive capacity of the recipient country, b) aid strengthening the infrastructure in the recipient country, and c) aid boosting the trade capacities and improving trade policies in the recipient country; iv) the dashed line is the linear trend.

Figure A2. Forward and backward participation (in billions of US dollars) of aid-recipients with autocratic regimes, 2002-2018



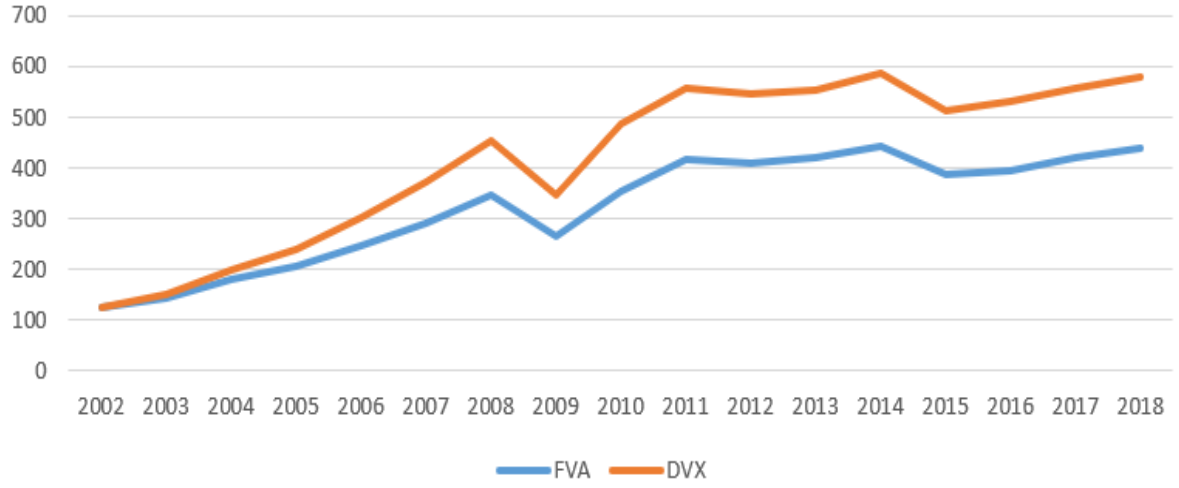
Source: i) Authors' computations; ii) the classification of countries across the three regimes is explained in the explanatory note of Figure 3. (iii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iv) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports.

Figure A3. Forward and backward participation (in billions of US dollars) of aid-recipients with anocratic regimes, 2002-2018



Source: i) Authors' computations; ii) the classification of countries across the three regimes is explained in the explanatory note of Figure 3. (iii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iv) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports.

Figure A4. Forward and backward participation (in billions of US dollars) of aid-recipients with democratic regimes, 2002-2018



Source: i) Authors' computations; ii) the classification of countries across the three regimes is explained in the explanatory note of Figure 3. (iii) for a given country, DVX is the value-added exported by that country and embodied in the exports of the rest of the countries; iv) for a given country, FVA is the value added imported by that country from the rest of the world and incorporated in its exports.

Table A1. Variables used in the empirical analysis – definitions and sources

Variable	Definition	Source
AfT for trade policy	Total official (public) and multilateral aid disbursed to recipient (in real US dollar) targeting: trade policy and regulations and trade-related adjustment (sector code: 331).	OECD – Creditor Reporting System
Backward GVC participation - FVA	The value added in a country's exports whose inputs are produced by foreign industries	EORA database
Forward GVC participation - DVX	The domestic value added embodied in the exports of other countries	EORA database
Total GVC participation	The sum of FVA and DVX	EORA database
Political proximity	The similarity of votes between the recipient countries and the main GVC hubs that are permanent members of the UN Security Council	Voeten et al. (2009)
Ln(GDP)	Natural logarithm of the Gross domestic product	World Bank, World Development Indicators
Ln(Tariff)	For FVA, tariff imposed by the country. For DVA, tariff faced by the main trade partner	WTO tariff profiles
Ln(Manuf/GDP)	Share of the manufacturing sector to GDP	World Bank, World Development Indicators
Ln(Avg. Distance)	Average of the distance to main GVC hubs weighted by their GDP.	Calculated by the authors using CEPII database
Autocracy	Institutionalized autocracy characterized by a lack of regularized political competition and concern for political freedoms. Based on the Polity 2 index, countries whose index is between – 10 and -6 are classified as autocracies.	Polity5 dataset
Anocracy	'Intermediate' regimes, i.e., regimes between autocracies and democracies. Based on the Polity 2 index, countries whose index is between – 5 and 5 are classified as anocracies.	Polity5 dataset
Democracy	Institutionalized democracy. Based on the Polity 2 index, countries whose index is between 5 and 10 are classified as democracies.	Polity5 dataset

Table A2. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Ln(DVX)	1,887	13.6	2.4	-0.3	20.3
Ln(GVC)	1,887	14.2	2.2	9.6	20.7
Ln(FVA)	1,887	13.1	2.2	8.2	19.6
Ln(GDP)	1,822	24.0	1.9	18.9	30.2
Ln(Tariff)	1,573	0.8	0.8	0.0	3.3
Ln(Avg. Dist)	1,887	-20.5	0.4	-21.7	-19.4
Ln(AfT for trade policy)	1,660	0.0	2.3	-10.5	6.2
Ln(Manuf GDP)	1,678	2.4	0.6	-1.5	3.5

Source: Authors' own elaboration.