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10 years of the Turin Centre on Emerging Economies: lessons learned and perspectives for the future

Introduction

By Iacopo Maria Taddei[1]

The OEET, in collaboration with the Collegio Carlo Alberto (CCA) and the Department of Economics and Statistics *Cognetti de Martiis*, held its 10th Workshop on November 28–29, 2024, at the University of Turin. Titled *10 Years of the Turin Centre on Emerging Economies: Lessons Learned and Perspectives for the Future*, the event marked a decade since the centre's founding.

The Workshop featured three thematic sessions on OEET's core research areas: economic development and inequality, sustainable development and the 2030 Agenda, and emerging economies in global value chains (GVCs). This issue of the OEET newsletter compiles contributions from these discussions, highlighting the challenges faced by emerging economies in fostering inclusive, sustainable growth along with a progressive accumulation of domestic productive capabilities through a strategic insertion into global value chains (GVCs). It also examines the influence of developed countries' policies on these trajectories.

The first section addresses the topic of economic development, growth and inequality in emerging economies. The first article, *The Political Economy of Development: A Practitioner's View* by Hans Timmer, references the 2024 Nobel Prize winners Acemoglu, Johnson, and Robinson, highlighting how exploitative institutions hinder long-term growth. While aligning with cross-country studies on equal opportunities and economic success, Timmer argues that inequality stems more from elite capture than efficiency gaps, restricting access to capital and jobs for marginalized groups. He emphasizes the need to challenge vested interests, drawing on his experience at the World Bank.

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The second article, Olga Demidova's *Dynamics of Inequality in the Regions of Russia (2013–2023)* examines regional inequality trends in Russia, revealing a slow decline and early signs of a Kuznets curve pattern. Maurizio Bussolo follows with his contribution *Economic Inequality: Evolving Perspectives and Future Developments*, an overview of future research directions on inequality and economic growth.

The second section shifts the focus to sustainable development in emerging and developing countries. *Building the Economies of the Future* by Piergiuseppe Fortunato underscores the urgency of climate action, arguing that the energy transition must go beyond carbon mitigation to support economic transformation. He calls for stronger global governance to help developing countries build climate-resilient economies.

Sara Balestri and Marcello Signorelli's *SDG Trade-Related Spillovers and EU Regulation on Timber* assesses how high-income countries' policies, such as the EU's deforestation-free regulations, can aid low-income nations in achieving forest conservation and sustainability, SDG 15. They analyse the environmental spillovers of international trade, focusing on imported deforestation embedded in European consumption of timber and timber-related commodities. Further contributions include Luca Andriani and colleagues' contribution *Social Capital and CO2 emissions in emerging markets*, which analyses social capital in fostering corporate environmental strategies and Samuele Milone's study on the disruptive impact of natural disasters, such as floods, on education in Thailand, titled *The impact of drought on education in rural Thailand: a synergy between SDG-4, SDG-2, and SDG-13*.

The third section opened with Alessia Amighini's presentation of the *Stable Food Access and Prices and Lower Exposure to Shocks* (STAPLES) project, a PRIMA funded initiative supporting resilience strategies in the Middle East and North Africa (MENA) region involving CCA along with multiple institutions (Politecnico di Milano (POLIMI), the University of Gastronomic Sciences of Pollenzo (UNISG), Ibnou Zohr University of Agadir (UIZ), the Economic Research Forum (ERF), the Euro-Mediterranean Economists Association (EMEA), and one multi-country business network, the Association of the Mediterranean Chambers of Commerce (ASCAME)).

STAPLES aims to support private and public resilience strategies by examining external shocks and stressors from global cereal value chains affecting the Middle East and North Africa (MENA) region. The project focuses on identifying feasible local solutions, particularly in Morocco and Egypt.

Alessia Amighini's *Emerging Economies in Global Value Chains: What Should We Expect for the Future?* discusses how emerging economies have deepened their GVC integration since the mid-1990s, reshaping North-North trade. However, this trend slowed in 2018 as U.S. efforts to reduce dependence on China triggered a decoupling process, impacting other emerging economies. Giovanni Graziani further explores this phenomenon in *Shifting Away from China Towards Emerging Countries? A Critical Assessment of Economic Decoupling*, attempting to track value added flows between these two countries to measure its effective impact.

Finally, in *Global Value Chains, Climate Change, and Environment*, Chahir Zaki explores the relationship between GVCs and environmental impact. While GVCs contribute to carbon emissions, firms in these networks often adopt better environmental practices. Zaki advocates for eco-friendly trade agreements and stronger national regulations to ensure cleaner trade.

The political economy of development: a practitioner's view

By Hans Timmer[2]

Acemoglu, Johnson, and Robinson have been awarded the 2024 Nobel Prize in Economic Sciences for their studies of how institutions are formed and affect prosperity. They have developed evidence that exploitive institutions are inadequate for long-run growth, while inclusive ones are good for it. This evidence fits a broader cross-country literature that argues that economies thrive when the rule of law guarantees equal opportunities.

These critical results shed light on key puzzles in development economics: Why is per-capita income in the most developed countries 100 times the per-capita income in the least developed countries? Are poorer countries prone to catch up with more affluent countries, or are they likely to fall further behind? The Nobel laureates conclude that income gaps might widen further because of strong inertia in the development of institutions. This research leads to a welcome focus in economics on institutions.

However, cross-country analysis has severe limitations and might even be misleading. Let's consider three main arguments for why this is the case:

- Countries are often not useful units of analysis as they can be radically different. With its 1.4 billion people, China is incomparable with Brunei, home to less than half a million citizens. India is, in several respects, more diverse than the whole of Europe.
- Countries themselves are not uniform. Income inequality within countries can be huge. Part of the population in poor countries can be significantly richer than most people in rich countries. Coastal cities in poor countries can be very similar to coastal cities in rich countries, while the average income in poor countries is pulled down by great inequality between coastal cities and rural inland areas.
- A key problem of cross-country analysis is that the causes of underdevelopment are not merely located within poor countries but are often rooted in the relationship between countries. Income gaps between countries are not merely the result of bad policies within poor countries but rather the lack of a level playing field internationally. In the same way, inequality of opportunity within countries is not caused by the bad behaviour of the underprivileged but rather by elite capture that strengthens the vested interests of the privileged. Such inequality of opportunity, which explains a significant share of inequality within countries, does not stop at the borders of nations but is also a key determinant of global inequality.

Standard cross-country analysis explains why efficiency in a poor country is lower than in a rich country. However, this is not the proper description of inequality of opportunity. Inequality of opportunity is caused by a lack of a level playing field: poorer people, regions, or countries have the same

[2] Former World Bank's Chief Economist for South Asia.

potential but do not have the same access to capital or jobs. Privileged groups get preferential access to capital through elite capture and limit the number of good jobs through insider-outsider policies. Inequality of opportunity should be described with identical levels of efficiency but with differentiated access to capital and jobs. In other words, the segmentation of factor markets prevents everybody from fully utilizing their potential.

In the case of a level playing field, with perfect capital and labour mobility, capital-labour ratios would be the same everywhere if efficiency levels do not differ. Therefore, per-capita income would also be the same everywhere. However, in the case of segmented labour markets, capital-labour ratios and incomes can be very different. The higher per-capita income is in one group, the lower per-capita income is in the other. It is easy to show that the average income for both groups is lower than in the case of a level playing field. So, inequality of opportunity leads not only to unfair income inequality but also to overall inefficiency.

Such a simple model of inequality of opportunity could be a good description of a dual economy in developing countries with a formal and an informal sector. Elite capture, connected lending, and artificially high formal wages keep capital intensity high and employment low in the formal sector. The result is scarcity of capital, abundant labour, and low incomes in the informal sector. The model could also be applied to inequality of opportunity in education when groups with a particular background have limited access to education (human capital). Or the model can be used to describe gender inequality when women are not allowed to take certain jobs. And, of course, capital and labour are not freely floating across countries because of migration restrictions and limitations to capital and technology flows.

The observation that the inefficiency of poor people does not necessarily cause income inequality but is often the result of policies that protect the vested interests of the privileged has huge consequences for development policies. It means that reducing inequality requires confronting elite capture. My experience at the World Bank has been that this is easier said than done. The elite are the direct counterparts of the World Bank, and confronting vested interests head-on is seldom effective. Let's look at four of the many lessons we have learned while navigating the political economy of development.

The first lesson is that vested interests are not uniform and can be contradictory. Those conflicts can be used to confront specific vested interests. For example, China was willing to consider many reforms, but liberalizing the domestic financial sector was a taboo. The financial sector was used to stimulate the domestic economy and to support the many state-owned enterprises. Surplus funds in those enterprises had led to investments in real estate and a destabilizing shadow banking sector. It was a clear example of preferential access to capital, and it was impossible to address this problem head-on. However, Chinese authorities realized at the same time the advantages of developing the renminbi into an international reserve currency. To achieve that, first, more trade must be denominated in the renminbi; then offshore

capital markets should be developed; and, finally, the domestic financial sector must be liberalized. This reasoning indirectly opened the debate about reforms in the financial sector.

The second lesson is that evidence of inefficiencies is powerful. That is true at the macro level. Even if preferential treatment benefits elites in the short run, they might benefit more if overall income increases by reducing inequality of opportunity. A larger overall income will further spur growth through multiplier and accelerator effects. Those in power might be willing to give up some of the vested interests in exchange for the additional overall growth. It is also true at the micro level. I met a group of women in Karachi who used to work informally from home, selling their products at low prices to middlemen in the garment industry. Their husbands did not allow their women to work out of the house. Despite opposition, the women had recently started organizing themselves and circumventing the middlemen. As a result, their income tripled, and as the overall family income increased, the husbands supported working in a central place for the women. An increase in overall income is a powerful argument against inequality of opportunity.

The third lesson is that technological progress is not neutral. Depending on accommodating policies, innovations can benefit everybody or sharply increase inequality. The World Development Report 2016 (*Digital Dividends*) argued that the new digital technologies could have radically different outcomes. The technologies could make governments more accountable, but governments could also use them to suppress citizens. Digital technologies could lower entry costs for small new firms but could also lead to the concentration of monopoly power. The new technology could increase workers' real incomes but could also lead to a digital divide. In their recent book *Power and Progress,* Acemoglu and Johnson provide much broader evidence of the potentially biased nature of technology. They argue that, in many cases, new technologies hurt most people, while only a tiny elite greatly benefited. For development practitioners, it is crucial to recognize this biased nature of technological progress and to firmly focus on accommodating policies.

The fourth lesson is that a good crisis should never be wasted. Both global and local crises present opportunities for fundamental reforms because they weaken vested interests, which were often the root causes of the crises. That means that development policies should be ambitious after a crisis by eliminating pre-crises inequalities of opportunities.

Reducing inequalities of opportunity requires confronting vested interests. It is not easy to confront the vested interests of privileged groups directly. But there are ample opportunities to unleash societies' full potential by levelling the playing field. That is the ultimate goal of development economics.

Dynamics of inequality in the regions of Russia in 2013-2023

By Demidova Olga[3]

The aim of this study is to examine the dynamics of income inequality across Russian regions over the past 11 years (2013–2023). To measure inequality, we use the Gini coefficient and the decile ratio (10/10 ratio). The analysis reveals substantial variation in inequality levels across regions, with the Gini index ranging from 0.32 to 0.49 and the decile ratio from 7.9 to 26.9. However, these indicators show limited variation over time. Overall, the level of inequality in Russia is relatively high. Nonetheless, between 2013 and 2023, there has been a general downward trend in inequality both at the national level and across most regions. For instance, Russia's Gini coefficient decreased from 0.417 in 2013 to 0.406 in 2020, further declining to 0.398 in 2022 before slightly increasing to 0.405 in 2023.

The first key question explored in this study is whether there is a relationship between the level of economic well-being in Russian regions and their respective levels of inequality. According to Kuznets' hypothesis, as economic development progresses, inequality initially rises until a certain threshold is reached, after which it begins to decline — suggesting an inverted U-shaped relationship between income inequality and economic development. To investigate whether Russian regions have followed this pattern, panel fixed-effects models were estimated.

$$GINI_{it} = \alpha_i + \beta_1 * mean_{it} + \beta_2 * mean_{it}^2 + c_t + \varepsilon_{it} \quad (1)$$

$$GINI_{it} = \alpha_i + \beta_1 * median_{it} + \beta_2 * median_{it}^2 + c_t + \varepsilon_{it} \quad (2)$$

$$10/10share_{it} = \alpha_i + \beta_1 * mean_{it} + \beta_2 * mean_{it}^2 + c_t + \varepsilon_{it} \quad (3)$$

$$10/10share_{it} = \alpha_i + \beta_1 * median_{it} + \beta_2 * median_{it}^2 + c_t + \varepsilon_{it} \quad (4)$$

where i denotes the region number, $t =$ 2013, …,2023 represents the year, $GINI_{it}$ is the Gini coefficient for region i at year t and $10/10share_{it}$ is the decile ratio for region i at year t. The main independent variables are $mean$, which is the ratio of per capita mean income to the minimum subsistence level, and $median$, which is the ratio of median per capita income to the minimum subsistence level. Additionally, α_i represents region-specific fixed effects, c_t denotes time effects, and ε_{it} is the error term.

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The estimates of β_1 were negative, while those of β_2 were positive, confirming the inverted U-shaped relationship between income inequality and economic development, consistent with the Kuznets hypothesis.

The next step of the analysis focused on determining whether Russian regions have reached a turning point, i.e., a level of income after which inequality would begin to decline. Using the estimates of β_1 and β_2, these turning points were calculated and compared with the minimum and maximum values of the variables $mean$ and $median$.

The results indicated that almost all Russian regions remain on the ascending branch of the Kuznets curve, meaning they have not yet reached the level of economic development after which inequality would start to decline. Therefore, the analysis shows that, so far, higher economic development is associated with higher levels of inequality in most regions. However, a few regions — notably Moscow and the Yamalo-Nenets Autonomous Okrug — are approaching the turning point.

An analysis of the time effects c_t further revealed that the level of inequality has been steadily decreasing since 2017, with particularly notable reductions in 2022 and 2023.

Economic inequality: evolving perspectives and future developments

By Maurizio Bussolo[4]

Some recent influential work on inequality

Economic inequality, defined as the unequal distribution of income and wealth among individuals and groups within a society, has been a persistent issue throughout history. In the recent decade, the study of economic inequality has gained renewed importance as economists and policymakers recognize its far-reaching implications for social and economic progress. This note explores the evolving perspectives on economic inequality over the past decade and examines potential developments for the next decade.

In the early 21st century, economic inequality was often viewed through the lens of market efficiency and individual responsibility. Traditional economic theories emphasized the role of free markets in promoting growth and prosperity, with less attention given to distributional outcomes. Over the past decade, there has been a significant shift towards inclusive growth, recognizing that high levels of inequality can undermine economic stability and social cohesion. Prominent studies include Joseph Stiglitz's "The Price of Inequality" (2012), Thomas Piketty's "Capital in the Twenty-First Century" (2014), Angus Deaton's "The Great Escape" (2013), Anthony Atkinson's "Inequality: What Can Be Done?" (2015), Branko Milanovic's "Global Inequality: A New Approach for the Age of Globalization" (2016), Emmanuel Saez and Gabriel Zucman's "The Triumph of Injustice" (2019), and Raj Chetty's papers on intergenerational mobility. These studies have profoundly shaped the understanding of economic inequality, highlighting its complex nature and the need for comprehensive, long-term solutions.

Four main themes of recent research

Inequality of outcomes and inequality of opportunities

Inequality of outcomes, such as incomes and wealth, remains a central focus of economic research and policy discussions. International organizations like the IMF and the World Bank have taken a more active role in addressing inequality. The World Bank's new corporate scorecard focuses on reducing the number of countries with a Gini coefficient greater than 40. However, challenges remain in accurately measuring the incomes of the wealthy, leading to discrepancies in inequality estimates. Alvaredo, Bourguignon, Ferreira, and Lustig's study "Inequality Bands: Seventy-five years of measuring income inequality in Latin America" (forthcoming) sheds light on this issue. Alternative approaches, such as using house prices as a

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predictor of household incomes, have been explored by van der Weide et al. (2018) to provide a more comprehensive picture of income inequality.

In addition to inequality of outcomes, the concept of inequality of opportunity has gained prominence. This refers to the idea that life outcomes should not be determined by circumstances beyond an individual's control. The Global Estimates of Opportunity and Mobility (GEOM) database provides valuable insights into the extent to which individuals' outcomes are influenced by their circumstances. By focusing on both inequality of outcomes and opportunities, researchers and policymakers can develop more effective strategies to address the root causes of inequality and promote social mobility.

Impact(s) of inequality

Recent research has highlighted the critical nature of inequality and its potential to hinder economic growth, lower the effectiveness of growth in poverty reduction, undermine social cohesion and mobility, and exacerbate insecurity and the crisis of the middle class. Studies such as Ferreira et al. (2017), Hsieh et al. (2019) and Marrero and Rodriguez (2013) point at the negative impacts of inequality of opportunity and misallocations on growth. Bourguignon (2003) shows that higher levels of inequality can reduce the effectiveness of economic growth in alleviating poverty and undermine social cohesion. The Great Gatsby curve, discussed by Corak (2012) and Krueger (2012), illustrates the relationship between inequality and intergenerational mobility, showing that higher inequality is associated with lower mobility. Additionally, economic insecurity has increased in European countries over the past decade, indicating a crisis of the middle class.

Global inequality

Global inequality has significant implications for both economic and social dimensions worldwide. Globalization has led to increased awareness of income disparities across countries, influencing perceptions of fairness and equity. Theories of justice, such as utilitarianism and "Global Rawlsianism" (Kanbur 2015), provide frameworks for understanding the ethical implications of global inequality. Reducing inequality can enhance overall social welfare by increasing the utility of those with lower incomes and ensuring equal opportunities regardless of birthplace.

Political economy of inequality

In democratic societies, political mechanisms should inhibit or reverse large rises in inequality. The Meltzer-Richard model (1981) suggests that high inequality should lead to higher levels of taxes and redistribution. However, perceptions of inequality can differ significantly from economic definitions, influencing policy preferences. Alesina and Glaeser (2004) study differences in preferences for redistribution, Gimpelson and Treisman (2018) discuss the misperceptions of inequality, while Bussolo

et al. (2021) examine how perceptions of inequality are formed. Additionally, the distinction between *de jure* and *de facto* control over government policies and institutions, as discussed by Acemoglu, Robinson (2013), can limit the extent of redistribution. Informal systems of redistribution and insurance also play a crucial role in mitigating inequality but can perpetuate certain social norms and inequalities. Rosenzweig and Stark (1989) and Bussolo and Dixit (2023) discuss how these systems can serve as informal insurance and redistribution mechanisms. Bachas et al. (2024) examine the impact of consumption taxes in economies with significant informal sectors.

The future of inequality studies

The study of inequality will be shaped by three main factors: cross-fertilization with other fields, technological advancements, and the ongoing challenges posed by climate change and other global shocks. Interdisciplinary collaboration with fields such as psychology, sociology, political science, and geography can provide deeper insights into the factors driving inequality. The impact of technology, particularly AI and robotics, on inequality is a critical area of study, with automation potentially leading to job displacement and increased inequality, as explored by Acemoglu and Restrepo (2016, 2017) and Bandiera et al. (2022). Additionally, the accumulation of digital data can influence future trends of inequality, with disparities in access to technology and digital literacy perpetuating inequalities, as discussed by Öhman (2024).

Climate change and other shocks, such as the COVID-19 pandemic, have had and will continue to have significant implications for inequality. These events can exacerbate existing disparities and create new vulnerabilities, disproportionately impacting marginalized and low-income communities. By integrating insights from various fields and addressing the complex factors driving inequality, researchers and policymakers can develop more effective strategies to promote equity and social justice in the years to come.

Building the economies of the future

By Piergiuseppe Fortunato[5]

The outcome of COP29 has been disappointing. At stake in Baku was the money needed to help poor countries shift to a low-carbon economy and adapt their infrastructure to the impacts of extreme weather. About $1.3tn a year will be needed by 2035 for countries to achieve this, and for the world to stay within the 1.5C limit. A deal on how to get some way to reaching that target was struck in that hall, but it was one so hedged, loose and half-hearted that many cried betrayal.

Only $300bn of the promised total will come directly from the budgets of developed countries and public finance institutions, such as the World Bank. The great majority of that money should be in the form of grants and low-interest loans, but loose wording means even that commitment is hedged – the cash could come from "a wide variety of sources, public and private, bilateral and multilateral and alternative sources".

This stalemate reflects the perversity of the challenge ahead of us. Only changing the existing narrative and aiming at a process of socio-economic transformation socially 'desirable' for a great majority of the world population would pave the way for an energy transition on the scale we need.

The greening opportunity

In a sense, the transition to a low-carbon energy system is already underway. The technological conditions have never been more favourable to reduce emissions and move towards a new energy matrix. The paradigm that once dominated environmental economics – that clean (low-carbon) energy would be costly but bring other benefits – is no longer true.

Energy transformation has picked up momentum over the past few years due to a combination of better technology and the benefits of scale. Prices of renewable energy from solar photovoltaics or wind are collapsing. In many parts of the world, renewable energies are now cheaper than fossil fuel-based production. Combining this with batteries, which are also collapsing in cost, or with gas turbines as backup, we should be able within 15 years to build green energy systems – electricity production systems which rely almost entirely on renewables, and which produce all the electricity that we eventually need – at very competitive prices.

A variety of complementary factors also contributed to the increase of clean energy investments. These include enhanced policy support through instruments like the US Inflation Reduction Act and new initiatives elsewhere; a strong alignment of climate and energy security goals, especially in import-

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dependent economies; and a focus on industrial strategy as countries seek to strengthen their footholds in the emerging clean energy economy.

A disappointing reality

Despite these undeniable progresses, however, global carbon emissions continue to grow at record levels with no signs of shrinking, leaving around 380 billion tonnes of CO_2 as the remaining carbon budget, which essentially measures how much CO_2 humans have released and how much has been removed from the atmosphere by the oceans and land ecosystems. This enormous amount of emissions is disastrous for the climate — at current levels, there is a 50 per cent chance that the planet will reach the 1.5°C global average temperature rise in just nine years.

The main challenge on the way to transition from a purely technological point of view is that we still have a whole set of functions in the economy, like producing critical materials required to embody our inventions, that do not depend on electricity and for which we still do not have a viable green alternative. Four materials rank highest on the scale of necessity, forming what Vaclav Smil calls the four pillars of modern civilisation: cement, steel, plastics and ammonia. They share three common traits: they are not readily replaceable by other; under a business-as-usual scenario we will need much more of them in the future; and their mass-scale production depends heavily on the combustion of fossil fuels, making them major sources of greenhouse gas emissions.

Profound challenges have to do also with the economics of energy transition. As pointed out in Brett Christophers' *The Price Is Wrong*, while it is true that renewables are becoming increasingly cheaper with respect to hydrocarbon resources, it is not just relative prices that determine how much capital will be invested in wind or solar parks. More important is how profitable these investments will be. And the anticipated returns are not yet comparable to those of fossil fuels. The reasons for this are many, but certainly the 'unbundling' of electricity markets, now divided between generation, distribution and retail, did not do any good: prices became too volatile to support the upfront capital investment that renewable generators require.

From a more structural point of view, reducing emissions is hard also because changing the sources of energy production from fossil fuels to renewables will impact trade, industry and government finance thereby altering income distribution and generating in the process winners and losers both within and between countries. Such a massive distributional impact will compound with the costs associated with early retirement of fossil fuel-based electricity-generating capacity ('stranded assets').

Green industrial policy

Therefore, we need to think about energy transition less in terms of carbon mitigation – the kinds of issues that are the focus of COPs – and more in terms of overcoming hurdles to economic transformation that is in essence a political economy challenge.

At the domestic level, addressing this challenge requires a strategic policy approach, going beyond standard mechanisms to internalise externalities. Although these measures have a role to play, there has been an increasing recognition of the fact that markets have failed to internalise environmental costs at the scale and speed required to steer economies towards energy and industrial transition. The reason is not only that markets perform poorly in mobilising and allocating large-scale resources under conditions of uncertainty, but also that the individual decisions of profit-seeking firms over the assets they control do not automatically align with the broader social demands implied by a large-scale economic transition. Targeted interventions at the sectoral and sub-sectoral levels have better chances to accelerate energy transition than across-the-board policy measures.

At the global level, we need to build capacity in developing countries where most of the emissions will take place. This can only happen through transfer of technology, including through a revision of the TRIPS Agreement along the lines of the waiver released during Covid-19, and a significant shift of resources to compensate the population of fossil-fuels rich economies for the opportunities lost because of non-exploitation of their reserves and to finance the cost of energy transformation that, just in emerging and developing economies, has been estimated at $1.3 trillion annually.

More in general, if developing countries are to build climate resilient development paths, a better mix of international resources and strengthen global governance is urgently needed. This will require scaling back unduly intrusive global rules in some areas and expanding the reach of the system in others, in order to provide a broader set of global public goods and to align international cooperation with economic, social and environmental goals.

SDG trade-related spillover effects and EU regulation on timber: assessing imported deforestation patterns

By Sara Balestri and Marcello Signorelli[6]

Deforestation and forest degradation[7] are driven by multiple factors, including population growth (leading to a higher global demand for food and feed), demand for bioenergy products and trade of timber and timber-related commodities (FAO, 2020). An estimated 420 million ha of forest has been lost worldwide through deforestation since 1990. Although the annual global rate of forest loss has decreased substantially (FAO, 2023), large heterogeneous patterns can be identified at the regional level: while Asian countries have performed remarkably well with a net positive change in forest cover over the past three decades, South America and Sub-Saharan Africa have lagged behind. However, different trends can also be traced here: while in Latin America the rate of deforestation, although still high in absolute terms, is slowing down over time, in Africa the net loss of forests is increasing.

Within this scenario, the Sustainable Development Goals Framework (namely, the SDG 15 – Life on Land) includes forests among the terrestrial ecosystems whose conservation, restoration and sustainable use have to be ensured by 2020 (target 15.1) and commits towards promoting sustainable management of all types of forests, halting deforestation, restoring degraded forests and substantially increasing afforestation and reforestation globally by 2020 (Target 15.2). Notwithstanding, global forest area continues to decline, primarily due to agricultural expansion, despite notable progress in sustainable forest management and such targets are unlikely to be met even extending the timeframe to 2030. Urgent action is imperative, especially in the Global South where the enforcement of sustainable forest management systems is more problematic.

Beyond the obstacles that countries face in implementing effective sustainable forest management, the actions of other countries - as they can generate positive or negative cross-border effects - can impact the ability of an economy to achieve the SDGs. According to Sachs et al. (2023), we can recognize different types of spillovers, namely environmental and social impacts embodied into trade; those related to economic and financial flows; and those related to multilateralism, peacekeeping and security effects. We argue that negative spillovers, as they can delay or even prevent the achievement of the SDGs by reducing the impact of domestic investments, especially in resource limited contexts (e.g. LMICs and Emerging Economies) should be monitored with caution. In an increasingly interconnected world characterized by

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[7] We rely on the definitions of 'deforestation' (that is, the conversion of forest to agricultural use, whether human-induced or not) and 'forest degradation' (that is, the structural changes to forest cover, taking the form of the conversion of: (a) primary forests or naturally regenerating forests into plantation forests or into other wooded land; or (b) primary forests into planted forests) as provide by the European Commission.

long, complex and often cross-border supply chains, in fact, it becomes essential to measure the unintended externalities generated by the countries' consumption levels in other economies.

As far as regards deforestation, the European Union is increasingly aware of its role as a major economy and consumer of these commodities linked to deforestation and forest degradation abroad. For example, the recent Regulation (EU) 2023/1115 on deforestation-free products requires that the products EU citizens consume do not contribute to deforestation or forest degradation worldwide, thus avoiding the generation of environmental spillovers.

In this work, we focus on environmental spillovers to assess the role of global trade to hinder SDGs' achievement in Emerging Economies. Despite a growing interest on socio-economic spillovers – such as child labour (Gómez-Paredes et al., 2016) and occupational health (Malik, Lafortune, Carter, et al., 2021; Malik, Lafortune, Mora, et al., 2024) – the environmental dimension remains overlooked. To contribute filling this gap and provide useful insights with respect to deforestation-related issues, we undertake a comprehensive assessment of the imported deforestation[8] embodied in the goods that are ultimately consumed by European countries, particularly focusing on timber and timber-related commodities. The research aim is twofold: i) providing a systematic exploration of the EU-consumption impact and ii) identifying entry points to improve policy-related tools and facilitate coherence between national and international policies. This is a work-in-progress research still at the initial stage of analysis; however, the preliminary descriptive results already provide some interesting insights.

The EU-27 imports are estimated to have contributed to an average imported deforestation rate of 23.36 m^2/capita in 2022, roughly corresponding to a surface of 8,313 km^2 in origin countries. After a remarkable increase of the imported deforestation rate after 2015, today the EU-27 is on its path to reducing such spillover reporting an overall variation of - 2.84% over the period 2016-2021. However, heterogeneous trends are reported across European countries: while Italy and Germany – leading importing countries – drive the overall decreasing trend, northern European countries are increasing their spillovers, instead. According to the Global Commons Stewardship Index 2024, among the production sectors in origin countries where the analysed negative impact occurs most (i.e., local deforestation driven by the production of trade commodities), agricultural production (such as fruit and nut cultivation, legume crops and oilseeds) and, above all, forestry and logging stand out. This suggests that land use changes towards agricultural development and forestry often fail to meet sustainable forest management schemes[9], which, to varying degrees, are increasingly present in both advanced and emerging economies. A relevant

[8] Imported deforestation refers to deforestation occurring abroad caused by the production of those goods imported for final consumption locally (Sachs et al., 2023). It is measured in m^2/per capita.

[9] According to the Helsinki Resolution (1993), sustainable forest management is a dynamic and evolving concept which implies that "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems".

share of the timber produced – especially in the Global South – is destined for export and the European market results as one of the major trade destinations. For this reason, we decided to focus on imports of timber and timber-related commodities as they are linked to a prominent source of imported deforestation spillover, although this production sector does not entail the whole dimension of the spillover under scrutiny.

We operationalize this choice by referring to the category HS44 (2 digits) - i.e. Wood and articles of wood – from COMTRADE database for the period 2016-2022 to roughly measure the trade flow of interest. The EU-27 gross imports in 2022 correspond to 64,073.33 (million USD), with the main importing countries being Italy (12%) and Germany (19%). Once we examine the non-EU countries of origin, we note that up to 70% are emerging economies (such as China, Brazil, Indonesia and the Russian Federation) denoting a clear trade pattern and making our initial consideration about the opportunity of analysing imported deforestation spillovers highly relevant in a development perspective. In addition to that, three exporting countries are implementing or negotiating a Voluntary Partnership Agreement (VPA)[10] with the EU under the Forest Law Enforcement, Governance and Trade (FLEGT) initiative.

From this introductory scenario we derive some preliminary reflections and those questions that will guide our research work.

First, despite an increasing number of countries adopting forest regulation measures, forestry and logging remain the primary production sector connected with environmental spillovers (that is, imported deforestation), suggesting the existence of poor national governance systems which call for substantial enhancement. So, considering timber and timber-related commodities trade, where are the greatest impacts of European consumption recorded? Which regulations are adopted in these countries? To answer to these questions, we will reconstruct European imports to estimate imported deforestation spillovers by means of Global Resource Input Output Assessment (GLORIA) – multi-regional input-output (MRIO) data and then scrutinize the forest regulations adopted in origin countries.

Second, the world currently does not have a global governance mechanism to coherently address spillover impacts associated with unsustainable global supply chains. With the EU being one of the largest importing markets, can EU forest policy achieve effective results in reducing spillover impacts on forests globally? Are the countries with Voluntary Partnership Agreements characterized by lower levels of (European) imported deforestation? We will explore possible heterogeneity of imported deforestation according to the existence of policy regulations and we will use current data as baseline provide some scenario analysis on the effect generated by the implementation of the Regulation (EU) 2023/1115 on deforestation-free products.

[10] A Voluntary Partnership Agreement (VPA) is a legally binding trade agreement between the EU and a timber-exporting country outside the EU. A VPA aims to ensure that all timber and timber products destined for the EU market from a partner country comply with the relevant laws of that country.

Social capital and CO_2 emissions in emerging markets

By Luca Andriani, Panagiota Makrychoriti, and Emmanouil G. Pyrgiotakis[11]

Reducing carbon emissions is a global challenge, with corporate CO_2 emissions being a major contributor to climate change (Hossain et al., 2023). Firms face growing pressure from stakeholders, including banks, customers, investors, and regulators (Kacperczyk and Peydró, 2022; Deng et al., 2023; Azar et al., 2021; Bartram et al., 2022), to adopt pro-climate strategies. However, the limitations of international regulations (Homroy, 2023) necessitate the integration of cultural and social values into corporate decision-making.

Social capital, defined as shared trust, values, and networks that foster cooperative behaviour (Guiso et al., 2011), may drive such strategies by encouraging long-term, community-oriented decisions (Putnam, 1993; Fukuyama, 1995). This forward-looking, community-oriented ethos can encourage firms and decision-makers to prioritize sustainability, making social capital a potential catalyst for climate cooperation. Despite its well-established economic benefits (Knack and Keefer, 1997), the role of social capital in corporate climate behaviour remains underexplored.

This study investigates whether social capital reduces corporate CO_2 emissions in emerging economies, focusing on: (i) whether firms in high-social-capital countries emit less, and (ii) whether CEOs from high-social-capital backgrounds influence their firms' emissions.

Emerging economies, characterized by rapid industrialization and weaker formal institutions, offer a unique context to examine the link between social capital and CO_2 emissions. These economies face rising emissions risks as industrial activities grow, with the Asia-Pacific region alone contributing over 50% of global greenhouse gas emissions and driving 80% of coal demand growth. In such settings, cultural values and networks play a critical role in shaping corporate decisions (Cuervo-Cazurra and Genc, 2008; Elango and Pattnaik, 2007).

Analysing 6118 firm-year observations for 1094 firms in emerging markets (2008–2023), we use the Legatum Institute's Social Capital Index and Refinitiv CO_2 emissions data, encompassing both direct (Scope 1) and indirect (Scope 2) emissions. Our findings show a robust negative association between social capital and firm level emissions, with civic and social participation and social networks showing the strongest correlations due to their prosocial nature (Andriani and Christoforou, 2016). These results remain robust across various control variables and fixed-effects models.

We extend our analysis to explore the impact of CEO social capital measured by the social capital score of their country of origin on corporate CO_2 emissions. Prior studies highlight the impact of CEO

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characteristics, including personality, cultural background, and gender, on strategic decision-making and corporate carbon emissions (Gupta et al., 2019; Naeem and Khurram, 2020; Liu et al., 2023; Barroso et al., 2024; Hossain et al., 2023).

Social capital may encourage pro-climate managerial behaviour by fostering cooperation (Putnam, 1993), prioritizing long-term strategies over short-term gains (Anand and Poggi, 2018), and aligning decisions with prosocial values (Bogaert et al., 2008). Our findings confirm a strong negative association between CEO social capital and corporate CO_2 emissions.

This relationship is most pronounced for domestic CEOs and diminishes for foreign CEOs unless they originate from countries with stronger social capital than the firm's host country, where the negative association re-emerges. To address endogeneity, we employ two strategies. First, a two-stage least squares instrumental variable (2SLS IV) regression uses net migration as an instrument (Guiso et al., 2004; Lesage and Ha, 2012). Second, a difference-in-differences (DiD) analysis, inspired by Hossain et al. (2023), leverages CEO replacements as a quasi-natural experiment. Post-replacement, firms with CEOs from high-social-capital countries show significantly lower emissions compared to those that replaced a domestic CEO with another domestic one.

To understand the mechanism, we conduct a channel analysis. Firms with high-social-capital CEOs set ambitious emission reduction targets, signalling genuine commitment rather than slower growth. Subsample analyses show the effect is strongest in firms with low environmental scores, high climate-risk countries, and post-Paris Agreement.

Robustness checks include two-way clustering of standard errors and excluding India and China the largest countries by population from the sample. The results remain consistent across these tests.

This study contributes to the literature on cultural factors and informal institutions in economic and financial development (Guiso et al., 2004; Zingales, 2015), with social capital shown to influence corporate outcomes like innovation, risk-taking, and performance (Gupta et al., 2020; Ferris et al., 2017). Closest to our work, Jha and Cox (2015) link U.S. county-level social capital to corporate social responsibility (CSR) scores.

Our study differs in two critical ways. First, we focus on emerging markets, where weaker institutions, less stringent environmental regulations, and diverse economic conditions uniquely shape the social capital-emissions relationship. Second, unlike CSR scores, which may reflect disclosure rather than actual environmental outcomes (Drempetic et al., 2020; Raghunandan and Rajgopal, 2022), we directly measure firm-level carbon emissions, providing a more precise assessment of environmental performance.

By focusing on carbon emissions in emerging economies, our research advances the understanding of how cultural values and informal institutions influence firms' climate actions.

The impact of drought on education in rural Thailand: a synergy between SDG-4, SDG-2, and SDG-13

By Samuele Milone[12]

Introduction

Rural communities in developing countries face unique challenges when climate shocks disrupt their livelihoods. In Thailand, where rice cultivation underpins both the economy and food security, droughts have wide-reaching implications. This essay summarises findings from a study investigating how drought affects children's education in rural Thailand, focusing on enrolment and grade delay, while highlighting the vulnerabilities of agricultural households.

Data and methodology

This study draws on the Thailand Vietnam Socio-Economic Panel (TVSEP), a dataset encompassing nine waves of household and village surveys conducted from 2007 to 2022. The sample comprises over 3,000 individuals and more than 8,000 observations across 220 villages in 45 districts. Drought exposure was identified through self-reported shocks experienced in the previous year, while a dummy variable for agricultural households was constructed based on rice production. Households producing less than 25% of rice for personal consumption were categorised as market oriented.

To analyse the effects of drought on educational outcomes, a multilevel regression model was employed, with individuals nested within villages. Random intercepts at the village level accounted for unobserved heterogeneity, and standard errors were clustered at the district level. Three model specifications progressively introduced control variables, including household size, parental education, and village characteristics, to isolate drought's impact and its interactions with household agricultural dependence.

Results

The findings reveal no significant impact of drought on school enrolment, suggesting that families may prioritise education even under economic strain, and that schools in affected areas may ensure consistent access. However, drought does affect grade delays, particularly for farming households reliant on rice production. In these families, the likelihood of grade delay reaches 20%, with the effect magnified during severe droughts.

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The impact varies by education level: while primary education remains unaffected, drought increases the risk of grade delay by 25% in lower-secondary school and 37% in upper-secondary school. These findings underscore the compounded vulnerability of agricultural households and the growing educational disparities as students' progress through higher school levels.

Policy implications

The results highlight the need for targeted interventions to mitigate drought's educational impact on farming communities. For rice-farming households affected by severe droughts, direct support measures—such as educational subsidies or conditional cash transfers—can help offset financial strain and prevent grade delays. Upper-secondary students, who face the highest risk, should be prioritised in these interventions.

In addition to short-term relief, long-term strategies must strengthen rural communities' resilience to climate shocks. Investments in drought-resilient agricultural practices, such as improved irrigation systems and climate-adaptive crops, are essential to stabilise livelihoods and indirectly support educational outcomes. Policymakers must also integrate educational and agricultural policies with climate action, addressing interconnected Sustainable Development Goals (SDGs): promoting climate resilience (SDG 13), safeguarding food security (SDG 2), and ensuring inclusive and equitable education (SDG 4). Lastly, robust monitoring frameworks are necessary to evaluate the educational impacts of climate shocks over time and refine policies accordingly.

Conclusion

While drought does not appear to significantly affect school enrolment, its impact on grade delays reveals the vulnerability of farming households to climate shocks, particularly those reliant on rice production. Older students are disproportionately affected, highlighting the compounded challenges faced during critical educational transitions.

Effective policy responses must balance immediate relief measures with long-term resilience-building strategies. By safeguarding rural livelihoods and addressing both economic and educational vulnerabilities, policymakers can help secure a better future for children in farming households while strengthening the overall resilience of rural communities to an increasingly unpredictable climate.

Emerging economies in Global Value Chains: what should we expect for the future?

By Alessia A. Amighini[13]

Global Value Chains (GVC) have been massively shaped by participation of emerging economies. Emerging economies' participation in GVC is one of the most outstanding developments in the global economy since the mid-1990s. Until the 1980s, North-North trade dominated global trade flows. Then, South-North trade and South-South trade have risen sharply.

The People's Republic of China (PRC) is clearly at the centre of this trade growth: its share of global exports increased sixfold in the span of 40 years (now 14% of global, making it the world's top exporter). Besides China, other countries benefited from the massive relocation of production activities from the North: most notably, Vietnam, Malaysia and Thailand in Southeast Asia, Slovakia, Hungary, Czech Republic and Bulgaria in Eastern Europe, Tunisia and Morocco in North Africa. These countries engaged mostly in so-called backward participation, i.e. the share of foreign value added in their exports. Overall, the North's declining share of global exports, down from 80% in 1991 to 60% in 2018, mirrors the South's share of global exports up from 20% to 40% over the same period. This trend faced a significant halt in 2018, when a withdrawal from free trade started in the United States, with the introduction of tariffs on imports from China. This contributed to reduce not only US imports from China, but also the ability of other countries to continue exporting, being engaged in China-led regional value chains, as in the case of Malaysia.

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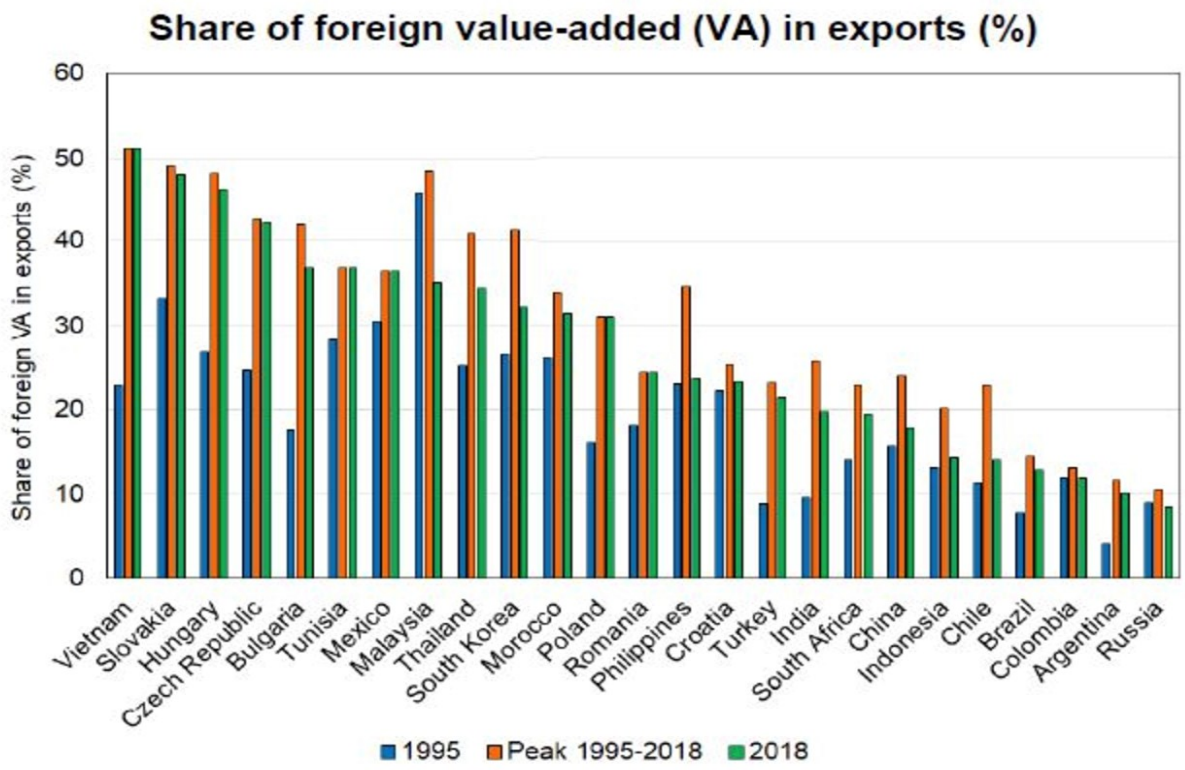
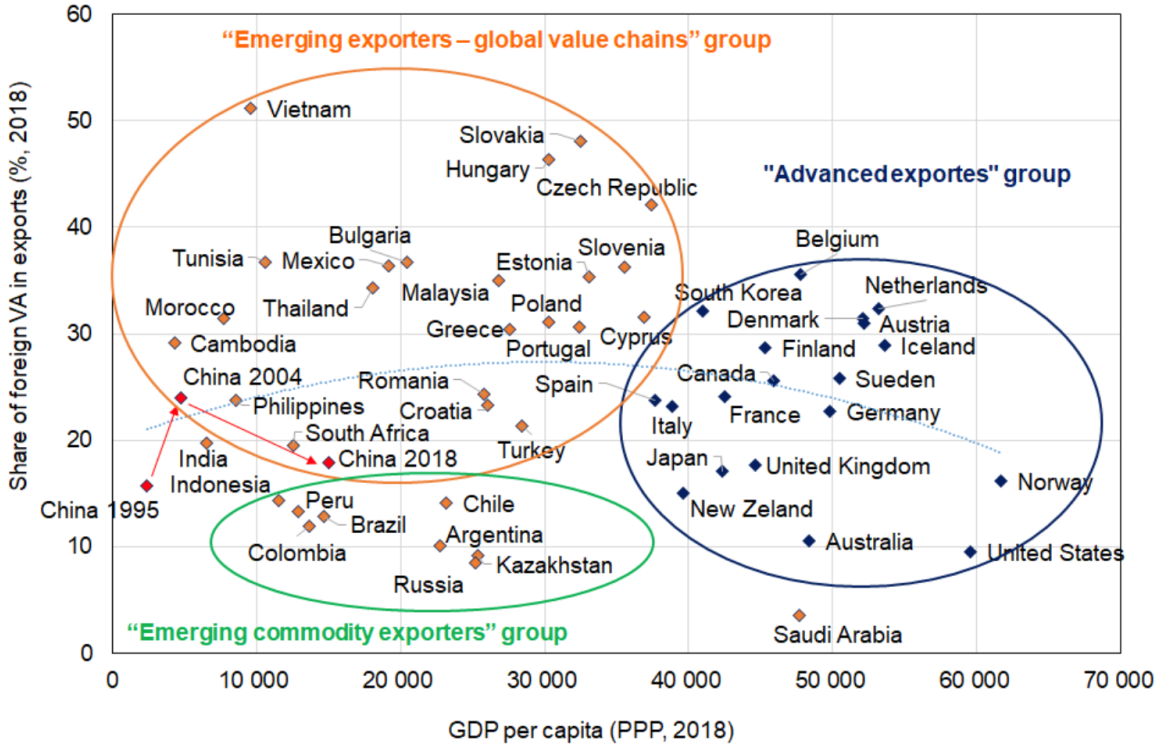


Source: OECD (TiVA).

Other emerging economies with important shares in GVC, like Vietnam, did not experience severe decline in GVC participation, instead they actually maintained their share of foreign value added in exports. Vietnam in fact partly replaced Chinese exports to the United States.

Moreover, the current trade circumstances – namely the ongoing trade war between the United States and China – which clearly reduced the potential for further participation of emerging exporters in GVC, there is also a general trend to be considered. There seems to be a 'natural' decline in backward GVC participation as the GDP per capita increases. This is what stands out from comparing emerging exporters to advanced exporters. There seems to be a negative correlation between trade integration and level of development, which is likely to be due to the higher production capabilities of advanced economies, and therefore higher domestic value added in their exports compared to foreign value added.



This suggests that the halt in GVC participation due to the beginning of trade frictions between the United States and China in 2018 might have anticipated a trend that we should have expected in any case. In the absence of their role in GVCs, some emerging economies may face a decline in growth before developing domestic production capabilities beyond mere assembly or simple processing. There is an increasing uncertainty in international trade relations during the second presidential mandate for President Trump – who already announced some peculiar ideas that could lead to an unprecedented agreement between the United States and China for a target amount of US exports to China. This further adds to the specific uncertainty faced by emerging economies regarding their future role in the global economy.

Global Value Chains, climate change and environment

By Chahir Zaki[14]

Introduction

Environmental concerns are becoming more and more important in today's globalized world. This topic becomes even more relevant with the increasing participation of developing countries into global value chains (GVC) that represent almost 70% of the current trade flows. Since environmental conservation is essential to halting climate change, it is crucial to understand the bidirectional relationship between Global Value Chains (GVCs) and climate change on the one hand; and GVC and the environment on the other, which makes the analysis rather complicated.

How GVC affect climate change and the environment?

GVC has an effect on carbon emissions and the environment via several channels. First, the technique and competition effects refer to the case where green technologies and eco-friendly products benefit the environment and enhance its quality (but not in early-stage participation in GVC) (Wang et al., 2019). Second, GVC can affect the environment through international transport related to trade that is linked to increases in carbon emissions (OECD, 2017). Transport pollution is higher in GVC compared to standard trade since product crosses borders many times. Finally, according to the Pollution Heaven Hypothesis, multinational firms operate in countries with lenient environmental laws in order to avoid costly environmental requirements, making these countries pollution heavens (Ben David et al., 2020). Bazillier et al. (2024) show that forward GVC participation increases carbon emissions and has an environmental downgrading effect. However, this effect is attenuated by the number of laws related to the environment and to the existence of environmental provisions that are legally enforceable.

To what extent is GVC affected by climate change and the environment?

Developing countries face a double risk that could affect their participation in GVCs: on the one hand, these countries may face a "*physical risk*" associated with natural disasters and resulting in output losses, reduced FDI, and reduced participation in GVCs. On the other hand, these counties face a "*transition risk*" related to the necessary adjustments in regulations, production techniques, and energy deployment (Beirne et al., 2021). Aboushady and Zaki (2024) distinguish between these two risks and find that physical risk from climate change (measured by natural disasters and death from natural disasters) is negatively,

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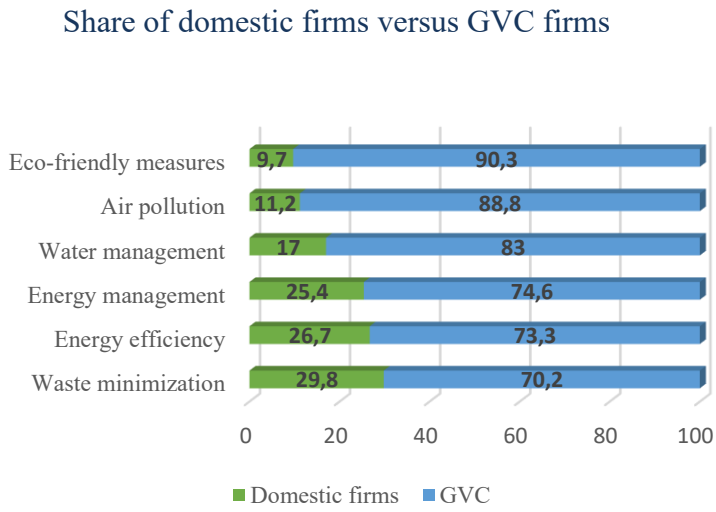
yet weakly associated with participation in GVCs. On the other hand, CO2 emissions (per-capita and from manufacturing) have a negative impact on GVC participation, while increasingly shifting to renewables increases GVC participation. In the same vein, Fayek and Zaki (2023) examine the impact of environmentally oriented investments on the firms' integration into GVCs. The evaluation of the firm's environmental performance is based on its engagement in different environmental actions, namely adopting an eco-friendly energy generation, energy management measures, any measures that enhance energy efficiency, air pollution control measures, water management measures or waste minimization, recycling, and waste management measures. Using firm-level data in 41 countries from the Business Environment and Enterprise Performance Survey (BEEPS), they show that firms could raise their opportunity to participate in GVCs by adopting environment protection actions through the mediation of productivity gains, yet the impact of adopting such actions on the intensity of GVC participation tends to be negligible. This figure shows that the share of GVC firms, among those who adopt environmental actions, is higher than the corresponding share of domestic firms. Hence, GVC firms tend to have a higher environmental performance. Nevertheless, the authors do not show noticeable evidence of a positive association between environmental upgrading and the intensity of participation in GVCs. Therefore, environmental performance may be affecting the probability of integration in GVCs rather than the intensity of GVC participation, which confirms the fact that such measures should be perceived as a fixed cost for GVC firms. Similarly, larger firms are more likely to experience a raise of their chance to participate in international trade through environmental upgrading rather than their smaller counterparts. Another strand of the literature analyses the impact of GVC participation on environmental performance (Agostino et al, 2023 and Siewers et al, 2024) and shows that firms that are part of GVC are more likely to implement environmental measures.



Source: Fayek and Zaki (2023)

The way forward

From a policy perspective, major and significant environmental challenges that threaten sustainable development have forced the elaboration of multiple national and international environmental policies and regulations, though few significant positive outcomes have been achieved in terms of sustainable

development. This is why making trade agreements more environmentally friendly by including legally enforceable provisions that are complemented by effective national laws will make both trade and GVC flows cleaner. In addition, to help firms abide by these regulations, governments need to provide incentives for firms, given that the adoption of clean technologies is usually associated with significant costs and requires the reshaping of the production organization. This can take place through adequate public investments, notably in green infrastructure that raises the firms' private benefits and through technical and financial support to firms investing in sustainable practices, especially small firms to help them abide by more stringent environmental regulations.

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Shifting away from China towards emerging countries? A critical assessment of economic decoupling so far

By Giovanni Graziani[15]

The scope of the study is to measure the process of decoupling between the US and China as it appears in trade and foreign direct investments (FDI) flows through various pieces of evidence: official data on international trade and FDI, the behaviour and intentions of the firms involved as they show up from surveys, databases from various institutions, case studies and anecdotical evidence. The analysis spans through the period 2017-2023, with glimpses on the first eight months of 2024.

Through the appropriate indicators I try to quantify the supply-switching and export re-orientation taking place on both sides of the Pacific. As a whole, import dependency and export reliance show a decline for both contenders (that is, some decoupling is taking place). On the import side, if we look at commodity groups at a very high level of aggregation, we find that US import dependency on China has fallen in most of the 97 HS sectors at the 2-digit level. However, if we dig at a more disaggregated level, from the 4-digit to the 10-digit level, the picture appears to be more complex. Decoupling is not occurring uniformly but varies according to the different products. China lost market shares in all products hit by 25% US tariffs, and in many other products, either hit with lower tariffs or not hit with tariffs at all. But it does not materialize for many products not targeted by US protectionist policies, which even show an increase of dependency.

The decline in bilateral trade between the US and China has been offset by trade with other countries. The major role in market share gains were obtained by Mexico and Vietnam both in total US imports and also at the level of individual product groups. Other emerging countries have gained smaller market shares at least in a few products. The relative role and place for the various industrial sectors of the emerging countries are being dictated by their export specialization, factor intensities and trade agreements. On the US export side as well not all product groups behaved in the same way. Three out of the four major export manufacturing product groups at the 2-digit level showed a loss in the share of China in US exports to the world (US export reliance) more important than the average in total exports. As for China's import dependency on the US, the pattern is that of a general reduction. China's import dependency however might have declined even further at a more disaggregated level: such is the case for instance of its imports of some goods deemed of strategic importance by US policymakers.

On the other side, both China and the US seem to have re-directed a substantial amount of imports and exports away from each other in favour of alternative destinations, especially emerging countries like

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Mexico and Vietnam, and, at lower levels, of various Asian countries (apart from Europe and other developed countries that are not the object of the present research). Mexico has become the main source of imports and the main outlet for US goods. As for the second piece of evidence, the data shows that FDI flows in both directions have declined: those coming from China went even negative as from 2020. On the contrary, FDI flows remained sustained towards the rest of the world, in particular towards some emerging countries. The percentage increase of US outward FDI stock towards Vietnam and Mexico was more than the double compared to the one directed to China. On the other side, in 2023 China turned for the first time into a capital exporter country.

Unlike in the past, most of the Chinese outward FDI went to emerging countries. The third piece of evidence on decoupling comes from the actions and the intentions of firms, mostly Multinational Enterprises (MNEs). Here no complete set of data exist. We have to rely on surveys, case studies, anecdotical evidence, MNEs' callings and the like. A trend away from China-based sourcing had already begun in the 2000s, when companies started to adopt "China+1" sourcing, as China started looking less attractive relative to other Asian countries and countries like Mexico. For the first time in about 25 years, China is not a top three investment priority for a majority of firms from the US and from many other investor countries. Some anecdotical evidence of firms shifting away from China is presented, alongside the actions of China's multinationals joining the race. Earnings conference calls conducted by listed firms speak more and more frequently of potential shifts in offshoring arrangements away from China.

In order to diversify their supply chains away from China many companies have decided to invest elsewhere, in particular in a process of nearshoring. Many US firms have increased their announcing of nearshoring. A large part of this nearshoring FDI to Mexico has been made by Chinese companies. In order to gauge more precisely the real extent of decoupling we discuss further the question whether some emerging countries function as a backdoor to the US market, in particular Mexico and Vietnam. Some correlations between trade and FDI flows in the trilateral relationship among the US, China and those emerging countries, plus some anecdotical evidence, are at best suggestive that they operate as such, but, unfortunately, cannot offer a precise measure of their impact on decoupling.

One can only safely say that US actual dependency on China is possibly larger than it appears and, conversely, the process of decoupling might be milder than generally thought. A portion of disguised dependency may be due to the ties created through some emerging countries functioning as a backdoor to the US market. Unfortunately, these are not easily quantifiable. Finally, we remind that the decision to completely or partially leave China through shutting subsidiaries still remains a difficult choice for many multinational enterprises. Despite its rising labour costs, China continues to be competitive under many aspects. US import dependency on Chinese products remains high in several sectors. On the whole, the main ingredients of the "economic embrace" between the two superpowers appear to be still in place.