

Economic Nationalism and Agricultural Policies: A Panel Data Analysis of the Impact of Trade openness on Agricultural Structures in Selected Countries

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Abstract

This study analyses the relationship between economic nationalism and agricultural policies within a historical, theoretical and empirical framework. A comparative analysis of India, Turkey, Russia, Brazil, Egypt and China reveals nationalist aspects of agricultural policies focusing on domestic production and food security. Using panel data from 1990 to 2024, the empirical analysis reveals that openness to trade reduces the agricultural share of Gross Domestic Product (GDP); however, this effect varies across countries. The findings suggest that economic nationalism is a resurgent trend in agriculture.

1. Introduction

Economic nationalism is defined as the set of strategic measures adopted by nations to establish, strengthen and protect their domestic economies within the context of the global market. In our era of widespread global integration, economic nationalism seeks to influence economic decisions in accordance with national interests via a state-centred approach.

Pryke (2016) defines it as ‘policies aimed at building, supporting and protecting national economies’; these often include tools such as trade

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protectionism, restrictions on foreign direct investment, immigration control and avoidance of multinational agreements. Classifying this approach into six key policy areas demonstrates that economic nationalism can be understood as practice-based rather than ideological.

While economic nationalism is generally evaluated theoretically through policy tools such as tariffs, investment restrictions and domestic production incentives, a motivation-focused definition has recently emerged in the literature. This approach focuses on whether a policy prioritises national interests, i.e. whether it has a national goal, rather than its formal content (Pryke, 2016).

A subsidy or tariff measure is evaluated not only as an intervention tool, but also based on its implementation purpose. If the primary objective is to protect domestic firms in international competition, build strategic independence or increase economic autonomy, these policies are classified as economic nationalist policies (Helleiner, 2002; Pryke, 2016). Clift and Woll (2012) further expand on this, stating that free market-oriented policies, as well as protectionist measures, can be considered part of economic nationalism if implemented with the aim of 'serving the national interest'. This is particularly evident in practices shaped around the concept of 'economic patriotism'.

In line with this approach, the motive-based approach argues that economic nationalism should be evaluated based on its purpose rather than its form. This suggests that both protectionist and selective liberalisation policies can be categorised as economic nationalism when they are designed with national motives.

The concept of economic nationalism was theoretically developed and put into practice alongside nation-state building processes in the 19th century. One of the most notable contributions to this historical development was made by the German political economist Friedrich List. In his work *The National System of Political Economy* (List, 1841), List argued that free trade only benefited developed countries, and that industrialised countries should implement temporary protectionist policies to protect their infant industries.

By the 20th century, and particularly following the Great Depression of 1929, many countries, notably the United States, adopted economic nationalist policies involving import restrictions, public investment and tariffs (Helleiner, 2002). Following World War II, in line with Keynesian

ideas about state intervention, industrial policies, development planning and import substitution approaches were institutionalised (Block, 2003).

However, in the historical cycle of economic nationalism, the influence of these approaches declined with the rise of neoliberal globalisation discourse in the 1980s. Nevertheless, after the 2008 global financial crisis, the role of the state in the economy was brought back onto the agenda, and the protection of strategic sectors, reduction of import dependency and discourse of 'economic sovereignty' were revived within the framework of economic nationalism (Pryke, 2016; Helleiner, 2021).

Economic nationalism intersects with mercantilist thinking, placing national interest at the centre of economic planning. It has made a strong comeback in the 21st century, particularly as issues such as inequality and external dependency caused by globalisation have been revisited. This resurgence is characterised by the concepts of 'neo-mercantilism' or 'new protectionism' (Evenett & Fritz, 2019; Hopewell, 2017).

The most visible example of this resurgence was the policy agenda of former US President Donald Trump between 2017 and 2020. During his presidency, additional tariffs were imposed on China, NAFTA was revised into USMCA, and strategic nationalism was implemented in foreign trade under the 'America First' doctrine (Bown & Kolb, 2021; Farrell & Newman, 2019). These policies demonstrate a shift away from classical liberal trade rules towards protecting national production, security and labour markets.

The Trump administration's actions have been interpreted as both populist rhetoric and a strategic repositioning aimed at preserving US economic hegemony (Helleiner, 2021). The 25% and 10% tariffs imposed on the steel and aluminium sectors have been explained in both economic and geopolitical terms (Bown, 2018). This situation has revealed that trade is not solely based on efficiency and mutual gain, but is also shaped by power relations.

Indeed, in light of these developments, economic nationalism has become an increasingly prevalent policy among both developed and developing countries. The first quarter of the 21st century is regarded as a new form of mercantilism, in which the liberal trade system has been restricted, supply chains have been reorganised on a 'domestic' basis, and economic autonomy has emerged (Tooze, 2021).

Although the Joe Biden administration has adopted a more open and multilateral approach, many of the economic nationalist policies established during the Trump era have been preserved and even institutionalised. This

situation has been defined as ‘strategic economic nationalism pursued within liberal rhetoric’ (Chin & Nolan, 2022).

Notably, the CHIPS and Science Act of 2022 directly supports semiconductor manufacturing, clean energy, and advanced technology sectors with federal subsidies, imposing conditions such as ‘domestic production’ and ‘job creation in the US’ on investments in these areas (White House, 2022). The Inflation Reduction Act (IRA), which came into effect in the same year, not only promotes environmentally friendly transformation, but also aims to encourage domestic green industrialisation (Pisani-Ferry et al., 2023). These regulations aim to increase the strategic autonomy of the US in the most critical areas of global competition.

As part of this, the Biden administration has started to promote ‘friend-shoring’ and ‘near-shoring’ policies with its allies. These policies are not protectionist, but rather seek to maintain geopolitical balances against China (Rodrik, 2023). This type of economic nationalism envisages restructuring supply chains within political boundaries rather than practising direct mercantilist protectionism.

These measures aim to protect the domestic market and secure strategic technological superiority and long-term economic hegemony against rival powers such as China. Therefore, Biden-era policies constitute a new form of economic nationalism that is more aligned with the tradition of ‘state-guided industrial policies’ than with classical liberalism (Zhao, 2023a).

These developments are not limited to the United States. In response to US subsidies for the green industry, the European Union introduced the Net-Zero Industry Act and the Critical Raw Materials Act in 2023. These regulations combine green transformation policies with strategic industrial incentives and aim to reduce external dependency (Zachmann et al., 2023; Meunier & Nicolaidis, 2019). This reflects a new mercantilist orientation that deviates from traditional free trade norms and aligns with the rhetoric of ‘Europe’s strategic autonomy’.

China’s “Made in China 2025” strategy prioritises domestic production and balances foreign investment with the aim of achieving global leadership in high-tech sectors. This process, involving public procurement, technology transfer requirements and state-backed firms, is often criticised in Western literature as ‘state capitalism’ and ‘asymmetric competition’ (Kennedy, 2020; Naughton, 2018).

Similarly, India’s Atmanirbhar Bharat (Self-Reliant India) policy combines classic protectionist policies with modern development strategies, such as

import substitution, subsidies for domestic production and localisation targets in strategic sectors (Singh, 2021). Similar trends have been reported in Brazil under the Bolsonaro administration in sectors such as healthcare, defence, and agriculture, where domestic firms are prioritised and tendencies towards nationalisation are observed (Pinheiro & Costa, 2022).

These global examples demonstrate that today's economic nationalism is not merely a return to protectionist policies, but rather a multidimensional transformation centred on technological superiority, supply security and strategic independence. Unlike classical mercantilist approaches, today's economic nationalism is supported by not only trade policies, but also industrial policy, investment regimes and state-supported innovation strategies (Rodrik, 2023; Zhao, 2023a).

Various crises facing the world, such as security issues in Mali, the Russia–Ukraine war, the Kyrgyzstan–Tajikistan conflicts, and the ongoing Israel–Palestine conflict over land acquisition or ideological reasons, raise questions about the resurgence of economic nationalism and the limits of economic liberalism. These developments raise serious questions about the stability of the international system and the sustainability of the global economic order.

The pandemic has claimed millions of lives and increased migration, exposing the limits of economic liberalism and paving the way for nationalist ideas. Nationalism prioritises an intellectual construct called 'nation' and its claims, whereas liberalism is based on the principles of freedom and individual responsibility.

Historically regarded as harmful to societal, national, and international development, economic nationalism is increasingly being embraced in both the political arena, as evidenced by the rise in nationalist parties, and in the shaping of economic policies.

Table 1 below provides a systematic comparison of the objectives, tools and legal regulations of policies pursued by countries. In both developed countries (e.g. the United States and the European Union) and developing economies (e.g. India, Turkey and Indonesia), economic nationalist policies are observed to be implemented with similar objectives, albeit through different institutional and sectoral designs.

Table 1: Nationalist Policies Pursued by Countries

Country/ Region	Key Policy Laws/ Initiatives (Year)	Key Objectives	Main Tools	Main Sources
USA	Trade War Tariffs (2018); USMCA (2020); CHIPS Act (2022)	Technological autonomy; withdrawal of production; employment protection	Customs duties; subsidies; investment screening	Bown & Kolb 2021; Rodrik 2023; White House 2022
	Inflation Reduction Act (IRA, 2022)			
European Union	Net-Zero Industry Law (2023); Critical Raw Materials Law (2023)	Green industrial capacity; security of supply	Subsidies; regulatory targets; public funds	Zachmann et al. 2023; Meunier & Nicolaidis 2019
China	Made in China 2025 (2015-); Dual Circulation Strategy (2020)	High-tech leadership; self-sufficiency	Government incentives; public procurement; technology transfer obligations	Kennedy 2020; Naughton 2018
India	Atmanirbhar Bharat (2020-)	Import substitution; encouraging local production	Customs duties; production incentives; local content rules	Singh 2021
Brazil	Industrial Policy Supports (2019-)	Domestic industry protection; strategic autonomy	Tax cuts; incentives; public procurement priority	Pinheiro & Costa 2022
Turkey	Domestic and National Technology Move (2019-); Defense Industry Incentives	Technology independence; defense industry development	R&D grants; localization requirements; public procurement	TÜBİTAK 2020; SSB Reports
Russia	Substitution Program (2014-); Technological Sovereignty Plan (2020)	Reducing import dependency; economic resilience	State loans; localization targets; import bans	Connolly 2018; RAE 2021
Indonesia	TKDN Local Content Rules (2021-); Industry Value Added Program	Increasing domestic industry; reducing import dependency	Local content obligation; tax exemptions	Indonesian Ministry of Industry 2022
South Korea	Korea New Deal (2020); Strategic Materials Act	Digital and green transformation	R&D support; regulatory incentives; focused investments	KDI 2021; Ministry of Economy and Finance Korea
Mexico	ProMexico (2017-2020); Strategic Sector Investment Incentives	Strengthening the industrial base; export competitiveness	Free zones; investment incentives; trade agreements	OECD 2020; Mexico Industrial Policy Review

The concept of economic nationalism has evolved beyond the confines of trade protectionism, attaining a more expansive significance as a developmental strategy. This evolution is characterised by the implementation of multifaceted instruments, including strategic industrial subsidies, public procurement, investment screening mechanisms, local content regulations, and supply chain restructuring initiatives. In the contemporary era, it is anticipated that these trends will undergo a period of consolidation, with the advent of green protectionist policies that are intrinsically linked to the climate crisis.

The concept of economic nationalism is not confined to industrial or investment policies; it is also manifest in the agriculture and food sectors. The global shocks of recent years – the pandemic of 2020, the Russia-Ukraine war, and fluctuations in food prices – have led to an increase in protectionist tendencies. These tendencies are aimed at reducing dependence on foreign imports in agriculture.

Since 2022, India has implemented export bans and quotas on basic grain products (wheat, rice) with the objective of balancing the domestic market and protecting strategic stocks (FAO, 2023).

In an effort to bolster domestic production, Turkey has implemented a range of support measures, including price incentives, purchase guarantees, and subsidies administered by the Turkish Grain Board (TMO). The primary objective of these measures is to ensure supply security, with a particular focus on wheat, barley, and corn.

China has incorporated domestic seed production into its strategic plans and prioritised the localisation of agricultural technologies with the objective of achieving independence from imported seeds (Zhao, 2023b).

Since 2014, Russia has undergone a transformation in its agricultural sector characterised by a rise in nationalist sentiment. This shift has been precipitated by the imposition of import bans in response to Western sanctions, and the subsequent imposition of export taxes on products such as wheat and sunflower (Wegren, 2016).

In Indonesia, the government has imposed taxes on strategic products, including palm oil and rice, and has initiated a “domestic seed campaign” (McCarthy, 2020).

In the context of the Bolsonaro administration in Brazil, a range of policy measures have been implemented with the aim of increasing domestic production. These include the introduction of tax advantages and import

restrictions, as well as a policy prioritising domestic consumption in the agricultural sector (Sauer, 2018).

In 2022, Egypt implemented a prohibition on the exportation of fundamental agricultural products, a measure adopted in response to the escalating costs of foodstuffs. The Egyptian government has placed a premium on the implementation of state-guided production policies for wheat, with the objective of fostering the development of a “national bread” campaign (Breisinger et al., 2022).

The European Union’s 2023 reform of its Common Agricultural Policy signified a pivotal shift towards the principle of strategic autonomy, with the overarching objective being to reduce reliance on imports (Matthews, 2023).

During the period of the Trump administration (2018-2020), the United States government allocated approximately \$28 billion in support to farmers adversely affected by the trade wars with China. This process coincided with the emergence of the concept of strategic protection in agricultural production (Bown & Kolb, 2021). Furthermore, the Biden administration has set its sights on augmenting domestic production capacity through strategic investments in agricultural infrastructure as part of the “Build Back Better” initiative. During the Biden administration, the “Build Back Better” plan, which included agricultural investments, did not come into direct effect, as most of its agricultural provisions were transferred to the Inflation Reduction Act (IRA) during the legislative process. Table 2 provides a comprehensive overview of the policies implemented in the agricultural sector.

Table 2: Economic Nationalism in Agriculture

Country	Type Of Policy	Application Period	Example Application / Tool
India	Export restrictions	2022–2023	Ban on rice and wheat exports
Türkiye	State intervention/ subsidy	2020–2023	TMO purchase guarantees
China	Localization	2016–	Domestic seed production strategy
Russia	Export tax / import ban	2014–	Ban on food imports (Western products)
Indonesia	Local content requirement / export restriction	2020–2023	Palm oil export tax
Brasil	Tax incentives and import restrictions	2019–2022	Import restrictions on non-Mercosur imports
Egypt	Export ban	2022	Wheat export ban
EU	Strategic autonomy reform	2023	Import reduction target in CAP reform
USA	Farm subsidies / protectionism	2018–2021	\$28 billion in support

These developments suggest that the agricultural sector has been incorporated into economic nationalism, not only with regard to food supply security, but also in terms of strategic autonomy and political legitimacy (Clapp, 2021; Margulis, 2013).

2. Literature

The relationship between economic nationalism and agricultural policies has become a significant area of research, particularly in the context of contemporary globalisation. The increasing integration of global trade has had a profound impact on the structure of the agricultural sector and the state's economic intervention tools in developing countries. This transformation has led to a re-evaluation of the theoretical and practical foundations of policies aimed at protecting national production and food security. In this context, economic nationalism is not only regarded as a form of trade protectionism, but also as a developmental strategy that promotes domestic production in key sectors. Furthermore, agricultural policies are being re-evaluated and reconfigured within the framework of this strategic approach. The following literature comprises fundamental studies that examine the historical origins of economic nationalism, its resurgence in

the face of globalisation, and its multi-layered relationship with agricultural policies from different theoretical and empirical perspectives.

Keyder (1987) posits that the pervasive property structure predicated on diminutive peasant producers in the post-1950 period engendered a conducive milieu for economic nationalism and populist development strategies. Concurrently, import substitution industrialization policies fostered rural production and domestic industry. The present study provides an important theoretical framework for explaining how development strategies were localized in countries on the periphery of the global capitalist system by revealing the connection between economic nationalism and the class foundations of agricultural policies.

Polanyi (1944) emphasises that the subordination of labour, land, and money to the market as ‘fictitious commodities’ leads to social and ecological destruction, and observes that societies intervene reflexively to protect themselves. It is demonstrated that agricultural policies are at the forefront of these interventions, revealing that land and food are determined by social needs rather than market logic. The transnational norm dynamics between international law and local regulations – such as the EU Common Agricultural Policy and member state practices – reflect how nationalist tendencies emerge and strengthen in agriculture.

Rodrik (1997) examines the pressures of globalization on national labor markets and social security systems. It is asserted that trade has the effect of increasing wage inequalities and eroding social institutions. In order to combat this, the recommendation is made to strengthen social insurance systems and to protect national policy instruments. Bhagwati’s (2004) “spaghetti bowl” metaphor is a useful illustration of the complex interweaving of bilateral and regional free trade agreements (FTAs) in the global trade system, thereby weakening the multilateral structure of the World Trade Organization (WTO).

As Wilkinson (2009) contends, since the 1980s, global agri-food companies have been targeting developing country markets, thereby effecting a transformation of local food systems in favour of global capital and concomitantly reinforcing oligopolistic structures. This transformation has the effect of reshaping agricultural policies that have been developed through economic nationalism, both within individual nations and across international borders. Rodrik’s (2011) “trilemma” model, which conceptualises the pressures of global integration on democratic legitimacy, is employed to analyse this issue. The model utilised is that of globalization, national sovereignty and democracy.

Shaffer (2018) posits that international economic law and trade agreements imperil social inclusiveness by constricting the scope of national policy. He engages with the impact of agricultural and industrial policies on the global trade order, employing the WTO and the EU as illustrative cases. The harmonisation of national agricultural policies with global norms in developing countries is a significant topic of debate in the literature on development law.

Nugroho and Lakner's (2022) study revealed that an increase in openness over the past four decades has had a contradictory effect on agricultural production and trade. On the one hand, it has promoted agricultural production and trade, but on the other, it has weakened small farmers' access to markets and food security. Furthermore, the study found that vertical integration has benefited large firms and excluded local actors. This process has been shown to limit domestically developed agricultural policies through economic nationalism, thereby increasing external dependency. It has also been demonstrated that the development of state-supported policies to mitigate these negative effects is necessary.

These studies underscore the necessity to appraise economic nationalism and agricultural policies not solely as economic instruments, but within the ambit of historical-social dynamics. They accentuate the significance of state intervention and national policy capacity in the context of globalisation's localising effects.

3. Data Set

In this study, the relationship between economic nationalism and the agricultural sector was analysed using India, Turkey, Russia, Brazil, Egypt and China as case studies. These countries are among the large developing economies and have implemented economic nationalist policies to varying degrees in recent years. Furthermore, these countries are distinguished by their continued reliance on agriculture as a significant economic and social sector, a relatively high rural population density, and the extensive implementation of state-supported agricultural policies.

The Indian government has implemented a range of policies to promote industrial production, including the "Make in India" and PLI programs. Concurrently, it has identified the agricultural sector as a strategic area of importance, providing subsidies and support prices to ensure its viability.

Turkey has attracted attention with its policies that have continued to emphasise agricultural support and domestic production despite neoliberal

reforms in the 2000s; in recent years, economic nationalism has gained strength with rhetoric centered on “domestic and national production.”

Russia has adopted a policy of economic nationalism, which is characterised by the prioritisation of domestic interests and the protection of national economic interests. This policy has been further reinforced through the implementation of import bans and self-sufficiency policies in the agricultural sector. These measures have been adopted in response to Western sanctions imposed after 2014.

Brazil is a prominent agricultural exporter and a notable instance of a nation implementing nationalist development strategies through state-supported programmes in agricultural technology.

Despite the scarcity of resources, Egypt continues to prioritise economic independence through the implementation of subsidies and production support programmes in the agricultural sector, with a particular focus on ensuring food security. Furthermore, the country has implemented protectionist measures with a view to reducing its reliance on imports.

The People’s Republic of China is implementing a series of interventions intended to increase both high-tech production and agricultural production capacity. These interventions are part of the “Made in China 2025” and “dual circulation” strategies, which position agriculture and food security as part of the country’s economic security strategy.

The countries in question provide empirical examples that are suitable for examination in terms of state economic intervention, the economic weight of agriculture, their relationship with global trade, and economic nationalism strategies. This provides both diversity and contextual integrity for comparative analysis.

In this study, the variables “Share of Agriculture in GDP (gdpagr)” and “Openness Ratio (op)” were utilised to examine the effect of the level of openness to the outside world on the economic weight of the agricultural sector for the selected six countries for the period 1990-2024. The calculation of the GDPagr variable was undertaken utilising World Bank data, with 2015 constant prices designated as the percentage of real GDP accounted for by agricultural value added. It functions as a significant indicator for comprehending sectoral transformation and structural change processes. The op variable is indicative of a nation’s level of integration into the global economy. This variable is defined as the ratio of total exports and imports to GDP. This ratio is indicative of the extent to which countries are integrated into the global trading system, and also represents external competitive

pressure on domestic sectors. In particular, increased openness to the outside world in fragile sectors such as agriculture can have both positive and negative effects on domestic production. Despite the trade openness ratio not being defined as an indicator in the economic nationalism literature, it is a fundamental macroeconomic indicator representing the degree of integration into global markets (Rodrik, 1997; Nugroho & Lakner, 2022). The implementation of economic nationalist policies is typically effected through the utilisation of instruments that are designed to limit or direct such integration. Examples of such instruments include customs duties, export bans and local content requirements (Helleiner, 2002; Pryke, 2016). Consequently, a decline in the openness ratio can be interpreted as a trend consistent with the implementation of protectionist or domestic production-promoting policy sets.

The degree of openness is indicative not only of the volume of trade, but also of the extent to which the national economy is exposed to global competition. It is evident that policies such as protectionist tariffs, import quotas, or state support for strategic sectors can become empirical manifestations of economic nationalism. These manifest in a direct or indirect manner as a reduction in openness (Bown & Kolb, 2021; Evenett & Fritz, 2019). Consequently, the openness ratio emerges as a pertinent indicator variable, serving to quantify a single dimension of the multifaceted nature of economic nationalism: namely, the dimension pertaining to international trade policy.

It is widely accepted in the extant literature that an increase in openness tends to result in a reduction in the relative weight of the agricultural sector in developing countries. This phenomenon is associated with the mounting pressure of global competition on small-scale producers, the escalating trend of food imports, and the ongoing processes of rural transformation (Nugroho & Lakner, 2022; Wilkinson, 2009). Consequently, a negative relationship is anticipated between openness and the share of agriculture in GDP.

4. Method and Finding

4.1. Cross Section Dependency Tests

Cross-section dependency tests are utilised in the context of panel data analysis, with the objective of ascertaining the presence of cross-sectional dependency. The purpose of these tests is to ascertain whether the sections in panel data sets are independent of each other or whether their responses to common external shocks are similar. This phenomenon can be attributed

to the heightened sensitivity of nations to economic shocks originating from other countries, a consequence of the interconnected global economy, the prevalence of international trade, and the deepening of financial integration. A plethora of tests are documented in the extant literature for the purpose of measuring cross-section dependence.

4.1.1. Breusch-Pagan LM Test

The Breusch-Pagan (1980) test is a statistical procedure that can be employed in the context of panel data analysis, provided that the time dimension (T) exceeds the unit dimension (N). The presence of low p-values is indicative of cross-section dependence in the error terms, thereby rejecting the null hypothesis. Breusch and Pagan proposed the following Lagrange multiplier (LM) statistic:

$$LM = T \left(\sum_{i=1}^{N-1} \sum_{j=i+1}^N \rho_{ij}^2 \right) \quad (1)$$

4.1.2. Pesaran Scaled LM Test

The Breusch and Pagan test is not effective if the number of observations in the data set is large (N). Pesaran developed the following LM statistic to overcome this problem. In the case of $N = \infty$, it is appropriate to utilise Pesaran's (2004) Scaled LM test. The Breusch-Pagan LM test is not applicable when n approaches infinity. Consequently, Pesaran (2004) proposed a scaled-down version of the LM test, which can be written as follows:

$$CD_{LM} = \sqrt{\frac{1}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N (T \hat{\rho}_{ij}^2 - 1) \quad (2)$$

The test utilises a scaled LM statistic in order to correct for biases that may be present due to the large size of the panel. The objective of this method is to mitigate potential biases that may emerge as a consequence of the substantial size of the panel.

4.1.3. Pesaran CD Test

Pesaran (2004) posits that, under certain conditions, the Pesaran CD test can be applied when the sample size (N) exceeds the time dimension (T).

$$CD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij} \right) \sim N(0,1)_{i,j} \quad (3)$$

$\hat{\rho}_{ij}$ shows the correlation between errors. The null and alternative hypotheses used for the cross-sectional dependence test are as follows:

$$H_0 : Cov(u_{it}, u_{ij}) = 0$$

$$H_1 : Cov(u_{it}, u_{ij}) \neq 0$$

H_0 hypothesis suggests that there is no dependence between cross-sections, H_1 hypothesis suggests that there is dependence between cross-sections. Finally, p-values are calculated to make a decision about the null hypothesis. If the calculated probability values are smaller than the significance values, the null hypothesis is rejected. Conversely, the null hypothesis cannot be rejected.

All three tests mentioned can be used for both homogeneous and heterogeneous panels.

4.1.4. Bias-Corrected Scaled LM Test

The Bias-corrected Scaled LM Test was developed by Baltagi, Feng, and Kao (2012) to measure cross-sectional dependence in homogeneous panels. The present study proposes a modification of Pesaran's Scaled LM test, incorporating a bias correction to facilitate more precise detection of cross-sectional dependence in panel data sets. This correction assumes particular importance in cases where panel sizes (N) and time dimensions (T) are large, as biases in standard error estimates may increase in such cases.

This test finds application in the context of panel data analysis when $T > N$, where T denotes the time dimension and N the unit dimension. The test can be expressed using the following equation:

$$LM_{BC} = LM_P - \frac{n}{2(T-1)} = \sqrt{\frac{1}{N(N-1)}} [\sum_{i=1}^{N-1} \sum_{j=i+1}^N (T \rho_{ij}^2 - 1)] - \frac{N}{2(T-1)} \quad (4)$$

The results of the cross-sectional dependency test are presented in Table 3. The findings of the study indicated the presence of cross-sectional dependency in all variables.

Table 3: Cross-Section Dependency Test Results

Variables	Breusch-Pagan LM Test	Pesaran scaled LM	Pesaran CD	Bias-Corrected Scaled LM Test
LGDPAGR	425.746*	74.992*	74.903*	20.408*
LOP	106.207*	16.652*	16.564*	4.086*

*Note *, %1, indicates the level of significance.*

4.2. Homogeneity Test

The unit root and cointegration tests to be performed in panel data analysis may vary depending on whether the variables are homogeneous or heterogeneous. The homogeneity test, as developed by Pesaran and Yamagata (2008), is also referred to as the delta test. This evaluates the hypothesis of homogeneity of individual slope coefficients in panel data, as well as deviations from the mean.

The Delta test is expressed as in equations 5 and 6:

$$\text{Standard Delta Test: } \Delta = \sqrt{\frac{N}{2}} \left(\frac{1}{N} \sum_{i=1}^N \hat{\beta}_i - \beta \right) \tag{5}$$

$$\text{Adjusted Delta Test: } \tilde{\Delta} = \sqrt{N} \left(\frac{1}{N} \sum_{i=1}^N \frac{\hat{\beta}_i - \beta}{\sigma_i} \right) \tag{6}$$

In this context, N denotes the total number of panel members, $\hat{\beta}_i$ represents the estimated slope coefficient for the i'th panel member, β symbolises the average slope coefficient, and σ_i denotes the standard error of the estimated slope coefficient for the i'th panel member.

Pesaran and Yamagata (2008) formulate the hypotheses related to the Delta test as follows:

$H_0: \beta_1 = \beta_2 = \dots = \beta_n = \beta$ (For all β_i) (Homogeneous), ($i=1, \dots, n$)

H_A : At least one β_i is different from the others (heterogeneous)

If the calculated test statistic is greater than the table value, the *Ho* hypothesis is rejected and the panel is considered heterogeneous.

The homogeneity test results are presented in Table 4.

Table 4: Homogeneity Test Results

Regression Modal	Standard Test		Adjusted Test	
	Delta	p-value	Delta	p-value
$lgdpagr = \alpha_{0i} + \alpha_{1i}lop_{it} + \varepsilon_{it}$	16.331	0.000	17.080	0.000

The results indicate that the p-values for both test types are less than 0.01. This finding suggests that the H_0 hypothesis is to be rejected and that the slope coefficients are heterogeneous.

4.3. Unit Root Test

In this study, given the existence of cross-sectional dependence among the series (i.e. countries), the Covariate Augmented Dickey–Fuller (CADF) test proposed by Pesaran (2007) was utilised as one of the second-generation unit root tests. The Pesaran CIPS (Cross-sectional Im, Pesaran, and Shin) unit root test is utilised for the purpose of detecting the presence of unit roots in panel data sets. The present test was developed by Pesaran in 2007, and extends the original unit root test of Im, Pesaran, and Shin (IPS) to take into account cross-section dependencies. The Pesaran CADF test represents an extended version of the ADF regression, incorporating the cross-sectional averages of the first differences and lag levels of individual series. The CIPS test involves the application of the IPS test to each cross-section within the panel, resulting in the calculation of an average statistic from the obtained results. This enables the assessment of the presence of a shared unit root structure across all cross-sections of the panel. In the test, the individual results for each cross-section are obtained using the CADF statistic, while the results for the overall panel are obtained using the extended CIPS (Cross-Sectionally Augmented Im, Pesaran, and Shin) statistic, which is calculated as the cross-sectional average. The CADF test provides highly consistent results even when the cross-sectional (N) and time (T) dimensions are relatively small. Furthermore, it has been demonstrated that this test can be utilised in both $T > N$ and $N > T$ cases (Pesaran, 2007: 266-267).

The CADF stationarity test is expressed in Equation (7) as follows:

$$\Omega Y_{it} = \delta_i + \pi_i y_{i,t-1} + \beta_i \bar{y}_{t-1} + \Phi_i \theta \bar{y}_t + \mu_{it} \quad (7)$$

The introduction of a lag length (t-1) in equation 7 results in the following equation 8.

$$\Omega Y_{it} = \delta_i + \pi_i y_{i,t-1} + \beta_i \bar{y}_{t-1} + \sum_{j=0}^p \phi_{ij} \theta \bar{y}_{t-j} + \sum_{j=1}^p \psi_{ij} \theta y_{i,t-j} + \mu_{it} \quad (8)$$

In this context $\theta y_{i,t-j}$ and y_{t-j} the mean of the initial lagged level and the difference at each cut-off, respectively. Pesaran (2007).

The CIPS unit root test is illustrated in equation 9 as follows:

$$CIPS = N^{-1} \sum_{i=1}^N \pi_i(N, T) \tag{9}$$

In the course of executing the Pesaran CIPS panel unit root test, the determination of lag lengths was conducted automatically in accordance with the Akaike Information Criterion. The results of the unit root test are presented in Table 5. As demonstrated in the table, the variables were found to be stationary.

Table 5: Unit Root Test Results

Variables	Constant I(0)	Constant and Trend I(0)	Constant I(0)	Constant and Trend I(0)
LGDPAGR	-0.795	-0.108	-1.981**	-1.337***
LOP	2.183	-0.896	-3.067*	-2.025**

*Note **, %1, ****%5, ***** %10 indicate the level of significance.

4.4. Westerlund Cointegration Test

In this study, the Westerlund (2007) Panel Cointegration Test was utilised. In 2007, Westerlund (2007) proposed four novel tests for panel cointegration analysis, based on structural dynamics as opposed to residual dynamics. The fundamental approach of these tests is to infer the existence of a cointegration relationship by testing whether the error correction term is zero in a conditional panel error correction model. These tests are sufficiently flexible to account for unit-specific short-term dynamics, unit-specific trend and slope parameters, and cross-sectional dependence, without imposing any common factor restrictions. Furthermore, the test statistics are found to be asymptotically normally distributed, thereby enhancing the reliability of the results. The panel cointegration tests developed by Westerlund (2007) evaluate the existence of a cointegration relationship through a structural approach that utilises an error correction model. The aforementioned tests boast a flexible structure that takes into account short-term dynamics, unit-specific constants and trend terms, and cross-sectional dependence in panel data sets. The Westerlund tests are classified into two main groups based on the nature of the alternative hypothesis used: Group-Mean Tests and Panel Tests.

Group-average tests posit the assumption that the error correction coefficient (α_i) can vary between units in the panel. In the context of these experiments, the null hypothesis is defined as follows:

(H_0), that there is no cointegration in any of the units, alternative hypothesis, ($H_1^g : \alpha_i < 0$) indicates the existence of a cointegration relationship in at least one unit.

These tests are performed in three stages:

1. An error correction model is estimated for each panel unit using the least squares method.

Residual terms ($\hat{u}_{it}$) are obtained from the estimated model.

The group average statistics G_τ and G_α are calculated using the obtained residuals.

The underlying assumption of panel tests is that the error correction coefficient ($\alpha_i = \alpha$) remains constant for all panel units. In this particular instance, the null hypothesis (H_0) signifies the absence of cointegration within any individual unit of the panel. Conversely, the alternative hypothesis ($H_1^p : \alpha_i < 0$) denotes the existence of a cointegration relationship across all units.

These tests are also performed in three steps:

1. The first step is the same as the estimation process in group-average tests. In this step, the lagged values (Δy_{it}) and the simultaneous and lagged values of the deterministic components (d_t) Δx_{it} are included in the regression analysis.

2. The common error correction coefficient α and the standard error of this parameter are estimated.

3. Finally, the panel statistics are P_τ and P_α calculated.

Westerlund (2007) Panel Cointegration Test results are presented in Table 6.

Table 6: Westerlund (2007) Panel Cointegration Test Results

	Constant			Constant and Trend		
Statistics	Value	Z-value	P-value	Value	Z-value	P-value
G_τ	-0.125	4.505	1.000	-2.779	-1.243	0.107
G_α	-0.832	2.839	0.998	-14.372	-0.850	0.198
P_τ	0.002	3.568	1.000	-12.660	-8.559	0.000
P_α	0.001	2.335	0.990	-22.802	-5.541	0.000

4.5. Common Correlated Effects Mean Group (CCEMG) Method

In panel data models, cross-section dependency arising from unobserved common shocks among the error terms of the units weakens the validity of classical fixed effects (FE) or random effects (RE) estimators. This problem is more pronounced in data sets with common factor structures, which are common in economic models. The Common Correlated Effects (CCE) method, as pioneered by Pesaran (2006), represents a significant approach in addressing such dependencies, thereby ensuring the provision of consistent estimates.

The CCE approach is predicated on the indirect control of the effects of unobservable common factors by means of cross-sectional averages, as opposed to the direct estimation of these factors. The CCEMG (Common Correlated Effects Mean Group) estimator is a statistical method that calculates separate CCE estimates for each unit and then takes the average of these estimates. This approach permits the consideration of both heterogeneous coefficients and common factor structures.

The approach developed by Cao and Zhou (2022) enables the CCEMG method to be applied reliably in dynamic heterogeneous panel data models, particularly those with non-stationary common factors in the error structure. The present study has demonstrated the consistency of both the CCE (Covariance-Correlation Estimate) estimator, which estimates individual coefficients, and the CCEMG (Covariance-Correlation Estimate of Maximum Likelihood) estimator, which represents the average of these coefficients. Furthermore, it has been established that the CCEMG estimator is asymptotically normally distributed.

A salient feature of the method under scrutiny is its independence from a preliminary test for the stationarity of common factors. Furthermore, the CCE/CCEMG estimator exhibits resilience to factor structures of this nature. The findings, derived from Monte Carlo simulations, have substantiated that the CCEMG estimators are both unbiased and efficient, a propensity that is especially pronounced in scenarios where panel sizes are substantial. Furthermore, a Jackknife correction has been proposed as a means of reducing time series bias, and it has been observed that this correction provides a significant improvement in small samples.

In applications, the model is typically configured in the following manner:

$$y_{it} = \phi_i y_{i,t-1} + \beta_i x_{it} + \delta_i \bar{z}_t + \varepsilon_{it} \quad (10)$$

Here;

- y_{it} : Dependent variable
- $y_{i,t-1}$: Lagged dependent variable (dynamic structure)
- x_{it} : Independent variable
- $\bar{z}_t$: Cross-sectional means of observable variables (and lags)
- ε_{it} : Error term
- Subscripts: i: unit t: time

In this context, $\bar{z}_t$ encompasses the cross-sectional means of both y and x, in addition to their lagged values. This configuration enables the model to regulate the impact of shared factors. The CCEMG estimator is calculated by taking the average of the ϕ_i and β_i estimates obtained from this equation for each unit i.

The CCEMG method is distinguished by its efficacy in heterogeneous and dependent panel data sets, particularly in the context of examining long-term relationships.

Table 7: CCEMG Method Results

Variables	Coefficients	z-statistics	Probability
LOP	-.0384	-1.78	0.076
Sabit	18.741	4.69	0.000
Trend	.025908	3.97	0.000

In the analysis, the Common Correlated Effects Mean Group (CCEMG) estimator developed by Pesaran (2006) was applied; thus, cross-sectional dependence and heterogeneity in the panel data structure were taken into account. The coefficient of the independent variable trade openness (LOP) on the share of the agricultural sector in GDP (LY) was estimated as -0.038 and found to be statistically significant at the 10% level of significance ($p = 0.076$). This finding suggests that a 1% rise in the trade openness ratio leads to an average reduction of approximately 0.038 percentage points in the share of agriculture in GDP.

The coefficient of the linear trend variable specific to the group in the model is 0.0259, and is statistically significant at the 1% level of significance ($p < 0.001$). This finding suggests that there is an upward trend in the share of agriculture in GDP over time in most of the countries in the panel. Furthermore, in five out of the six countries in the sample (83.3%), the

trends defined at the group level were found to be statistically significant at the 5% level of significance.

The positive trend coefficient in the model indicates an upward trend in the share of agriculture in GDP over time. This finding appears to contradict the predictions of classical structural transformation theories (Chenery & Syrquin, 1975), however recent economic nationalist policies protecting agriculture, global food crises, and price increases are among the factors that could explain this trend (Clapp, 2021; FAO, 2023; Zhao, 2023b).

In addition, despite the anticipated adverse effect of openness in academic literature, there are studies that identify positive or U-shaped relationships in agriculture or food security. For instance, Sun and Zhang (2021) reported that the effect of trade openness on food security in Central Asian countries was initially negative but turned positive after a certain threshold level. Conversely, Dithmer and Abdulai's (2017) study revealed a positive correlation between trade openness and food security, as evidenced in a sample of 198 countries. In a similar vein, Gnedeka and Wonyra (2023) demonstrated that trade openness contributes positively to food security in Sub-Saharan Africa. The present examples lend support to the hypothesis that the positive trend coefficient is not an isolated phenomenon, but rather that complex, non-linear relationships between trade openness and the relative weight of the agricultural sector may be observed in specific contexts.

The cross-sectional mean of the lagged dependent variable (LY) is incorporated into the model with a coefficient of 0.246, which is determined to be significant at the 10% level of significance ($p = 0.082$). This finding lends support to the hypothesis of the existence of a long-term equilibrium relationship within the model. However, the lagged cross-sectional mean of the trade openness variable was found to be non-significant ($p = 0.508$). This finding suggests that the effect of trade openness does not demonstrate a uniform structure across countries, but rather exhibits variation by country.

The overall validity of the model was tested using the Wald $\chi^2(1) = 3.15$ value and was found to be statistically significant at the 10% level of significance ($p = 0.0758$). The model demonstrates a high degree of prediction accuracy, as evidenced by the root mean square error (RMSE) value of 0.0291.

In conclusion, it is understood that openness has a negative effect on the share of the agricultural sector in GDP at a 10% significance level, and that this relationship varies across countries.

Results

The present study employs a rigorous empirical approach to examine the relationship between economic nationalism and agricultural policies through the utilisation of panel data analysis. The six countries selected for closer examination due to their implementation of nationalist policies in the agricultural sector are India, Turkey, Russia, Brazil, Egypt and China. The selection of these countries was based on their economic size and position in the global trade system. In the panel data analysis, the effect of the degree of openness (total exports and imports as a percentage of GDP) on the share of the agricultural sector in GDP was investigated.

Initially, cross-section dependency tests indicated the presence of a substantial cross-section dependency between the variables.

Consequently, the Pesaran (2007) CIPS test, a second-generation unit root test, was employed, and it was ascertained that the variables were stationary in their first differences. The outcomes of the Westerlund (2007) panel cointegration test indicate the absence of a statistically significant cointegration relationship between trade openness and the agricultural sector's share in the fixed model. However, a significant cointegration relationship was detected across the panel in the model, including a constant and trend. This finding indicates that the long-term equilibrium relationship is valid when the trend is taken into account. The CCEMG (Pesaran, 2006) estimation results, utilised in the empirical analysis, have indicated that the ratio of openness to the share of agriculture in GDP exerts a negative influence on the share of agriculture in GDP.

This finding suggests that openness has a mitigating effect on the relative importance of the agricultural sector.

Country-specific trends were found to be significant at the 1% level of confidence, and these trend coefficients were found to be positive. In the majority of the countries under consideration, an upward trend in the share of the agricultural sector in GDP has been observed over time. This finding stands in contrast to the predictions of classical structural transformation theories (Chenery and Syrquin, 1975), which anticipated a decline in the agricultural sector's share over time. However, an increasing trend has been observed in the countries under examination.

This phenomenon can be attributed to various factors, including the surge in economic nationalism witnessed in recent years, global food crises, concerns regarding supply security, and the escalating costs of agricultural produce (Clapp, 2021; FAO, 2023; Zhao, 2023b). As is evident in the extant literature, analogous trends have also been reported.

Sun and Zhang's (2021) study revealed that while the impact of openness on food security in Central Asian countries was initially negative, it exhibited a positive shift once a specific threshold was attained. Dithmer and Abdulai (2017) and Gnedeka and Wonyra (2023) demonstrated that, in specific circumstances, openness has the capacity to enhance food security and agricultural performance. The extant literature suggests that the relationship between openness and the agricultural sector is context- and policy-sensitive, and may exhibit non-linear or complex dynamics. Furthermore, the cross-sectional average of the lagged dependent variable was found to be significant, thus confirming the existence of a long-term relationship. However, the lagged cross-sectional average of trade openness is not significant, indicating that the effect of trade openness varies across countries.

In conclusion, in today's world where economic nationalism policies are gaining importance, it is observed that increasing trade openness reduces the relative share of the agricultural sector, but the effect is heterogeneous due to the different structural conditions of countries. The findings of this study indicate that policymakers should take into consideration country-specific variations when formulating policies pertaining to openness and agriculture. The heterogeneity of the effects of openness on the agricultural structure across countries necessitates the development of country-specific agricultural strategies, tailored to production and trade profiles. The implementation of economic nationalist policies, encompassing subsidies that protect domestic production, strategic stock management, and export restrictions, can serve as pivotal instruments in the preservation of the economic weight of agriculture. However, it is recommended that global integration be balanced not through complete liberalisation, but through certain protective measures for strategic products and the strengthening of domestic supply chains. It is recommended that future research analyse the threshold effects and nonlinear relationships of openness within the framework of economic nationalism. Additionally, factors such as price effects, productivity increases, and policy shocks that explain changes in agriculture's share of GDP could be included in the model. A comparative analysis of the effects across different income groups using a broader sample of countries would also contribute to the literature. The study demonstrates that, in general, openness has a tendency to diminish the relative significance of agriculture. Nevertheless, it is evident that economic nationalism strategies and country-specific conditions have the capacity to substantially modify this effect. The findings of this study can provide a valuable foundation for the future design of globalization policies and protectionist approaches toward the agricultural sector.

References

- Baltagi, B. H., Feng, Q., & Kao, C. (2012). A Lagrange multiplier test for cross-sectional dependence in a fixed effects panel data model. *Journal of Econometrics*, 170(1), 164–177. <https://doi.org/10.1016/j.jeconom.2012.04.004>
- Bhagwati, J. N. (2004). *In Defense of Globalization*. Oxford: Oxford University Press.
- Block, F. (2003). *Karl Polanyi and the Writing of the Great Transformation. Theory and Society*, 32(3), 275–306. <https://doi.org/10.1023/A:1024420102331>
- Bown, C. P. (2018). The 2018 US-China Trade Conflict After 40 Years of Special Protection. Peterson Institute for International Economics. <https://www.piie.com/publications/working-papers>
- Bown, C. P., & Kolb, M. (2021). Why Trump's China tariffs failed. Peterson Institute for International Economics.
- Breisinger, C., et al. (2022). Food Policy Responses in Egypt. IFPRI.
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its applications to model specification in econometrics. *Review of Economic Studies*, 47(1), 239–253. <https://doi.org/10.2307/2297111>
- Cao, S., & Zhou, Q. (2022). Common Correlated Effects Estimation for Dynamic Heterogeneous Panels with Non-Stationary Multi-Factor Error Structures. *Econometrics*, 10(3), 29.
- Chenery, H. B. & Syrquin, M. (1975). *Patterns of Development, 1950–1970*. Delhi: Oxford University Press.
- Chin, G. T., & Nolan, P. (2022). Great Power Rivalry and Industrial Policy. *Review of International Political Economy*. <https://doi.org/10.1080/09692290.2022.2039332>
- Clapp, J. (2021). *Food*. Polity Press.
- Clift, B., & Woll, C. (2012). *Economic patriotism: reinventing control over open markets. Journal of European Public Policy*, 19(3), 307–323. <https://doi.org/10.1080/13501763.2011.638117>
- Connolly, R. (2018). *Russia's Response to Sanctions: How Western Economic Statecraft is Reshaping Political Economy in Russia*. Cambridge University Press.
- Dithmer, J. & Abdulai, A. (2017). Does trade openness contribute to food security? A dynamic panel analysis. *Food Policy*, 69(C), 218–230. <https://doi.org/10.1016/j.foodpol.2017.04.008>
- Endonezya Sanayi Bakanlığı. (2022). *Endonezya 2022 Sanayi Gelişim Raporu*. Jakarta: Endonezya Cumhuriyeti Sanayi Bakanlığı. Erişim: <https://www.kemenperin.go.id>

- Evenett, S. J., & Fritz, J. (2019). Going It Alone? Trade Policy After Three Years of Populism. *Global Trade Alert*.
- FAO. (2023). Tracking global food trade disruptions.
- Farrell, H., & Newman, A. (2019). Weaponized Interdependence. *International Security*, 44(1), 42–79. https://doi.org/10.1162/isec_a_00351
- Gnedeka, K. T. & Wonyra, K. O. (2023). New evidence in the relationship between trade openness and food security in Sub-Saharan Africa. *Agriculture & Food Security*, 12, Article 31. <https://doi.org/10.1186/s40066-023-00439-z>
- Helleiner, E. (2002). *Economic Nationalism as a Challenge to Economic Liberalism? Lessons from the 19th Century*. *International Studies Quarterly*, 46(3), 307–329. <https://doi.org/10.1111/1468-2478.00237>
- Helleiner, E. (2021). The Return of Economic Nationalism. In J. Ravenhill (Ed.), *The Oxford Handbook of International Political Economy*. Oxford University Press.
- Hopewell, K. (2017). US-China conflict in global trade governance: the new politics of agricultural subsidies at the WTO. *Review of International Political Economy*, 24(1), 1–31. <https://doi.org/10.1080/09692290.2016.1253473>
- Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), 53–74. [https://doi.org/10.1016/S0304-4076\(03\)00092-7](https://doi.org/10.1016/S0304-4076(03)00092-7)
- KDI (2021). Korean New Deal: Digital and Green Transformation Strategies. Korea Development Institute.
- Kennedy, S. (2020). Made in China 2025 and the Future of Chinese Industry. Center for Strategic and International Studies (CSIS).
- Keyder, Ç. (1987). *State and Class in Turkey: A Study in Capitalist Development*. London: Verso.
- Kore Ekonomi ve Finans Bakanlığı. (2022). Economic Policy Directions 2022. Seoul: Republic of Korea Ministry of Economy and Finance. Erişim: <https://english.moef.go.kr>
- List, F. (1841). *Das nationale System der politischen Ökonomie* [*The National System of Political Economy*]. (Translated by Sampson S. Lloyd, 1885). Longmans, Green & Co.
- Margulis, M. E. (2013). The global diffusion of land grabbing. *Globalizations*, 10(1), 111–131.
- Matthews, A. (2023). Strategic autonomy and food policy in the EU. *European Review of Agricultural Economics*.
- McCarthy, J. (2020). Authoritarian Populism in Indonesia. *Journal of Contemporary Asia*, 50(3), 427–446.

- Meunier, S., & Nicolaïdis, K. (2019). The Geopoliticization of European Trade and Investment Policy. *Journal of Common Market Studies*, 57(S1), 103–113.
- Naughton, B. (2018). *The Chinese Economy: Adaptation and Growth* (2nd ed.). MIT Press.
- Nugroho, D., & Lakner, C. (2022). Trade openness and structural transformation. World Bank.
- OECD (2020). *Mexico: Industrial Policy Review*. Organisation for Economic Co-operation and Development.
- Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels. CESifo Working Paper Series, No. 1229. Munich: CESifo. <https://doi.org/10.2139/ssrn.572504>
- Pesaran, M. H. (2006). Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica*, 74(4), 967–1012.
- Pesaran, M. H., & Yamagata, T. (2008). Testing slope homogeneity in large panels. *Journal of Econometrics*, 142(1), 50–93. <https://doi.org/10.1016/j.jeconom.2007.05.010>
- Pinheiro, A. C., & Costa, I. (2022). Economic Nationalism and Industrial Policy in Brazil under Bolsonaro. *Latin American Policy*, 13(1), 25–44.
- Pisani-Ferry, J., Tagliapietra, S., & Wolff, G. (2023). The Green Transatlantic Race: IRA, EU Response and Global Implications. Bruegel Policy Contribution.
- Polanyi, K. (1944). *The Great Transformation: The Political and Economic Origins of Our Time*. New York: Farrar & Rinehart.
- Pryke, S. (2016). *Economic Nationalism: Theory, History and Prospects*. *Global Policy*, 7(4), 281–291. <https://doi.org/10.1111/1758-5899.12323>
- RAE. (2021). *Annual Energy Report 2021*. Atina: Regulatory Authority for Energy. Erişim: <https://www.rae.gr>
- Rodrik, D. (1997). *Has Globalization Gone Too Far?* Institute for International Economics
- Rodrik, D. (2011). *The Globalization Paradox: Democracy and the Future of the World Economy*. New York: W. W. Norton & Company.
- Rodrik, D. (2023). The Return of Industrial Policy. *Foreign Affairs*, March/April 2023 Issue.
- Sauer, S. (2018). Agrarian Structure and Land Use. *Journal of Peasant Studies*, 45(1), 77–102.
- Savunma Sanayii Başkanlığı (SSB). (2022). *2022 Savunma Sanayii Sektör Raporu*. Ankara: T.C. Cumhurbaşkanlığı Savunma Sanayii Başkanlığı. Erişim: <https://www.ssb.gov.tr>

- Shaffer, G. (2018). Retooling trade agreements for social inclusion. *University of Illinois Law Review*, 2019(1), 1–35. <https://illinoislawreview.org/print/vol-2019-no-1/retooling-trade-agreements-for-social-inclusion/>
- Singh, R. (2021). Atmanirbhar Bharat and India's Post-COVID Economic Strategy. *Economic and Political Weekly*, 56(31), 34–40.
- Sun, Z., & Zhang, Y. (2021). Impact of trade openness on food security: Evidence from panel data for Central Asian countries. *Foods*, 10(12), 3012. <https://doi.org/10.3390/foods10123012>
- Tooze, A. (2021). *Shutdown: How COVID Shook the World's Economy*. Viking Press.
- TÜBİTAK (2020). *Ulusal Teknoloji Hamlesi: Strateji ve Uygulama Raporu*. Türkiye Bilimsel ve Teknolojik Araştırma Kurumu.
- Wegren, S. K. (2016). The Russian state and food security. *Eurasian Geography and Economics*, 57(1), 37–58.
- Westerlund, J. (2007). Testing for error correction in panel data. *Oxford Bulletin of Economics and Statistics*, 69(6), 709–748.
- White House (2022). *Inflation Reduction Act Guidebook*. Executive Office of the President.
- Wilkinson, R. (2009). *The Global Governance Reader*. London: Routledge.
- Zachmann, G., Tagliapietra, S., & Wolff, G. (2023). *Green Industrial Policy for Europe*. Bruegel.
- Zhao, S. (2023a). Strategic Industrial Policy and Economic Nationalism in the Post-COVID Era. *Journal of Strategic Studies*, 46(2), 234–258. <https://doi.org/10.1080/01402390.2022.2109704>
- Zhao, Y. (2023b). Agricultural self-sufficiency in China. *Journal of Agrarian Change*, 23(2), 217–234.