



# Exploring Türkiye's Productive Capacities

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## **EXPLORING TÜRKİYE'S PRODUCTIVE CAPACITIES**

US President Donald Trump's aggressive trade policy has upended global trade. It has also compelled policy makers to re-assess the future of globalization. It has also forced multinational enterprises to re-evaluate their investment plans given the deep impact that high tariffs could impose on productive activities and thereby undermine international competitiveness. A key component of international competitiveness remains the productive capacity of countries. This capacity defines the overarching dynamics that determine the global allocation of production.

United Nations Trade and Development's (UNCTAD) Productive Capacities Index (PCI) is a dynamic and practical tool for developing countries, helping them understand the state of their productive capacity and how it can further be enhanced<sup>1</sup>. This index revolves around UNCTAD's long-standing work on productive capacities, which are necessary for achieving sustainable development and generating inclusive and sustained economic growth. The PCI provides a comprehensive and multidimensional snapshot of a country's ability to produce goods and services. In that sense, the index is crucial tool for developing economies to measure their productive capacities and identify gaps, not only between developed economies but also among developing ones, across different components such as human capital, natural capital, energy, ICTs, structural change, transport, institutions and the private sector. The PCI enables policymakers to identify strengths and structural bottlenecks, which, in turn facilitates evidence-based decision-making and more targeted interventions to build resilient and inclusive economies.

Türkiye is the 17<sup>th</sup> largest economy in the world, with a GDP of \$1.024 trillion as of 2023<sup>2</sup>. Analyzing the Productive Capacities Index (PCI) is particularly valuable for Türkiye as the country aims to improve economic resilience, reduce external dependencies, and achieve inclusive growth considering growing geopolitical instability and the rise of protectionist trade policies. The PCI has the potential to provide a comprehensive understanding for Türkiye to assess its capacity to adapt to these shifts by strengthening domestic productions systems, improving technological capabilities, and reducing reliance on volatile external markets.

Considering Türkiye's role as an important emerging economy in an era marked by geopolitical uncertainties, and the need for a roadmap for future policy actions and interventions for a sustained economic growth, this paper builds on Productive Capacities Index (PCI). In other words, this paper aims to provide a comprehensive and multidimensional snapshot of Türkiye's productive capacity

<sup>&</sup>lt;sup>1</sup> United Nations Conference on Trade and Development (UNCTAD), "Productive Capacities Index," UNCTADstat, accessed April 15, 2025, https://unctadstat.unctad.org/EN/Pci.html.

<sup>&</sup>lt;sup>2</sup> World Bank, "Turkey Overview," last modified April 15, 2025, <u>https://www.worldbank.org/en/country/turkey/overview.</u>



across different components and compare it with other country groups to help diagnose where Türkiye may be leading or falling behind, highlighting where policies are working and where reparative efforts are needed. Utilizing the PCI will allow policymaking to enhance domestic capabilities, resilience, and long-term sustainable development.

#### 1. Background and Methodological Approach

Founded in 1964, UNCTAD is a permanent intergovernmental body within the UN Secretariat that serves as the focal point for trade and development and issues in finance, technology, investment, and sustainable development<sup>1</sup>. The debates for stimulating productive capacities and structural transformation can be traced back to some of the major conferences, such as the Fourth United Nations Conference on the Least Developed Countries (LDCs), which took place in Istanbul, Turkey, in 2011, the Second UN Conference on LDCs held in Vienna in 2014 and the fourteenth session of the United Nations Conference on Trade and Development (UNCTAD XIV) held in Nairobi in 2016. The accumulation of these discussions throughout UN conferences revealed the key role of the productive capacities index for sustainable development and sustained economic growth in LDCs and landlocked developing countries (LLDCs) and the need to develop such an index.

Following these discussions and the request by the United Nations Economic and Social Council, in 2021, UNCTAD launched a new tool, the Productive Capacities Index (PCI), to guide policy formulation and implementation and stimulate productive capacities in developing countries<sup>2</sup>. Although numerous indicators measuring a country's productive economic structure, including economic complexity, trade diversification, and industrial composition, exist, such parameters may only cover specific dimensions of an economy's productive structure and thus may not provide a comprehensive economic framework<sup>3</sup>. The introduction of the PCI by the United Nations aims to address this lack of comprehensiveness by designing its analytical abilities accordingly. To elaborate, the index thrives to be the first comprehensive initiative to measure the productive capacities in all economies and build a multidimensional PCI specific to each country<sup>4</sup>. The index covers 194 economies between 2000 – 2022 and comprises 42 indicators in 8 categories through which productive capacities and their specific combinations are mapped<sup>5</sup>.

<sup>&</sup>lt;sup>1</sup> UNCTAD, "United Nations Conference on Trade and Development (UNCTAD)," Donor Committee for Enterprise Development, accessed April 15, 2025, https://www.enterprise-development.org/agency-strategies-and-coordination/united-nations-conference-on-trade-and-development-unctad/.

<sup>&</sup>lt;sup>2</sup> UNCTAD, The Least Developed Countries Report 2023: Towards a New Trade and Investment Framework for the Least Developed Countries, 2023, v, https://unctad.org/system/files/official-document/aldc2023d2\_en.pdf.

<sup>&</sup>lt;sup>3</sup> Jens Edler et al., "Science, Technology and Innovation Policy for a Just Transition," Technological Forecasting and Social Change 203 (2024), 2, https://doi.org/10.1016/j.techfore.2024.123539.

<sup>&</sup>lt;sup>4</sup> UNCTAD, UNCTAD Productive Capacities Index: Methodological Approach and Results (Geneva: United Nations, 2021), 9, <u>https://unctad.org/publication/unctad-productive-capacities-index-methodological-approach-and-results</u>.

<sup>&</sup>lt;sup>5</sup> UNCTAD, Productive Capacities Index: 2nd Generation, 2023, <u>https://unctad.org/publication/productive-capacities-index-2nd-generation</u>.



PCI is calculated as a geometric average of these eight categories or domains, chosen for their significance to conceptual and analytical frameworks for nurturing productive capacities<sup>6</sup>. Algebraically, PCI can be formulated as follows:

$$PCI = \sqrt[N]{\prod_{i=1}^{N} X_i^{PCA}}$$

According to UNCTAD (2021)<sup>7</sup>, N corresponds to the total number of categories and  $X_i^{PCA}$  represents the PCI category scores – range between 0 and 100 (boundaries not included) - extracted using the principal component analysis (PCA) of category i.

As already underlined, for statistical and measurement purposes, the overall PCI index is further split into eight components. According to UNCTAD<sup>8</sup>, **human capital** captures areas such as education, labor skills, health conditions, and overall research and development. **Natural capital** estimates the availability of extractive and agricultural resources. **Energy** measures the availability and sustainability of power sources and their efficiency. **Transport** measures the logistic infrastructure in terms of the capability to take people or goods from one place to another. **Information and communication technologies (ICTs)** predict the capability of a country concerning the accessibility and integration of its communications<sup>9</sup>. **Institutions** include several domains, such as political stability and efficiency, freedom of expression, corruption, and fighting against criminality and terrorism. The **private sector** measures the time and monetary costs of doing business and the easiness of doing cross-border trade. **Structural change** captures the movement of productive resources from low-productivity to high-productivity economic activities.

Productive capacities identify the capacity of an economy to produce goods and services<sup>10</sup>. Measuring and comparing productive capacities is crucial to reveal important gaps, not only between developed and developing economies but also among developing countries. Considering the role of the productive capacity index in navigating the long-term process of structural transformation and economic growth and its ability to reveal the status of countries' productive capacity, this paper aims to

<sup>&</sup>lt;sup>6</sup> UNCTAD, UNCTAD Productive Capacities Index: Methodological Approach and Results (Geneva: United Nations, 2021), 15, <u>https://unctad.org/publication/unctad-productive-capacities-index-methodological-approach-and-results.</u>

<sup>&</sup>lt;sup>7</sup> Ibid., 16.

<sup>&</sup>lt;sup>8</sup> UNCTAD, "Productive Capacities Index," United Nations Conference on Trade and Development, accessed April 15, 2025, <u>https://unctad.org/topic/least-developed-countries/productive-capacities-index</u>.

<sup>&</sup>lt;sup>9</sup> Hüseyin Özdemir and Aysit Tansel, "External Debt and Growth in Developing Countries: Evidence from a Heterogeneous Dynamic Panel Data Approach," Empirical Economics 65, no. 2 (2023): 701, <u>https://doi.org/10.1007/s10663-023-09581-0</u>.

<sup>&</sup>lt;sup>10</sup> UNCTAD, UNCTAD Productive Capacities Index: Methodological Approach and Results (Geneva: United Nations, 2021), 32, https://unctad.org/publication/unctad-productive-capacities-index-methodological-approach-and-results.



analyze the status of Türkiye's productive capacity both by looking at its overall index and by proposing four of the eight domains comprised in the PCI of the UNCTAD: Human capital, ICT, institutions, and private sector. The analysis also compares the overall index and sub-components (human capital, ICT, institutions, and private sector) of Türkiye with other developed and developing countries that can be categorized under three group compositions: Southern Europe (Greece, Italy, Portugal, and Spain), Eastern Europe (Bulgaria, Hungary, Czechia, Poland, and Romania), and South-eastern Asia (Malaysia, Thailand, and Viet Nam). With the analyses, the paper aims to provide a comprehensive and multidimensional understanding of Türkiye's productive capacity in different domains and observe changes from 2000 to 2022. Furthermore, by comparing Türkiye's productive capacity with other countries from Southern Europe, Eastern Europe, and South-eastern Asia, the paper aims to reveal gaps and important trends related to productive capacities.

#### 2. Türkiye's Productive Capacity

UNCTAD's recent Trade and Development Report (2024)<sup>11</sup>, urges states to rethink their development strategies amid a global slowdown and increasing social discontent. Furthermore, the report calls for the prioritization of economic resilience and diversification by developing countries and highlights the challenges, such as rising debt and increasing demands for health and social services, that developing nations face in their policy choices<sup>12</sup>. As a developing country, Türkiye must benefit from UNCTAD's Productive Capacities Index to also rethink its development strategy. For Türkiye, UNCTAD forecasts that compared to 4.5 percent growth in 2023, Türkiye's economy will grow by 3.5 percent in 2024<sup>13</sup>. Furthermore, in its recent overview of the country, the World Bank Group underlines longstanding macro and structural obstacles that challenge Türkiye's potential growth – including high inflation, low productivity growth, and weakening foreign direct investment – that would necessitate the country to design robust fiscal measures and structural reforms that will help to speed up its sustainable economic

<sup>&</sup>lt;sup>11</sup> United Nations Conference on Trade and Development (UNCTAD), Trade and Development Report 2024, <u>https://unctad.org/publication/trade-and-development-report-2024</u>.

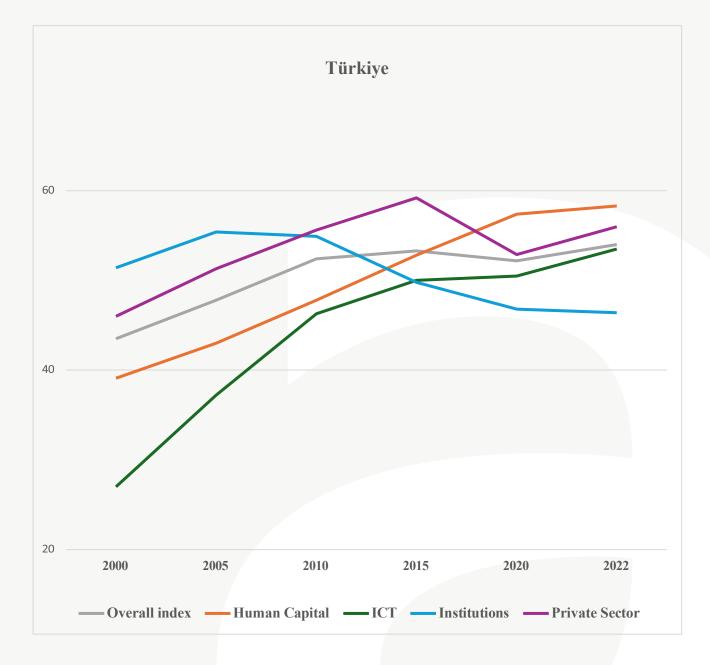
<sup>12</sup> Ibid.

<sup>&</sup>lt;sup>13</sup> United Nations Conference on Trade and Development (UNCTAD), Trade and Development Report 2024: Rethinking Development in the Age of Discontent (Geneva: UNCTAD, 2024), 38, <u>https://unctad.org/system/files/official-document/tdr2024\_en.pdf</u>.



growth<sup>14</sup>. Also, the Group emphasizes that Türkiye should navigate these obstacles by revitalizing its economic growth in a post-COVID era amid the challenging macroeconomic climate and a downward pattern in productivity<sup>15</sup>. Considering these trends, this part will provide a detailed understanding of Türkiye's productive capacity.

## Figure 1 – Overall Index and Its Components (2000 - 2022)<sup>16</sup>



<sup>&</sup>lt;sup>14</sup> World Bank, "Turkey Overview," last modified April 15, 2025, <u>https://www.worldbank.org/en/country/turkey/overview</u>.

15 Ibid.

<sup>&</sup>lt;sup>16</sup> In this paper, all of the data were extracted from: United Nations Conference on Trade and Development (UNCTAD), UNCTADstat Data Hub, https://unctadstat.unctad.org/datacentre/dataviewer/US.PCI.



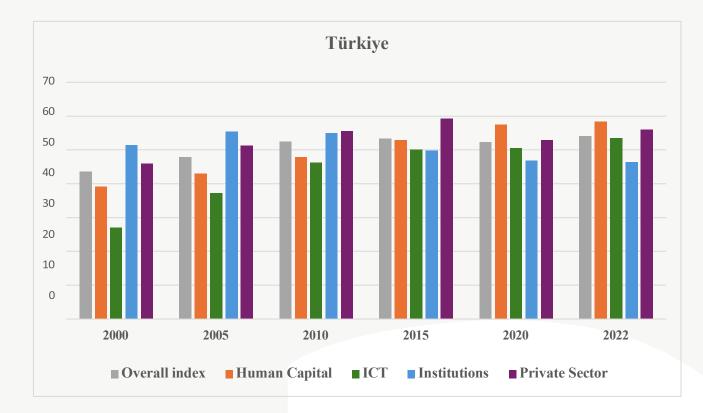


Figure 2 – Overall Index and Its Components (2000 - 2022)

Considering the trends mentioned above and based on the observations extracted from **Figures 1 and 2**, it can be observed that during the 2000–2022 period in Türkiye, the institutions index tended to decrease, while human capital, ICT, and the private sector tended to increase. For the overall index, Türkiye displays consistent long-term growth, though the pace fluctuates across periods. The most significant progress occurred between 2005 and 2010, while the periods 2015–2020 and 2020–2022 reflect slower but steady recovery, likely shaped by global and domestic economic challenges, such as the pandemic, and geopolitical and political instability.

Both ICT and institutions are critical enablers of sustainable development. Their earlier growth contributed significantly to the country's overall economic progress. However, both ICT and Institutions indices show stagnation or decline after 2015, which may suggest a correlation between technological development and institutional capacity. Because ICT development heavily relies on strong institutional support, including regulatory frameworks, governance, and public-private partnerships.

The graph indicates that Türkiye's private sector has consistently been a key strength, demonstrating steady and significant growth over the years. In comparison, advancements in human capital have been more gradual, suggesting a need for greater focus on education and workforce development to enhance long-term productive capacities.



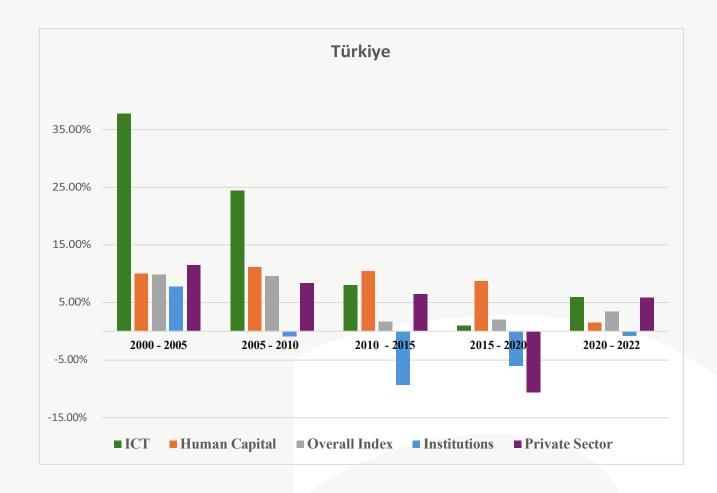


Figure 3 - Percentage Change in Overall Index and Its Components Over Time (2000 - 2022)

**Figure 3** compares changes in specific indicators in Türkiye over 5-year intervals between 2000 and 2022. Most indexes appear to have experienced positive but moderate growth. Among these indexes, the private sector shows a significant rise compared to others, indicating investment in this sector due to trends such as higher opportunities for entrepreneurship<sup>17</sup>, the availability of private credit to the private sector, decreasing transport costs for trade, or the increasing formalization of the economy.

Between 2005 and 2010, growth continued in all indexes except the institutions index, but the ICT and overall indexes stood out with higher increases. This may suggest an increasing investment in ICT infrastructure and the significance of technology in contributing top productivity. However, a minor decline in the institutions component also began during this period.

<sup>&</sup>lt;sup>17</sup> Sèna Kimm Gnangnon, "Productive Capacities, Economic Growth and Economic Growth Volatility in Developing Countries: Does Structural Economic Vulnerability Matter?" International Journal of Development Issues 14, no. 2 (2015): 14, <u>https://doi.org/10.1142/S1793993315500122</u>.



For 2010 - 2015, steady growth continued across all indicators except for institutions, though it was slower than the previous period. A significant decline in the institution's component is worth mentioning, as it may reflect political instability, erosion of government effectiveness, and accountability.

Between 2015 and 2020, the country experienced modest overall progress once again. It is important to mention that during this period, looking at the percentage changes in each index, there was a noticeable decline in the private sector index. Considering the continuation of a decline in the institutions index during this period, political instability and weakness of institutions may create an unpredictable environment for business, especially in terms of the regulatory environment.

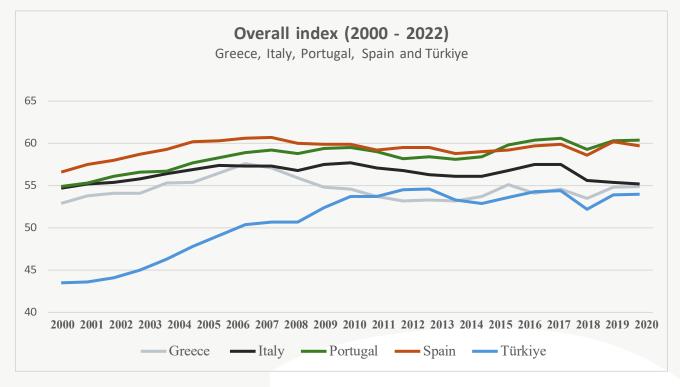
Following the challenges of the previous period, Türkiye's performance shows modest recovery post-2020 across most components, with ICT being a clear area of strength. This sector continued to exhibit significant growth, driven by accelerated digital transformation and the increasing adoption of technology, likely influenced by the global shift toward digitalization during the COVID-19 pandemic. The recovery of the private sector might also reflect efforts to adapt to post-pandemic economic conditions.

# 3. Türkiye & Southern Europe (Greece, Italy, Portugal, and Spain)

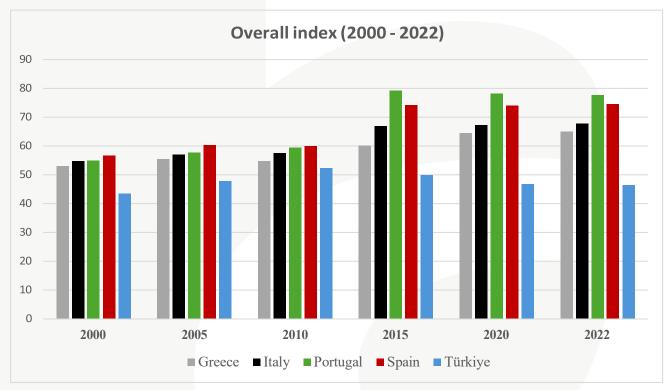
This part of the analysis will provide a comparative analysis of the overall index and institutions index between Türkiye and Southern European countries (Greece, Italy, Portugal, and Spain) from 2000 to 2022 and over five-year intervals from the same period. The comparison will offer insights into regional dynamics and the position of Türkiye. The analysis will highlight the fact that institutions are a critical area where Türkiye shows significant difference relative to the Southern European countries.





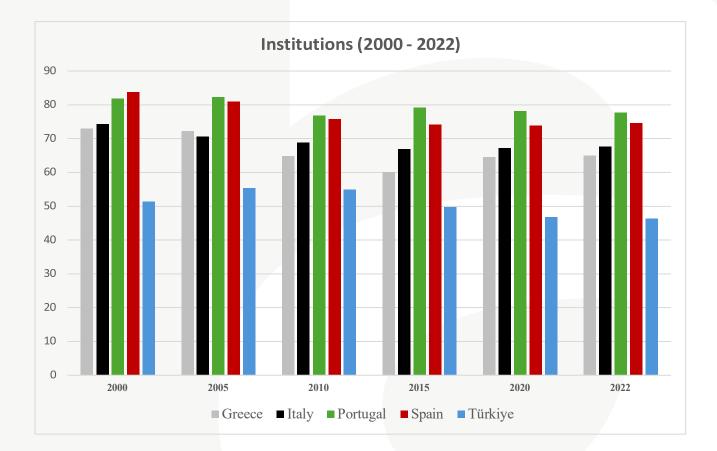








According to **Figures 4 and 5**, Türkiye displays the most dynamic and rapid growth in the overall index, while Greece, Italy, Portugal, and Spain show relatively stable performance throughout the period. Türkiye started with the lowest overall index score in 2000 compared to its counterparts, but despite this low score, it exhibited growth over the years, especially between 2000 and 2015. But then convergence stopped. This highlights Türkiye's focus on fostering its productive capacities over the past two decades, likely through efforts, investments, policy actions, and interventions in sectors such as ICT, infrastructure, and other key sectors.



## **Figure 6 – Institutions (2000 – 2022)**



**Figure 6** shows that institutions are an important area where Türkiye reveals significant underperformance relative to Greece, Italy, Portugal, and Spain. Throughout the period 2000 - 2022, the gap between Türkiye and Southern European countries remains wide. The institutional stability and higher index values in Greece, Italy, Portugal, and Spain likely contribute to their stronger overall economic and productive capacities compared to Türkiye. Türkiye's lag in institutional quality could hinder its ability to close the gap in other productive capacity components. It is important to note that functioning institutions capable of formulating and implementing development policies are crucial, both to foster economic growth and maintain the sustainability of such growth<sup>18</sup>. Considering the gap in the institutions index, strengthening institutional quality, governance, and rule of law is essential for Türkiye.



### Figure 7 - Percentage Change in Overall Index

<sup>&</sup>lt;sup>18</sup> United Nations Conference on Trade and Development (UNCTAD), UNCTAD Productive Capacities Index: Methodological Approach and Results (Geneva: UNCTAD, 2021), 47, <u>https://unctad.org/publication/unctad-productive-capacities-index-methodological-approach-and-results</u>.



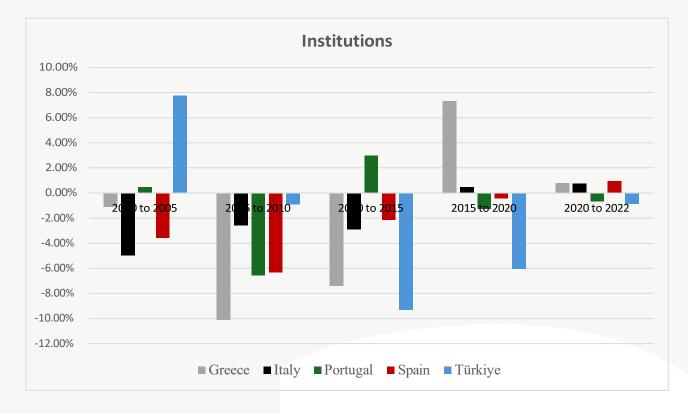
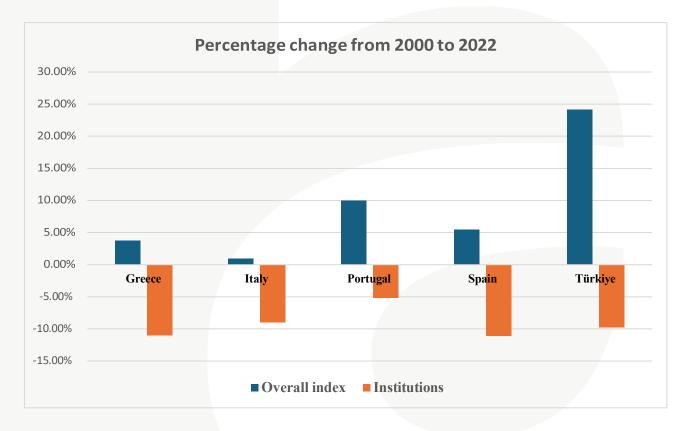


Figure 8 - Percentage Change in Institutions

Figure 9 - Percentage Change from 2000 to 2022 in Overall Index and Institution

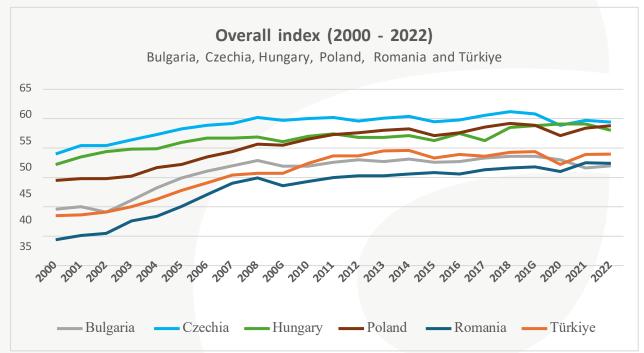




Based on the percentage change from 2000 to 2022, which is revealed in **Figures 7, 8, and 9**, Türkiye exhibits a significant increase in its overall index, outpacing all other countries in the analysis, with a percentage growth close to 25%. However, this impressive growth in the overall index contrasts with a decline in its institutions index, which drops by approximately 10%, indicating a weakening of institutional quality over the same period. In comparison, countries like Portugal and Spain demonstrate modest but balanced growth in both their overall and institutions indices, while Italy and Greece show stagnation or slight declines in institutional performance, impacting their overall progress. This divergence in Türkiye's indices highlights the country's challenges in achieving sustainable development through stronger institutional frameworks despite improvements in other dimensions of productive capacity.

## 4. Türkiye & Eastern Europe (Bulgaria, Hungary, Czechia, Poland, and Romania)

This part of the analysis will provide a comparative analysis of the overall index and institutions index between Türkiye and Eastern European countries (Bulgaria, Hungary, Czechia, Poland, and Romania) from 2000 to 2022 and over five-year intervals from the same period. The comparison will offer insights into regional dynamics and the position of Türkiye. The analysis will highlight the fact that institutions are a critical area where Türkiye's trajectory differs significantly from Eastern European countries, similar to Southern European countries.



#### Figure 10 - Overall index (2000 – 2022)



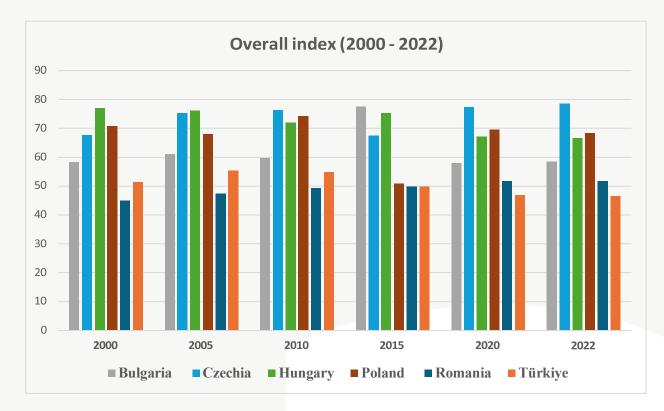
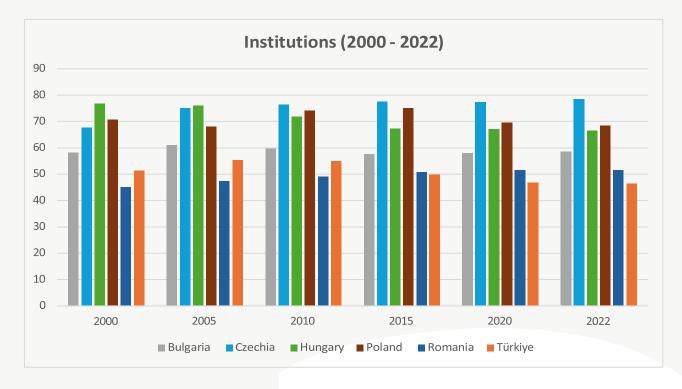


Figure 11 – Overall index (2000 – 2022)

Based on **Figures 10 and 11**, Türkiye started with one of the lowest index values in 2000 but displayed consistent growth over the 22 years. By 2022, Türkiye reached levels comparable to Romania and Bulgaria, remaining below Hungary, Czechia, and Poland. These countries consistently maintained higher index levels, indicating stronger productive capacities and more advanced economic and institutional frameworks. The gap between Türkiye and these countries persists, though Türkiye has made progress in narrowing it slightly over time. What is important to mention is that the strong performance of Czechia, Hungary, and to some extent, Poland reflects their early integration into the European Union and sustained investment in productive capacities.

Analyzing the above 5-year trends, it can be observed that Türkiye has consistently outpaced Romania since 2010 and is on par with Bulgaria in 2022, demonstrating its successful trajectory in strengthening productive capacities.





**Figure 12 – Institutions (2000 – 2022)** 

**Figure 12** shows that in terms of the Institutions Index, Türkiye's score remains below that of all five Eastern European countries, reflecting persistent institutional weaknesses. While Bulgaria and Romania have shown moderate progress in their institutional frameworks, Türkiye has not been able to match their pace of improvement, leaving it at the bottom of the group. Türkiye's lowest score in 2022 can be attributed to its slower pace of institutional reforms, governance challenges, and limited external support compared to its Eastern European counterparts. While Türkiye has made progress over the years, the lack of alignment with global institutional standards and ongoing political and economic challenges continue to hinder its overall performance. What is also worth mentioning is that, in 2015, Romania outperformed Türkiye in institutional capacity, placing Türkiye's score below that of all five Eastern European countries.

Overall, Türkiye has consistently improved its institutional capacity from 2000 to 2022. However, the pace of improvement has been relatively slower compared to its Eastern European counterparts.



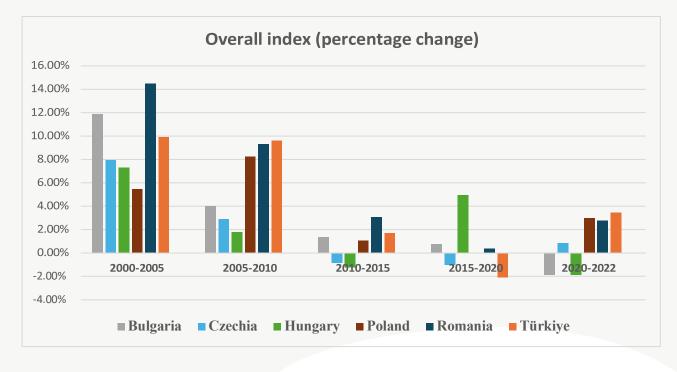
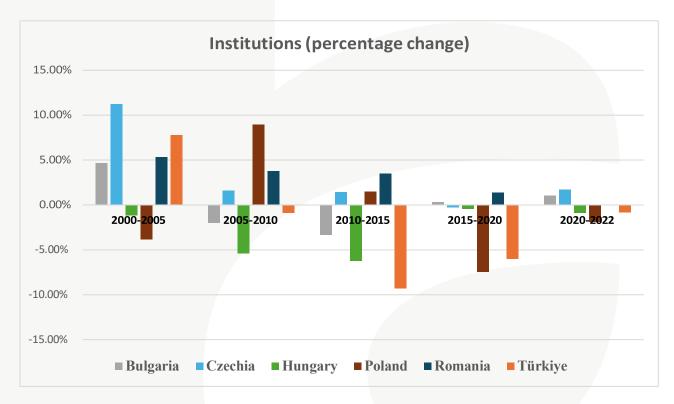


Figure 13 - Percentage Change in Overall Index

# Figure 14 - Percentage Change in Institutions





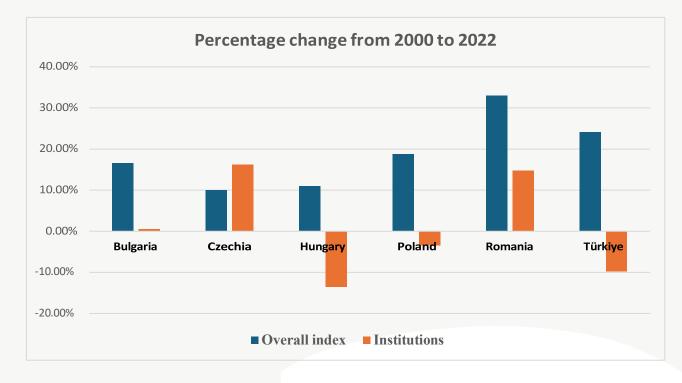


Figure 15 - Percentage Change from 2000 to 2022 in Overall Index and Institutions

From Figures 13, 14, and 15, it can be observed that While Türkiye has seen strong gains in the overall index, its institutional progress is weaker compared to most peers, reflecting potential inefficiencies or challenges in governance reforms. For Romania, the country leads in both overall index and institutional improvements, likely due to significant reforms and investments during the measured period. Czechia's slower institutional growth contrasts with its stronger overall index gains, indicating reliance on non-institutional factors. Hungary exhibits balanced development, reflecting steady governance and economic improvements. Finally, Poland demonstrates consistent growth across both indices, indicative of sustained and balanced development efforts.

Overall, all countries reveal positive growth in the overall index over the 22-year period, though the rates of growth vary. Romania and Türkiye stand out with higher overall percentage increases, particularly in the earlier years (2000-2010). This suggests that countries with initially lower scores (Romania and Türkiye) experienced faster development to catch up with others. Czechia and Hungary show substantial increases in the Overall Index but relatively modest improvements in Institutions. Türkiye exhibits similar growth patterns, with faster growth in the overall index but slower institutional improvements. Romania is an exception, where both the overall index and institutions show significant growth, reflecting comprehensive progress.



# 5. Türkiye & South-eastern Asia (Malaysia, Thailand, and Viet Nam)

This part of the analysis will provide a comparative analysis of the overall index and ICT index between Türkiye and South-eastern Asia countries (Malaysia, Thailand, and Viet Nam) from 2000 to 2022 and over five-year intervals from the same period. The analysis will underline Türkiye's divergence from Southeast Asian countries, particularly in ICT.

## Figure 16 - Overall index (2000–2022)

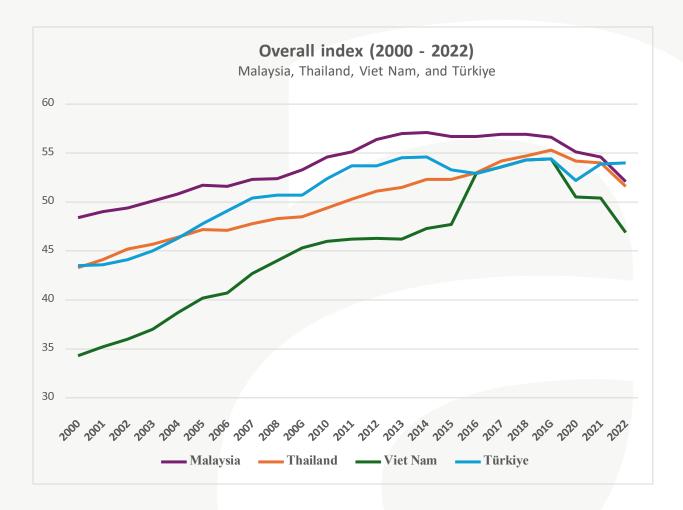






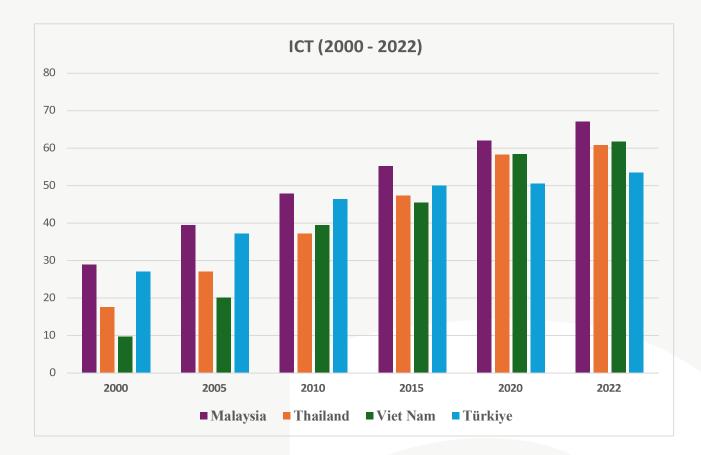
Figure 17 - Overall index (2000 – 2022)

**Figures 16** show that Türkiye starts with a score slightly below Malaysia and Thailand but higher than Vietnam. Malaysia leads among the group, indicating a higher level of development at the turn of the century. For the period 2000 - 2015, Türkiye shows steady growth during this period, eventually surpassing Thailand and narrowing the gap with Malaysia. Vietnam exhibits the fastest growth trajectory during this time, reflecting rapid development and progress.

For 2015 – 2022, it can be observed that Türkiye's performance stagnates and shows a slight decline after 2015, aligning with trends of institutional and economic challenges during this period. Vietnam continues its upward trajectory, surpassing Thailand and closing the gap with Malaysia by 2022. Malaysia and Thailand also face periods of stagnation or slower growth after 2015, but they maintain relatively higher scores than Türkiye. Overall, Southeast Asian countries demonstrate resilience in their development trajectories, while Türkiye's performance reflects potential economic or political hurdles that need to be addressed. Vietnam's earlier growth reflects its successful reforms, but the recent decline could point to emerging challenges such as structural bottlenecks or external shocks.



Figure 18– ICT (2000 – 2022)



**Figure 18** depicts the ICT index for Malaysia, Thailand, Vietnam, and Türkiye across six key years (2000, 2005, 2010, 2015, 2020, and 2022). According to this Figure, Vietnam has shown the fastest rate of growth, starting from a low base in 2000 and achieving near parity with the other nations by 2020. This reflects Vietnam's aggressive investment in ICT infrastructure and the adoption of ICT-enhanced policies by its government. It is important to note that ICT infrastructure plays an important role in fostering economic growth<sup>19</sup>. Therefore, many developing countries are investing in ICT and thriving in internalizing it to catch the pace of developed economies<sup>20</sup>.

While Türkiye consistently scores ahead of Thailand and Viet Nam—and remains relatively close to Malaysia in earlier years—the broader trend reveals a rather disappointing and concerning stagnation in its ICT development compared to the significant upward trajectory observed in the other countries.

<sup>&</sup>lt;sup>19</sup> R. S. Gajavelli and S. K. Misra, "Productive Capacities and Economic Growth in Developing Countries," IIMB Management Review 30, no. 2 (2018): 91, https://doi.org/10.1016/j.iimb.2018.01.002.



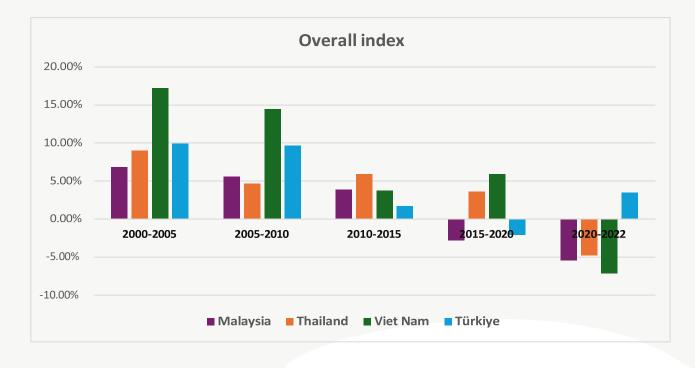
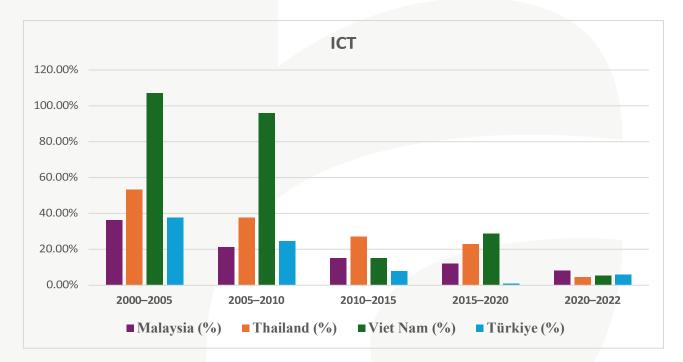


Figure 19 - Percentage Change in Overall Index







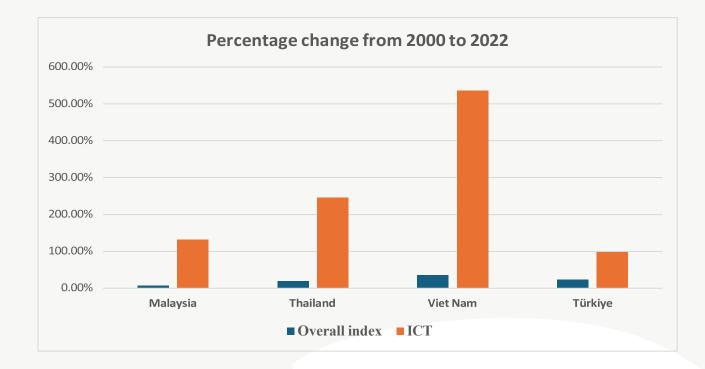


Figure 21 - Percentage Change from 2000 to 2022 in Overall Index and ICT

Concerning ICT growth, **figures 19, 20**, and **21** highlight Vietnam's exceptional performance, with an increase of over 500% in ICT from 2000 to 2022. This reflects Vietnam's robust digital transformation and commitment to technological modernization. Thailand and Malaysia also demonstrate strong ICT growth trajectories. In stark contrast, Türkiye's ICT growth remains relatively subdued, indicating a slower pace of digital adoption and innovation.

In terms of the overall index, while all countries show growth over the 22-year period, Türkiye's performance is comparatively underwhelming. Vietnam, despite some recent declines, has made significant early gains that outpace Türkiye's improvements. Thailand and Malaysia have both maintained steadier trajectories and achieved greater cumulative progress. Türkiye's early momentum has not been sustained, and its more recent stagnation has widened the development gap between itself and its Southeast Asian peers.

From a broader perspective, the data underscores a concerning trend for Türkiye. Despite having a relatively stronger starting point in the early 2000s, Türkiye has failed to capitalize on global shifts towards digitalization and innovation at the same pace as its regional counterparts. This lag is evident in both ICT and overall index scores. While countries like Vietnam have emerged as digital frontrunners, Türkiye risks falling further behind without substantial structural and policy-level interventions to boost competitiveness, innovation capacity, and digital infrastructure.



#### **Conclusion:**

This paper, through its analysis of Türkiye's productive capacity by examining its overall index and four domains (human capital, ICT, institutions, and the private sector), provides a comprehensive and multidimensional snapshot of Türkiye's productive capacity. Furthermore, by comparing the country's indexes with those of other developed and developing countries categorized into three groups—Southern Europe (Greece, Italy, Portugal, Spain), Eastern Europe (Bulgaria, Hungary, Czechia, Poland, Romania), and Southeastern Asia (Malaysia, Thailand, Vietnam)—the analysis also reveals the domains where Türkiye is falling behind and where reparative efforts are needed.

Overall, looking at Türkiye's overall index and its components, and analyzing the percentage change over time, it can be observed that Türkiye demonstrated resilient long-term growth between 2000 and 2022, despite fluctuations driven by domestic and global challenges. The consistent expansion of the private sector and gradual improvements in human capital contributed positively to economic development. However, the stagnation and decline in institutions and ICT after 2015 underline the critical need for strengthening institutional capacity and governance to sustain and enhance future growth. Türkiye's ability to align technological advancement with robust institutional support will be essential for achieving sustainable development goals in the coming years.

In terms of the comparison of Türkiye with Southern Europe country group (Greece, Italy, Portugal and Spain) it is important to note that while Türkiye achieved the most dynamic overall growth among the countries analysed between 2000 and 2022, its persistent gap in institutional quality compared to Southern European counterparts remains a critical challenge. The country's significant progress in sectors like ICT and infrastructure demonstrates strong potential, yet the decline in institutional performance risks undermining long-term sustainability. Strengthening governance, rule of law, and institutional capacity will be vital for Türkiye to consolidate its gains and move closer to the development levels of its European peers.

Compared to Eastern European countries, Türkiye has demonstrated strong overall growth between 2000 and 2022, gradually narrowing the gap with Romania and Bulgaria. However, persistent weaknesses in institutional quality continue to set Türkiye apart from its peers. While countries like Romania achieved parallel improvements in both productive capacities and institutions, Türkiye's slower institutional progress highlights the ongoing challenges in governance and reform. Strengthening institutional frameworks will be crucial for Türkiye to sustain its development trajectory and achieve more balanced and resilient growth.



Finally, comparison of Türkiye with South-eastern Asia group shows that despite starting from a relatively stronger position in the early 2000s, Türkiye's progress, particularly in ICT development, has lagged behind its Southeast Asian peers. While Vietnam, Malaysia, and Thailand leveraged digital transformation to drive rapid growth, Türkiye's stagnation after 2015 highlights missed opportunities in innovation and competitiveness. Without significant structural reforms and investments in digital infrastructure, Türkiye risks falling further behind in the global development race, underscoring the urgent need for renewed policy focus on technology and innovation.

