

De-industrialisation and poverty in Turkey

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Abstract

De-industrialisation has emerged as a crucial problem in today's developing economies, and globalisation and rapid technological progress have widely been considered as its causes. However, de-industrialisation has also been going along with a change in political discourse in some countries like Turkey, and it appears to have led to a rise in economic populism. An increase in the shares of non-tradable economic activities in value-added and employment come forward as both an instrument of economic populism and the sign of de-industrialisation. Today's populist discourse is also accompanied by high economic growth led by high non-tradable economic activities and a fall in poverty. This paper examines an empirical link between the recent fall in Turkish poverty and the rise in non-tradable activities and income. De-industrialisation seems to become apparent after 2009, and non-tradable economic activities have overwhelmingly become the engine of economic growth after this year in Turkey. The result shows that non-tradable income distinctively has more reducing impacts on poverty than those of other tradable and agricultural income. This can be regarded as one of the reasons why the Turkish policymaker fulfilling populist discourse chooses non-tradable economic activities and encourage non-tradable income to rise on average more than others.

JEL Code: E25, I32, O11, O14

Introduction

Although **de-industrialisation** has theoretically been recognised as a necessary step for the structural shift from agriculture to manufacturing for the labour forces of advanced countries, it has been observed that a similar structural transformation has also taken place in many developing countries before the completion of their industrialisation process. This is an important issue and gives weight to studies examining why this *untimely* de-industrialisation occurs.

De-industrialisation is defined as a fall in the share of tradable economic activities such as manufacturing. Recently, its causes have attracted greater levels of attention, and it has also become a source of interest for many empirical studies of the structural transformations that take place within developing countries (Bernard et al., 2017; Castillo and Neto, 2016; Cruz, 2015; Bogliaccini, 2013). Research into the causes of de-industrialisation goes back to the 1980s and to the years when there were great transformations throughout the institutional structures of many middle-income countries, including Turkey. Due to their need to deal with various economic difficulties, such as their balance of payment and foreign debt problems, several developing countries were advised to adopt neoliberal economic policies and to establish an incentive scheme based on market values. These market-oriented reform efforts paved the way for the establishment of economic structures based on the comparative advantages of developing countries, and this structure eventually resulted in the abolition of selected industries that were not sufficiently competitive in the global market. These, then, were the conditions that allowed participation in the world economy, and these market-oriented reforms and neoliberal policies are, *to some extent*, to be held accountable for the de-industrialisation of developing countries.

Being open to the vagaries of the world economy exposed developing countries to international competition, which eventually left them with limited room for manoeuvre for their **tradable economic activities** in international markets. As expected, their manufacturing sectors, which had previously been considered as the engines of their economic growth (see Kaldor, 1966), came under pressure from global competition. The countries that succeeded in gaining comparative advantage in this scenario have been those that have been able to adapt their economies to rapid technological progress. Yet, this has not been an easy task and has required the presence of **good quality institutions** (Acemoğlu and Üçer, 2015; Altuğ et al., 2008), **industrial policies** with long term vision (Rodrik, 2004), and **sound macroeconomic management** characterised by the maintenance of low inflation and interest rates together with a stable foreign exchange rate (Derviş, 2016). Due to their failures in successfully adopting technology and improving their competitive power, economic growth in many developing countries has become dependent on the expansion of **non-tradable economic activities**, thereby giving rise to the **non-tradable-driven economic growth model** (or *service-led economic growth model* in cases such as India). This is generally one of the *neglected* reasons for **de-industrialisation** defined as an *untimely* expansion of non-tradable activity sectors in developing countries (Dasgupta and Singh, 2006; Rodrik, 2016).

De-industrialisation is not only an outcome of economic and institutional constraints prevailing in developing countries but is also the result of changes in the political discourse. The dominant neoliberal discourse of the 1980s and the 1990s caused widespread disappointment and left masses of people with severe economic problems such as insufficient economic growth, unequal income distribution, unemployment, and poverty (Milanovic, 2016; Stiglitz, 2019). The **populist discourse** is a reaction against these outcomes, and it has been used to promise solutions to these problems (Derviş, 2016; Muller, 2018). It is, however, extremely difficult for populist policymakers to create solutions by operating within the highly competitive global economy, particularly if they rely on tradable economic activities. Non-tradable economic activities, on the other hand, are exempt from international competition and are therefore an attractive instrument by which populists may attempt to achieve their objectives. In this regard, **the populist discourse, to some extent, accounts for de-industrialisation as non-tradable economic activities gain favour.**

The expansion of non-tradable economic activities, and reliance on them to achieve high levels of economic growth, can be pursued by policymakers for as long as international finance is available. The 2000s witnessed the creation of an appropriate environment for expanding non-tradable economic activities and increasing expenditure on them as **instruments** within the populist economic discourse. However, **the importance of this discourse as the cause of de-industrialisation has largely been ignored.** The major contribution of non-tradable economic activities to economic growth, together with their high capability for job creation, and their dominant impact on both improving income distribution and reducing poverty ensures that they remain an attractive instrument for populists.

The presence of fierce international competition brought about by “ultra” globalisation in the 2000s and rapid technological advances which enhanced the competitive power of some countries, constrained both the expansion of tradable economic activities and employment in tradable sectors. Economic problems, such as the difficulty in creating **good quality economic growth** (Acemoğlu and Üçer, 2020), a decline in average household income, and deteriorating income inequality, accumulated in many developing countries (Günçavdı and Bayar, 2020). Eventually, existing political establishments became helpless against the bulk of these economic problems and were unable to satisfy the immediate needs of large political masses. As a means to delay the inevitable end, many policymakers turned to a new populist discourse. This *new* economic populism increased reliance on the expansion of non-tradable

economic activities and can be seen as an attempt to create jobs (most of which are not good quality), achieve high economic growth, *and to some extent*, cope with the poverty prevalent in many developing countries. In particular, the impact of these activities on reducing poverty is considered to be a very attractive characteristic. In what follows, the extent and the direction of income generated only by non-tradable economic activities with regard to the reduction of poverty are examined in the Turkish economy.

In this paper, non-tradable economic activities and the income they generate is considered to be an instrument of the new populism. Following the seminal paper by Dornbusch and Edwards (1990), **economic populism** has been defined as a search for high economic growth, better income distribution, and a low poverty rate brought about by an expansion in non-tradable economic activities and the desire for income at any cost. This paper aims to examine the *inevitable* rise of these activities as an indication of the de-industrialisation process occurring throughout the globalised world. In particular, their impact on reducing poverty is empirically investigated as an important motive of today's populist discourse. In doing so, micro-level data from *TurkStat's Households Budget Surveys* are used to calculate the poverty rate of several households with an income level below a pre-determined poverty line. Changes in poverty rates are then decomposed into their components by employing a method developed by Son (2003). This is an extended version of Datt-Ravallion (1992), augmented by including additional terms together with economic growth and redistribution. Datt and Ravallion (1992) used their decomposition method to measure the extent of economic growth on poverty and described it as **pro-poor economic growth** if the growth effect on poverty is its dominant feature. This paper claims that economic growth, particularly that which relies on non-tradable economic activities, has a likelihood of being pro-poor due to the dominant effect of non-tradable earnings on improvements in poverty. This new decomposition method is also convenient when attempting to establish an empirical link between the components of changes in poverty levels. This link is related to two distinctive features of de-industrialisation which have not drawn any attention so far in the literature. They are:

- i. A rise in the mean level of income earned from increased non-tradable activities during the de-industrialisation process,
- ii. An increase in the number of non-tradable income entities as a sign of de-industrialisation.

The present paper can be considered unique due to its definition of de-industrialisation based on these features and also due to its intention to establish **an empirical link between de-industrialisation and poverty** through (i) and (ii).

The paper has five sections. Section 1 examines the presence and the extent of de-industrialisation in Turkey together with the theoretical discussion in the present literature. Section 2 briefly describes the relationship between the nature of economic growth and poverty. Following the mathematical derivation of the decomposition method by Son (2003) in Section 3, the Turkish Household Budget Survey data and empirical results are discussed in Section 4. The conclusion drawn from our findings is presented in the final section.

Structural Transformation and De-industrialisation

Theoretically, the route towards economic development is expected to produce a shift from agriculture to manufacturing. This expectation is mainly based on Kaldor's empirical observations of several advanced countries and postulates that the manufacturing sector is the engine of economic growth for those that follow this route (Kaldor, 1966). However, the recent trend observed in developing countries challenges this view and serves to illustrate a different direction of development. Instead of a shift of the labour force from agriculture to manufacturing, the labour force moves instead to services, and many developing countries already under pressure from increasing international competition have become desperate due to their inability to maintain their manufacturing labour force. In addition, the structural rigidities within labour markets have made automated production inevitable, and this has created an excess of labour which also eventually moves to services.

The Kaldorian view is important for a country like Turkey for two reasons. *First*, agriculture still dominates most traditional economies, and the agricultural sectors of many countries eventually face difficulties in excess population growth and falling productivity. In addition, reductions in mean income in agriculture and, in some cases, a concentration of land ownership by a limited number of the "elite" causes imbalances in income distribution, and even makes it difficult for people to remain in the agricultural sector. *Second*, the manufacturing sector is generally regarded as being able to compensate for any decline in agricultural productivity while also providing employment (particularly for the unskilled). The high productivity level of manufacturing also speeds up overall economic growth and allows a developing country to close the gap with its more advanced competitors relatively quickly. This is the expected course of development and industrialization. At the same time, investment and capital accumulation (along with technological progress) in manufacturing are considered as major sources of economic growth during the industrialisation process.

However, a recent trend among developing countries has differed from this in that the labour force from traditional sectors such as agriculture moves directly to services (or non-tradable activities) instead of manufacturing, as postulated by Kaldor. Many such observations give rise to concerns regarding the nature of the development pattern prevailing in developing countries. Some of the features of this pattern are as follows:

- A fall in the share of manufacturing in both value-added and employment. More importantly, these declines occur at a relatively lower level of per capita income than in previous cases.
- A sectoral shift from agriculture to service sectors and not to manufacturing in some developing countries.
- Sectoral shifts associated with a deterioration in income inequality. In cases where there are shifts from an industry with better income distribution towards a sector with high within-group inequality, the structural transformation may worsen overall income distribution.

It is an empirical question to examine to what extent these postulated outcomes of structural transformation appear in a particular case.

As countries develop, the importance of manufacturing is reduced, and the workforce eventually moves from manufacturing to services. This route of development is called **de-industrialisation**, and it has been the route that today's advanced countries have followed. Based on detailed, cross-country empirical observations, Castillo and Neto (2016) postulate that today's advanced countries began this transformation when they achieved a per capita income of \$15,000-\$20,000. For many years, this structural shift from manufacturing to services has been considered a sign of development. However, Today's developing countries appear to have embarked on this route somewhat earlier (Rowthorn, 1997; Castillo and Neto, 2016). Studies have revealed that these countries started to move from manufacturing to services before their per capita income level reached \$15,000-\$20,000, and without completing their industrialisation process in manufacturing. Moreover, current shifts from the agricultural workforce usually bypass the manufacturing sector and move directly to services. In some cases, this transformation occurred when the per capita income was between \$3,000 and \$4,000. Since manufacturing has yet to sufficiently mature in these countries, this structural transformation is called **premature de-industrialisation** (see Dasgupta and Singh, 2006; Rodrik, 2016).

(Table 1 *about here*)

Table 1
– De-industrialisation in some selected developing countries

	<i>Differences between the entire economic growth rate and manufacturing growth rate (%)</i>			
	1970–1980	1980–1993	1993–2003	2004–2017
ASIA				
China	5.3	1.5	1.9	–
India	1.2	1.1	0.8	0.8
Indonesia	6.8	6.0	1.7	-0.9
South Korea	7.6	3.2	1.7	1.6
Malaysia	3.8	4.1	1.4	-0.6
Pakistan	0.5	1.3	0.9	1.1
Philippine	0.1	-0.6	-0.3	-0.1
Sri Lanka	-2.2	2.7	1.1	-0.2
Thailand	3.4	2.6	2.1	-0.4
LATIN AMERICA				
Argentina	-1.2	-0.4	-1.2	-0.6
Bolivia	1.5	-	-0.1	-0.1
Brazil	0.9	-1.9	-0.3	-1.9
Chile	-2.6	-0.7	-1.6	-1.9
Colombia	0.4	-0.2	-4.3	-1.7
Equator	1.0	-2.1	-0.6	-1.0
Mexico	0.7	0.5	0.1	-0.5
Peru	-	-	-0.6	-1.4
Venezuela	2.2	-0.8	-1.1	-2.5*
TURKEY	1.3	1.5	0.8	-1.2

Source: The data for Asia and Latin American countries between 1970 and 2003 are borrowed from Dasgupta and Singh (2006); the remaining data for 2004-2017 are compiled from *World Bank World Development Indicators* by the author. The data for Sub-Sahara Africa was also obtained from *World Bank World Development Indicators*. The data for Turkey, on the other hand, is from *Economic and Social Indicators 2017*.

* The data for Venezuela is available only for 11 years between 2004 and 2014 in World Bank's World Development Indicators. Unlike other countries, the differences in growth rates are calculated for the 2004-2014 period, not the 2004-2017 period.

Several indicators can be put forward to examine the extent of de-industrialisation. Table 1 shows the differences between overall economic growth and the growth rates of manufacturing value-added for different regions and reveals the fact the de-industrialisation is a very common phenomenon. The primary reason for this international comparison is to examine the impacts of different industrialisation practices. For example, the East Asian countries in Table 1 includes both newly industrialised countries, and also some success stories of the previous industrialisation, such as South Korea, Thailand, and China. However, the Latin American countries in the same table are known for their unsuccessful industrialisation practices and the economic crises that followed their pursuit of overly ambitious economic growth rates.

The time frame of Table 1 is sufficient to allow an assessment of the consequences of such structural transformation. The first period (1970–1980) was characterised by import substitution under the controlled foreign trade regime, and this occurred together with increased industrialisation and capital accumulation in manufacturing. The second period witnessed various liberalisation efforts in foreign trade regimes and financial markets. The import-substitution-industrialisation strategy abounded, and the re-organisation of the existing capital stock took place according to the competitive power of a given country within international markets instead of creating new stock. In the 1990s, many developing countries removed capital controls on external accounts, and access to international finance through external borrowing became easier. A fall in the cost of borrowing and increases in the availability of external finance enabled many of these countries (later termed “emerging market economies”) to achieve higher rates of economic growth. However, in certain cases, these generally favourable conditions hindered industrialisation. The final period is the financialization of the world economy during which low-interest rates and greater international borrowing capacity became the engines of economic growth in many developing countries.

Table 1 illustrates the differences between the rate of output growth in manufacturing and the total economic growth rate. A negative net growth rate indicates that manufacturing grew more slowly than the overall economy and *vice versa*. In the first column, net economic growth rates are positive, implying that the manufacturing sector was the engine of economic growth with higher growth rates than other economic sectors. This was due to the import substitution strategy and capital accumulation at any expense in manufacturing during the 1970s. However, in the second period between 1980 and 1990, developing countries began to differ in terms of their net economic growth rates. The majority of South Asian countries exhibited positive net economic growth rates whereas those of almost all Latin American countries were negative. This is a clear indication that South Asian countries continued industrialisation between 1980 and 1990, but that countries in Latin America (except for Mexico) did not. Turkey in this period continued to industrialize with a positive average net economic growth rate. In the last period, however, de-industrialisation occurred in both South Asian and Latin American countries. During this period, Turkey also had a negative average net growth rate – a clear sign of de-industrialisation.

(Fig. 1 *about here*)

Consumer preferences and the mismatch problem in domestic production

Following a similar discussion in the literature, several macroeconomic indicators can be used to show the extent of structural transformation in Turkey. Principally, there is a mismatch between consumption and domestic production, and this can be seen as another reason for a fall in the share of domestic manufacturing in GDP. As per capita income increases, consumer preferences change, and existing domestic production becomes regarded as inferior. If changes in the composition of domestic production are slow or do not occur at all, imports are used to meet the new consumer requirements. Lastly, as the **distribution of income** worsens, the structure of demand shifts from manufacturing to services (see Fig. 1). This also leads to a decline in the share of manufacturing in GDP. Households consequently demand more non-tradable activities from internal suppliers and more tradable activities from external ones. The other measures of de-industrialisation can also be used to report the extent of Turkish de-industrialisation in recent years.

(Fig. 2 *about here*)

The sectoral shares of employment

Figure 2 shows the employment shares of the manufacturing (“X”) and service sectors (including construction) (“O”). The 1985–2018 data is readily available from *TurkStat* and various trend functions have been incorporated into the data. There are many observations that can be made using this information. *First*, the share of manufacturing employment increased until 2008 and began to decline after 2009, thus rendering a *concave* shape for its trend function. *Second*, the service sector became an increasingly important source of employment, and it rose to account for over sixty percent of total employment after 2016. Its best-fit trend function is the increasing trend line as shown in Fig. 2. *Lastly*, it would not be an exaggeration to state that employment in the Turkish economy is, to a great extent, *service-led employment*.

(Fig. 3 *about here*)

Changes in the trend values of sectoral shares

Figure 3 shows the changing rates of the trend values of sectoral shares of value-added. The data was taken from *TurkStat*, the original time series were smoothed by using the Hedrick-Prescott filtering method, and the cyclical and trend components of the data were then decomposed. Leaving the cyclical components aside, only the trend values are recorded in Figure 3. These trend values are the most appropriate means of illustrating the long-run directions of value-added for each sector. The results in Figure 3 reveal an interesting trend. First, there is a decline in the shares of value-added in both the agriculture and tradable activity sectors, particularly the share of agricultural value-added after 2015. Second, the shares of non-tradable activity and its associated value-added reveal an increasing trend that develops into a drastic rise, particularly after 2010. This implies that the contribution of non-tradable activity sectors to economic growth has been both significant and high.^[1]

Rodrik (2016) raised a concern regarding the changing nature of economic growth in emerging market economies through his recent observations on the falling share of manufacturing in both employment and value-added; he refers to this transformation process as *premature de-industrialization*. Turkey has followed this trend, and economic growth after 2001 became non-tradable-driven. As can be seen in the following figures the tradable activity component of Turkish GDP has declined drastically whereas that of non-tradable activity has increased. This transformation is very much in-line with the expectations of Rodrik (2016). Understanding the role sectoral income plays in poverty rates would help policymakers reduce poverty. There is an *a priori* expectation that booming non-tradable activities and their associated incomes would account for the improvement in poverty in the Turkish case. This is because such income is generated in market conditions that are exempt from international competition and is largely determined independently by Turkish policymakers. This structural transformation has been widely recognised in Turkey, but its impacts on the recent decline in poverty have not been examined. The main reason for this is that the present literature does not offer any empirical channels to be tested. Rectifying this situation is the primary purpose of this paper.

(Fig. 4 about here)

[1] The same filtering exercise cannot be done for the shares of sectoral employment due to the lack of high-frequency data.

Methodology

After 2002, poverty became another important element in the rise of **populism** in Turkey, and its importance has increased further due to the country's currently stagnant economic growth. In fact, various AKP (Justice and Development Party) governments and their macroeconomic management style achieved substantial declines in poverty after 2002, but according to the OECD, Turkey's poverty rate remains as one of the worst. Figure 4 illustrates the trend of the poverty rate between 2002 and 2017.^[2] The figure is based on data from two different studies that utilised different methodologies, thereby causing a mismatch in the time periods. The data for the years between 2002 and 2009 were obtained from *TurkStat's Poverty Study* of 2015, and *TurkStat's Income and Living Condition Survey* provides the data for the 2006-2017 period. In Figure 4, these poverty rates are given as PR-1 and PR-2, respectively. In addition, the second source contains calculations for the poverty gap and indicates the severity of poverty. This is a means to measure how far below the poverty line are the income levels of given households. Eradicating this distance by income transfer (as a policy measure to reduce poverty) will be considered as the cost born by society. Figure 4 shows two distinctive trends for the poverty rate. First, according to PR-1, poverty levels surged to around 15 percent, showing a relatively stable trend with no significant change during the reform period. However, this trend changed and poverty declined after 2009. The similarity of the trends of the poverty gap and the overall poverty rate after 2006 is also worth noting.

Until recently, the poverty issue has not been a widely touched-upon area of research in Turkey and has been mostly studied by international organisations such as the OECD and the World Bank for policy purposes. However, one recent paper by Şeker and Jenkins (2015) notes that income inequality declined in the 2000s and that absolute poverty fell rapidly between 2003 and 2008 but fell only slightly between 2008 and 2013. They also indicate that by *decomposing* the absolute poverty rate, the decline in poverty in the 2000s can be shown to be the result of changes in the rate of economic growth rather than by distributional change (or improvement in income distribution). **It is however interesting that this decline in poverty appears to have occurred together with changes to the composition of GDP during the same period, and this warrants an examination of the role of this transformation in reducing poverty.** Like others in the literature, Şeker and Jenkins (2015) unfortunately fail to recognise this structural change in the Turkish economy and ignore the roles of different sectoral components of GDP in the improvement (or deterioration) of poverty rates after 2001.

In this respect, the **Datt-Ravallion(1992) approach** yields an appropriate framework to examine the impacts of different sectoral GDP components on poverty. According to this approach, changes in poverty can be decomposed into its economic growth and distributional components:

$$\Delta P = G(t, t + \tau; r) + D(t, t + \tau; r) + R(t, t + \tau; r)$$

1

where ΔP is the change in the poverty rate; G and D are the growth and re-distribution components respectively, R stands for the residual term, and r is the reference year. According to (1), changes in poverty stem from two sources; namely *i)* growth in income (the **economic growth effect**, G) and *ii)* changes in within-group income distribution (the **distributional effect**, D).

Among these, the economic growth components can be considered as **cyclical elements** that determine a certain extent of changes in poverty. This effect of the growth component can also be regarded as a function of macroeconomic governance. Economic growth is termed **pro-poor economic growth** if it plays a role in improving poverty and these improvements continue for as long as economic growth persists in the same manner. The second component of this approach describes the **structural and institutional** factors determining income distribution and is termed the distributional component of changes in poverty. Accordingly, any change in the economic structure which gives rise to an improvement in income distribution is also expected indirectly to improve poverty. However, Datt-Ravallion (1992) does not recognise the impact of a compositional change in GDP and advances **no further explanation on whether economic growth, irrespective of its composition, generates the same effect on poverty.** This paper is intended to fill this gap in the literature.

The relationship between De-industrialisation and poverty

There has been a limited number of empirical studies to examine the relationship between de-industrialisation and poverty. Most of these emphasize the effects of de-industrialisation on income distribution based on the **Kuznets hypothesis**. Kuznets postulates that during a structural transformation from agriculture to manufacturing, income inequality is expected to increase. However, the experiences of today's developing countries do not appear to fit the expectations that arise from this. Most importantly, de-industrialisation leads to a weakening of the traditional working class in manufacturing and encourages them to move to the service sector. The overall structural transformation takes place both **from-agriculture-to-services** (bypassing manufacturing) and **from-manufacturing-to-services**. Although the Kuznets hypothesis empirically states little regarding the distributional consequences of a structural transformation from-manufacturing-to-services or from-agriculture-to-services, it also argues that income inequality in a transforming economy is an aggregation of:

- i. Income inequality in each sector,
- ii. The mean income of each sector,
- iii. The population share of each sector.

According to these pre-conditions, in cases where the transformation takes place from a sector with high levels of income inequality and low mean income to a sector with better income distribution and higher mean income, then this structural transformation will have an improving impact on overall income

distribution. In other cases, the results will remain an empirical question.

For the present paper, another important issue is that there must be a link between de-industrialisation and poverty (not income distribution). We propose the existence of an indirect mechanism through which de-industrialisation influences poverty via income distribution. Furthermore, it can be assumed that the link between de-industrialisation and poverty can be made through the *distributional component* in the Datt-Ravallion framework. Low-income distribution, therefore, is assumed to both enhance the distributional effect and reduce poverty.

De-industrialisation, as a consequence of increases in the share of value-added produced in non-tradable activities, can also be considered as an extension of the share of income earned from them. This income is expected to increase during the de-industrialisation process, resulting in a higher mean irrespective of any distributional effects. The high volume of such activities also indicates that additional income may be earned by increasing the number of non-tradable income entities in the overall economy. Among other income entities (tradable and agricultural), the weight of those engaged in non-tradable activities increases with de-industrialisation. In other words, during the de-industrialisation process, there is a population shift towards non-tradable income entities and an increase in the income that they generate.

Structural transformation influences poverty through various channels. Based on the Datt-Ravallion decomposition framework, *overall* economic growth and income distributions are widely considered to be two channels of impact. Şeker and Jenkins (2015) have been the distinctive study when examining the change in poverty in Turkey. They found that **economic growth in the 2000s was pro-poor growth** and that the high economic growth in the early years of the 2000s helped poverty to decline at a sufficiently high rate. In addition to this growth channel, the present paper puts forward another through which the nature of economic growth produces distinct changes in poverty rates. This additional channel becomes particularly important if changes in the main sectoral determinants of economic growth are taken into account. If non-tradable activities are common within a country, then economic growth driven by an increase in these activities will be more likely to improve the income level of the larger proportion of population earning income from them, and this will, therefore, influence poverty and income distribution. To see the distinctive impacts of both economic activities, it is necessary to decompose total income into three sources, namely tradable activity income, non-tradable activity income, and agricultural income. Each income source is distinguishable from the others according to the economic activities it entails. Unlike Şeker and Jenkins (2015), the relative contribution of each income group on changes in poverty is then examined. Although the Datt-Ravallion decomposition framework is not sufficient to allow an examination of the distinctive effects of each income group on changes in poverty, Son (2003) provides a sufficiently detailed account of their decomposition as follows:^[3]

$$\frac{\Delta P}{P} = \sum_i \frac{f_i P_i}{P} * \frac{(\Delta P_i)_g}{P_i} + \sum_i \frac{f_i P_i}{P} * \frac{(\Delta P_i)_{bg}}{P_i} + \sum_i \frac{f_i P_i}{P} * \frac{(\Delta P_i)_I}{P_i} + \sum_i \frac{P_i f_i}{P} * \left(\frac{\Delta f_i}{f_i} \right)$$

Withingroupoverallgrowtheffect
Withingroupsectoralgrowtheffect
Withingroupinequalityeffect
Populationshift

2

$$\Delta P = \frac{P_1 + P_2}{2} \quad \text{and} \quad \Delta P_i = \frac{P_{i1} + P_{i2}}{2} \quad \text{for } i = \{1, 2, 3, \dots, k\}$$

where ΔP is the change in the poverty rate; f_i represents the population shares of the i th group in different years and P_i represents the poverty incidence within the i th group in different years. According to (2), the percentage change in total poverty can be divided into **four different components**. The first term estimates the effect of growth in overall income on the percentage change in poverty, assuming all groups enjoy the same *uniform* growth. The second term measures the effect of growth on the percentage change in poverty by taking into account the fact that actual growth rates vary from one group to another. The third term shows the effect of changes in inequality within groups, and finally, the fourth term is the percentage change in total poverty due to a shift in population between groups.

Two terms in (2), namely the second and fourth terms, give the impacts of de-industrialization on percentage changes in poverty. First, de-industrialization is generally defined as an increase in the share of non-tradable economic activities in the overall economy. Therefore, the effects of a change in the population share of each economic group on the percentage change in poverty can be used to reveal the effects of de-industrialization. Second, the growth rate of non-tradable activity income can differ from other income groups during the de-industrialization period, and hence this difference in income growth can produce a markedly different effect on the percentage change in poverty. An inquiry into the answers to these questions requires empirical investigation.

[2] The poverty rate is calculated as the proportion of households that remain under a certain income level. This reference income level is called the poverty line which is established as 50% of the equivalised median consumption expenditure.

[3] The detail derivation of Son's decomposition method is presented in the appendix.

Data And Empirical Results

This analysis requires a data set that covers the longest available period. The data for the empirical analysis is based on the **Household Budget Survey** for 2002-2017. As the Household Expenditure Survey covers only 2002, the **Survey of Living Conditions** has also been used. However, this survey covers a

relatively shorter period starting from 2006. All data are available from *TurkStat*.^[4]

Household income data are decomposed into sources such as non-tradable economic activity, tradable economic activity, and agricultural income, and their summary statistics are given in Table 2. The sample size for any income group represents the number of total income entities establishing total household income, which may consist of one or a combination of these three different income entities. However, in this study, every household income entity is considered as a separate unit. Table 2 also shows that among others, the standard deviation of non-tradable activity income entities is the highest, implying that the variation in this income is due to the heterogeneous structure of its source.

Table 2
Descriptive Statistics

		2002	2003	2004	2005	2006	2007	2008	2009
TRADABLE	Max.	160341	370151	69130	79891	102480	73825	72973	101021
	Mean	3150	3301	3547	3522	4268	3570	3417	3499
	Min.	2.1	6.7	4.4	4.0	6.1	1.8	4.1	3.5
	Median	1856	2254	2590	2657	3273	2894	2686	2856
	St. Dev.	5829	5500	4413	3522	4527	3516	4041	3761
	Skew	16.0	16.2	7.7	7.7	6.0	6.1	6.7	8.8
	n	14876642	22048711	16031101	17478602	17116564	18444104	18630737	17036137
NONTRADABLE	Max.	336560	177659	120765	179893	154955	102918	110014	217699
	Mean	3346	3426	3608	3780	4838	4447	4857	4970
	Min.	336560	0.7	5.6	2.6	4.9	0.7	0.8	0.2
	Median	4136	2231	2396	2622	3618	3240	3618	3443
	St. Dev.	6736	5278	5266	4792	5789	5002	5436	6687
	Skew	21.2	8.7	7.8	6.3	6.4	4.3	4.4	8.3
	n	66287298	66460029	67507321	68669945	70357142	66312417	67326517	68226184
AGRICULTURE	Max.	28597	46196	94136	30509	29865	33655	57857	51458
	Mean	2294	2134	2124	2302	2794	2260	2152	3224
	Min.	0	0	0	3.4	8.0	7.3	4.2	5.2
	Median	1473	1475	1419	1692	2060	1642	1454	1758
	St. Dev.	2857	2452	3630	2576	2794	2489	2652	2626
	Skew	4.0	6.0	16.4	3.8	2.9	4.3	6.2	5.6
	n	22048711	16789151	17594220	18676646	15333020	13896658	13797746	16807558
		2010	2011	2012	2013	2014	2015	2016	2017
TRADABLE	Max.	76208	171973	185815	154121	98238	182743	92946	80232
	Mean	3692	3720	4187	4349	4240	4667	4853	5074
	Min.	8.5	0.5	4.1	4.7	4.8	24	11	20
	Median	1584	2933	3176	3281	3336	3462	3841	4087
	St. Dev.	4264	4901	6050	5944	4770	7728	4846	4632
	Skew	6.2	10.6	15.0	12.0	8.2	13.1	5.8	4.7
	n	17867430	17598157	16940213	16825394	17029073	17622065	16207227	17517293
NONTRADABLE	Max.	395198	182378	276920	245155	258152	245624	173078	35503
	Mean	4985	5134	5630	5928	6200	6330	6906	6965
	Min.	4.2	18.2	4.7	3.8	1.2	14	9.2	9.1
	Median	3569	3652	3993	4285	4521	4533	5108	5202
	St. Dev.	6454	62088	7351	7327	7767	8251	7546	8653
	Skew	8.8	5.1	9.0	7.8	9.0	8.9	5.5	11.2
	n	68753815	70255447	71457497	72583775	73801900	73833434	75349688	76502540
AGRICULTURE	Max.	47845	49463	58592	91236	59683	65273	61259	66203
	Mean	2651	2914	3105	3345	3739	3667	3763	4407
	Min.	5.9	2.1	5.3	9.1	6.9	1.7	0.9	1.3
	Median	1810	1972	2116	2515	2605	2553	2554	2858

*values represented at the table are deflated with consumer price index (2003 = 100) and weighted for the population.

	2002	2003	2004	2005	2006	2007	2008	2009
St. Dev.	3045	3439	4102	3524	4249	4184	4292	5366
Skew	4.6	3.9	6.5	5.3	5.0	4.8	4.3	4.0
n	14728957	16120797	14601895	14250679	12017294	11641515	11973974	12331914

*values represented at the table are deflated with consumer price index (2003 = 100) and weighted for the population.

(Table 2 about here)

Three important issues must be addressed on the data we use. The first is to establish a **unit of analysis**. There are two options in this regard, namely **households**, and **individuals**. As this study is intended to measure the welfare of all individuals in a household irrespective of whether they have any income, the household is considered as the most suitable unit. However, households are not homogeneous by size, and the household income level must be adjusted according to the number of individuals present in each household. Therefore instead of using total household annual income, **equivalent annual individual disposable income** is used as the unit of analysis by taking into account household size.^[5] Despite the different approaches to this adjustment available in the literature, the OECD scale is used in this study. This scale assigns different weights to adults and children in households, and is calculated as follows:

$$N = 1 + \alpha \left(s_A - 1 \right) + \beta s_K$$

3

where s_A and s_K represent the number of adults and children in the household, respectively. The coefficients of α and β are fixed parameters. In this equivalent scale, these parameters show different weights, which are assumed to be 1, 0.5, and 0.3 for the household head, the household wife and any children (under the age of 15), respectively. The **equivalent annual individual disposable income** can then be calculated as follows:^[6]

$$Y_{ij} = R_i / N$$

4

where R_i and Y_{ij} is the household total disposable income and the equivalent annual individual disposable income (where i refers to households and j refers to individuals).

The second issue that we must deal with is to determine a proper poverty line. 50% of the median income of all households' nominal income in each sample is taken as a reference to calculate a **relative poverty line** covering the 2002–2017 period. To examine changes in the levels of different income entities in different years, this relative poverty line is used as a constant reference and is deflated according to the relevant **consumer price index** (2003 = 100). Accordingly, the nominal income for a particular year is deflated by the corresponding price index value of that year. Therefore, the empirical analysis in what follows is based upon the use of real values, rather than nominal ones.

This empirical study aims to examine the impacts of different income entities on changes in overall poverty in the Turkish economy. Measuring poverty then becomes the third issue to be considered for this purpose.^[7] Following the conventional approach in the literature, the poverty rate is chosen as the measure of poverty in this study. It is calculated in conventional studies as the *proportion* of households remaining below a pre-determined relative poverty line. In the present study, two different calculation approaches are pursued to meet its empirical requirements. The first is similar to the conventional approach to measuring the **overall poverty rate** as the proportion of households having the equivalent annual individual disposable income for each year below a constant **relative poverty line**. This poverty rate is calculated in empirical studies as follows:

$$P_0 = q / N$$

5

where N is the size of the sample and q is the number of households or income entities below the relative poverty line. P_0 in conventional poverty studies is known as the **head-count ratio**.

To measure the relative contributions of each income entity, such as non-tradable activity, tradable activity, and agricultural income, on changes in overall poverty, we introduce an **unconventional measure** of poverty as the proportion of different income entities (instead of household equivalent annual individual income) which have levels lower than the constant real relative poverty line. Although this measure is unconventional, it is useful when attempting to understand the importance of each income entity in the determination of changes in poverty. Since de-industrialization is defined as an increase in the number of non-tradable income entities and rapid growth in non-tradable activity income levels, it is to be expected that these will have a significant positive impact on poverty rates and encourage further non-tradable activity and de-industrialization.

It must be noted that the calculated poverty rates in this study differ significantly from those announced by *TurkStat* due to the calculation methodology used. The most distinctive difference is that the relative poverty line is taken as a constant to calculate the poverty rate for each year. In *TurkStat* announcements, the poverty rate is calculated for each year by estimating different poverty lines that correspond to different surveys. Another difference between this study

and *TurkStat* is that actual (not nominal) values for household income are used in our calculations. The final difference is that *TurkStat* reports the poverty rate only for the overall economy, and does not provide any information on the **poverty-rate-alike measure** for any income entity. At this stage, it should be noted that the poverty-rate-alike measure, for example, of non-tradable activity income entities, is the proportion of those which have levels lower than the level of the actual relative poverty line. It is to be expected that as de-industrialization intensifies along with an increase in non-tradable income by both level and number, it is more likely that there will be fewer non-tradable activity income entities which have levels lower than the pre-determined poverty line. Therefore, **a fall in the poverty-rate-alike measure of non-tradable activity income entities can result from de-industrialization.**

(Fig. 5 about here)

The differences in two different calculated poverty rates can easily be seen in Fig. 4 and Fig. 5. The poverty rates in Fig. 4 are from *TurkStat*, and vary between 0.19% and 0.14%. Our calculated poverty rates for the overall economy are given in Fig. 5, and vary between 35% and 7%. In Fig. 5, poverty-rate-alike measures for all the income entities available in our study, namely non-tradable activity, tradable activity and agricultural, are also depicted. In 2002, 56.4% non-tradable activity income entities remained below the real value of the calculated relative poverty line. However, only 24.6% of all non-tradable activity income entities had values lower than their corresponding relative poverty line. This implies that **economic development over the last 15 years has increased non-tradable activity income and allowed increasing numbers of non-tradable activity income entities to pass the level of a given relative poverty line.**

Another interesting observation from Fig. 4 and Fig. 5 is that they both show improvements in poverty rates. However, unlike Fig. 4, a slight slowdown appears after 2012 in Fig. 5. When examining the compositional pattern of the poverty-rate-alike measure, similar improvements can be seen across all income entities. Finally, the calculated poverty-rate-alike measures for non-tradable activity income entities seem to be the lowest. This is indeed not a surprising result as increases in non-tradable economic activities over the last 15 years have lowered the percentage of those below a given relative poverty line.

Additionally, agriculture sector income entities have the lowest values and the highest proportion which falls below the common relative poverty line. This also means that any household that relies on agricultural income has the highest probability of remaining in poverty. The poverty-rate-alike measure is not the only indicator to show differences between different income groups. To elaborate on the general features of the data, the means, population shares, and within-group inequality levels of all income groups can also be examined.

Differences in sectoral mean income

In this study, the total income of households is decomposed into three components according to the sectors through which income is generated: non-tradable activity, tradable activity and agricultural. The mean income level of each income group can be determined by the volume of economic activities as directed by economic policies. An increase in non-tradable economic activities is assumed to be a consequence of the de-industrialisation process as they generate a higher mean income than other economic activities. To illustrate this, the mean income of each income group is calculated and the results are given in Fig. 6. As previously noted, since these figures are obtained from the *Households Budget Surveys*, they are not available for the period before 2002. Figure 6 indicates that mean non-tradable activity income is higher than the mean income of other income sources. This is an expected result of a rise in the non-tradable economic activities driving de-industrialisation. It is also clear from Fig. 6 that the mean non-tradable activity income steadily increased after 2002, but this increase becomes much more marked after 2008.

(Fig. 6, Fig. 7 and Fig. 8 about here)

Change in population shares

“Population” in this study refers to the number of income entities available for households. Household income is decomposed by income type, and each income group consists of similar income entities. **Any “change” in the number of any income entity is referred to as a change in the population share of the relevant income entity group.** For example, an increase (or decrease) in the population share of non-tradable activity income must be considered to be a rise (or fall) in the number of its associated income entities. Figure 7 shows this change in each income component. Three distinctive results can be taken from the data given in Fig. 7. *First*, the population share of agricultural income shows a decline after 2009. *Second*, tradable activity income items cluster around zero, indicating no major change in their population share. *Third*, non-tradable activity income entities and their population share increase after 2009. These results offer a clear indication of a population shift towards non-tradable economic activities.

Within-group income distribution

Figure 8 gives the inequality levels (as measured by Gini coefficients) of the three income groups and shows that tradable activities have the lowest within-group inequality. Non-tradable activities have the highest within-group inequality due to the greater variability in size and nature among income items. To a lesser degree, the same is true for agricultural income, which is earned according to the size of the land owned and worked by given households. These inequalities show that any measures intended to improve overall income distribution must then target these two income groups, particularly with regard to within-group inequality. This becomes even more important as continued de-industrialization means that the **non-tradable activity income group has an ever-increasing potential to generate improvement in the distribution of income throughout the economy.**

These initial indicators show that sectoral transformation, particularly after 2009, generated results in favour of non-tradable activity income earners, and households whose income, either partially or whole, comes from non-tradable activities are the most likely to benefit from this transformation.

Decomposing changes in poverty by (2) reveals further information about the general character of the structural transformation in the Turkish economy. The decomposition method in (2) produces four distinctive sources of poverty, some of which can be linked to de-industrialisation. They are:

- i. Overall economic growth;

- ii. Sectoral growth rate;
- iii. Within-group inequality;
- iv. Population shift.

The first (i) indicates the general economic growth effect, which is derived by assuming that all income groups grow at the same rate. The second (ii) is particularly important when examining **an empirical link between de-industrialisation and poverty** as it shows the importance of the growth rate of a particular income group when examining changes in poverty. The third (iii) is the effect of within-group inequality, which shows the homogeneities of income entities by level within groups. Finally, the fourth (iv) helps to produce an estimate of the impacts on the poverty of a disproportionate shift towards a particular income group. In particular, an increase in the number of non-tradable activity income entities is taken as a sign of a population shift. This effect can also be considered as **an indicator of the relationship between de-industrialisation (meaning a rise in non-tradable economic activities) and poverty**.

(Table 3 about here)

Table 3
– The decomposition of changes in poverty based on different income entities

	Within Group Growth Effect			Growth Rate Varying From One Group to Other			Within Group Inequality Effect			Population Shift		
	Tradable	Non-tradable	Agriculture	Tradable	Non-tradable	Agriculture	Tradable	Non-tradable	Agriculture	Tradable	Non-tradable	Agriculture
2002–2003	0,60	2,36	0,75	-1,11	-3,30	0,21	-1,09	-2,46	0,12	0,16	3,65	-4,89
2003–2004	-0,58	-1,50	-0,52	-0,51	-0,53	0,58	-1,10	-1,12	0,32	1,13	-1,33	0,22
2004–2005	-0,49	-1,21	-0,64	0,62	-0,41	-0,70	-0,26	-1,70	-0,59	0,70	-1,14	0,55
2005–2006	-3,12	0,92	1,68	0,30	-9,67	-3,17	0,14	-4,32	-1,38	-0,02	2,46	-3,59
2006–2007	3,76	1,97	0,44	0,73	6,12	2,83	-1,22	-3,65	-0,27	1,98	-1,17	-1,28
2007–2008	-0,25	-0,46	-0,19	1,08	-3,29	0,88	0,62	-1,67	0,65	-0,02	0,24	-0,39
2008–2009	-0,34	-4,21	-0,36	-0,01	-0,01	-2,55	-0,70	7,97	-0,50	-2,04	-0,57	4,04
2009–2010	-0,11	-0,38	-0,08	-0,82	0,21	-0,05	-0,10	-2,90	-0,19	0,90	0,87	-2,70
2010–2011	-0,13	-0,28	-0,10	-0,02	-0,95	-1,33	0,34	1,08	0,66	-0,70	-0,24	1,40
2011–2012	0,11	0,64	0,13	-2,39	-4,74	-1,13	-0,56	-2,16	0,55	-0,44	1,55	-1,86
2012–2013	-0,17	-0,24	-0,10	-0,62	-2,23	-1,21	-0,11	-2,13	-1,84	-0,19	0,56	-0,62
2013–2014	0,17	0,45	0,07	0,42	-2,93	-2,07	0,48	-1,62	0,98	0,32	1,55	-2,91
2014–2015	-0,09	-0,15	-0,07	-2,21	-1,54	0,62	0,98	0,77	0,00	0,55	-0,13	-0,58
2015–2016	-0,12	-0,12	-0,10	-0,66	-4,88	-0,36	-2,69	-3,66	0,75	-1,30	1,00	0,42
2016–2017	-0,49	-1,76	-0,70	-0,54	1,17	-2,04	-0,60	-0,66	0,61	0,70	-0,76	0,05

Decomposing the changes in poverty levels can also reveal the sources of poverty itself. Each component in (2) corresponds to one distinctive source of these changes. Upon applying the decomposition method, given in (2), the results reported in Table 3 yield information regarding the sources of poverty in Turkey over the 2002–2017 period. Based on Son (2003) in Eq. (2), four sources for changes in poverty levels are revealed, and the calculated sizes of each source are reported in Table 3. The relative importance of each component is distinguished by these calculated sizes. For tractability and ease of interpretation, the reported results are depicted in Figs. 9 and 10. Figure 10 shows the *cumulative* contribution of each component to changes in overall poverty, whereas the results from Table 3 are directly presented in Fig. 9. Most of our inferences are based on the data given in Fig. 10, but the same intuitive results can also be obtained from that given in Fig. 9.

(Figs. 9 and 10 *about here*)

Panel (a) in Figs. 9 and 10 show that there were significant changes in poverty levels over the entire period, and that the great extent of these changes was positive. However, between 2007 and 2011, the pace of reductions slowed before improvements in the poverty rate once again gained speed (see Fig. 9). In Fig. 10, it can be seen that the size of the cumulative reduction exceeded 15% over the entire 2002–2017 period.

Having decomposed these changes in poverty into their components, two questions can be answered. The first is the question regarding which income group accounted for most for these reductions. The second one is through which channel the contribution of different income groups is the most effective.

Panel (b) in Figs. 9 and 10 shows the contributions of overall economic growth into changes in poverty under the assumption that all income groups grow at the same pace. The data show that **as long as all income groups grow at the same rate, none of the income entities in each group have any distinctive contribution to changes in poverty.**

According to the results in Panel (c) of Fig. 10 (and Fig. 9), differing growth rates between income groups generate different contributions to poverty. The markedly higher growth rates of non-tradable activity income groups are therefore the most likely to contribute to positive changes in poverty. In other words, **economic growth led largely by non-tradable economic activities is most likely to become pro-poor economic growth.**

Another important component with the potential to cause changes in poverty is within-group inequality. From the data given in Panel (d) of Fig. 10, alleviating income distribution among non-tradable activity income entities reduces poverty. Therefore, any improvement in income inequality accounts for greater reductions in overall poverty than other factors. It is important for Turkish policymakers to allow not only for a rise in non-tradable activity income entities but also to **achieve a relatively fair distribution of non-tradable activity income.**

An interesting result for non-tradable income entities appears in Panel (e) of Fig. 10. The effects on changes in poverty of population shifts within different income groups are measured in this panel. A population shift in this respect means an increase in the share of particular income entities in total. In particular, the number of non-tradable activity income entities increases during de-industrialisation, and there is a corresponding population shift towards this income group, thereby increasing its proportion. A striking result from Fig. 7 is that cumulative changes in population share steadily increased for non-tradable activity income entities, remained largely consistent for tradable income entities, and declined for agricultural income entities. This result can be interpreted as an indication of intensified de-industrialisation, particularly after 2009. However, **this steady increase in the share of non-tradable income entities also accounts for a deterioration in poverty levels.** This result may be obtained only in the case where there is an increase in the number of these entities below the poverty line. It also means that during de-industrialisation, the expansion of non-tradable economic activities encourages the creation of income below the poverty level. This can also be considered as evidence for the hypothesis that these activities create low wage jobs, reduce productivity, and generate poor quality economic growth (see Acemoğlu ve Uçer, 2020).

[4] In 2002, TurkStat initiated annual "Household Income and Consumption Expenditure Surveys" conducted on 800 sample households per month. These included approximately 650 different households from urban areas and 150 from rural areas, totaling 9600 sample households per annum. In 2003, the title of the survey was changed to the "Household Budget Survey". The sample size increased to 25,920 households. The design of the survey was revised to form a basis for EU harmonization studies and NUTS regions were obtained. These surveys cover a reduced sample size for 2003; however, the sample size drastically increased to 720 households per month and 8640 households per annum for the 2004-2008 period. After 2009, the sample size increased to 1050 households per month and 12,600 per annum. Finally, between 2010 and 2017 the same surveys were conducted for 1104 households per month and 13,428 households per annum.

[5] Household disposable income is defined as the total income plus transfer income from the government or other institutions plus interest income minus income taxes (TurkStat, 2011).

[6] Household expenditures can be both individual and collective. Examples of individual expenditures are clothing, education costs, personal consumption, and examples of shared expenditures are heating and accommodation. Therefore, in the case of a comparison between the welfare levels of individuals in two different households, the expenditures made for individual and common use, as well as the composition of these two households, are important. While the common goods and services bring the advantage of economies of scale, the number of children in the household composition will affect the welfare level of the individuals in the household. This is because, in the surveys, a ranking is made according to the usable incomes of households.

[7] See Kakwani, 1980; Foster et al, 1984; Atkinson 1987, Ravallion, 1994.

Discussion

Turkey is going through a structural transformation that has increased the share of non-tradable economic activities in value-added as well as in employment. The labour force which was previously employed in the agriculture sector and earning agricultural income is starting to move directly to services, bypassing the tradable activity manufacturing sector. In addition, part of the manufacturing labour force is also moving to services due to the fall in manufacturing employment caused by pressure from international competition and rapid technological development. Together, these developments are regarded as **de-industrialisation**, which is currently a feature of the economies of many developing countries.

In this paper, another implication of de-industrialisation is addressed in addition to rises in the share of non-tradable economic activities in both value-added and total employment. In the course of de-industrialisation, it is postulated that the sectoral origin of income earned by households shifts mostly towards non-

tradable economic activities. As a result of this, the share of non-tradable activity income entities within an economy rises. We, however, consider this rise to be another sign of de-industrialisation, and our calculations from the **Household Budget Surveys** show that in the Turkish case, this share steadily increased together with the mean income level of non-tradable activity income entities.

Interestingly, the structural transformations in the economies of developing countries have occurred with changes to the political establishment and discourse. Turkey (and other developing countries) have witnessed a rise in **economic populism** accompanied by a period of de-industrialisation. This co-existence arouses interest in examining whether there is a causal link between the rise of populism and de-industrialisation. This is an empirical study intended to search for the presence of such a causal link. It postulates that non-tradable economic activities can be considered as a convenient instrument for populist economic policies as they allow the generation of economic growth and employment without pressure from international competition. Therefore, **the increase in non-tradable economic activities can be accounted for by the economic policies implemented in the wake of rising populist discourse** and can be regarded as another cause of de-industrialisation in developing countries. In this way, economic populism, as described by Dornbusch and Edwards (1992), becomes inevitable for governments under pressure to reduce high unemployment and poverty rates. The empirical findings in this paper show that the high growth rates of non-tradable activity income entities can reduce poverty. In addition, in the Turkish case, improvements in income distribution within this income group accounted for a great extent of the reductions in poverty that occurred from 2002 to 2017.

Şeker and Jenkins (2015) is another paper that examines a similar subject. It decomposes changes in poverty into their sources by using the Datt-Ravallion decomposition method. Unlike that paper, the present study employed the method described by Son (2003) to reveal additional information regarding the features of poverty in Turkey. Şeker and Jenkins (2015) found that economic growth in Turkey was pro-poor, and the present study also confirms this conclusion by applying a different methodology to a longer data set. Additionally, this study finds that economic growth from an increase in non-tradable economic activities and their corresponding income entities becomes even more pro-poor than that driven by any other activity within the Turkish economy.

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Figures

Figure 1

Distribution of Consumption by Commodity Groups

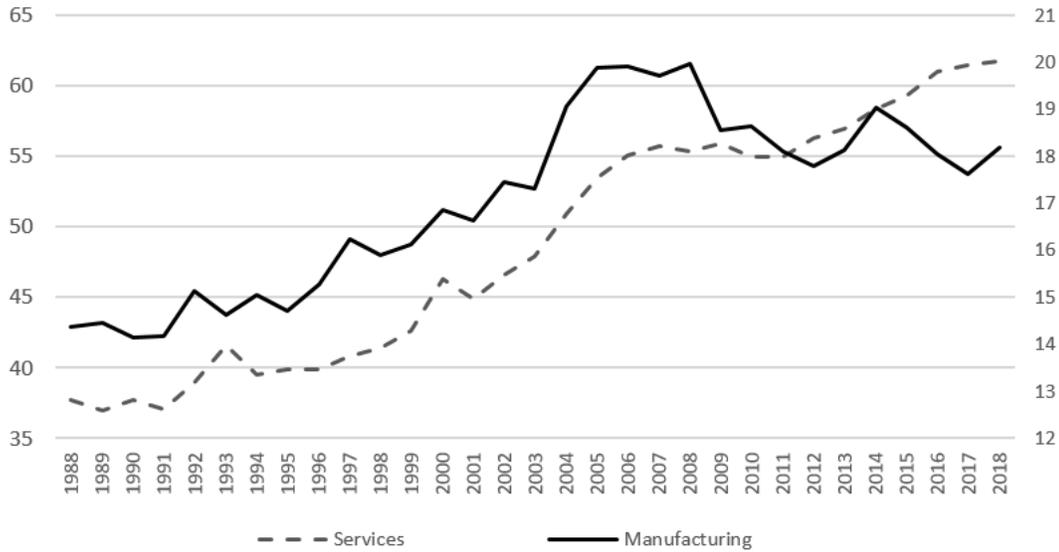


Figure 2

Sectoral Shares of Employment (%)

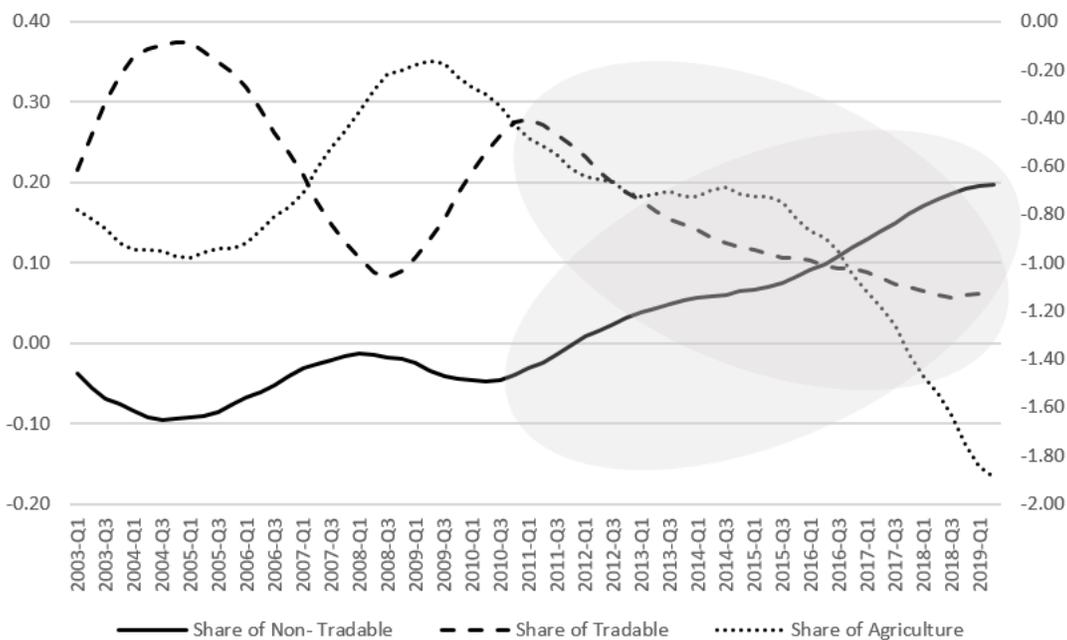


Figure 3

Changes in the rate of the trend values of sectoral shares in value added

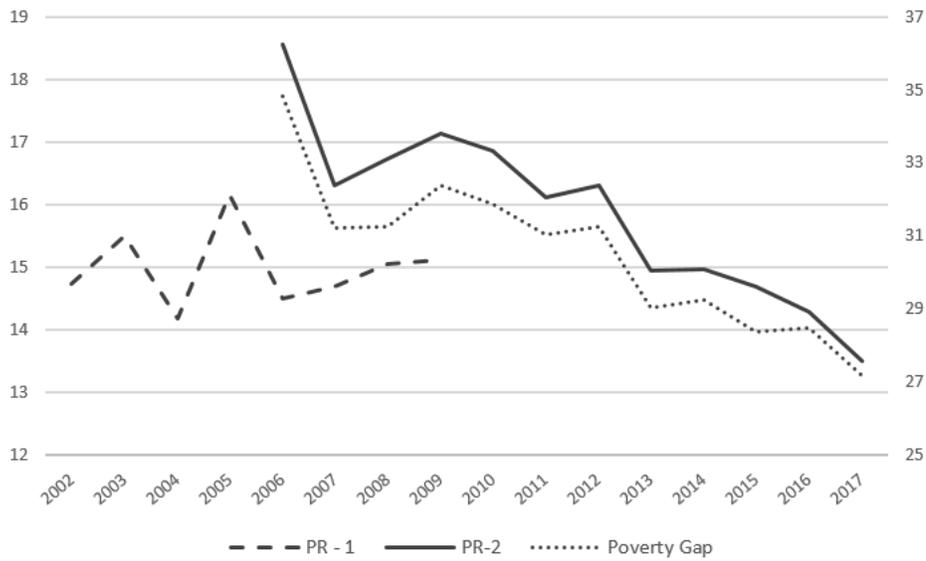


Figure 4

Poverty Rates based on the 50% of equivalised median consumption expenditure.

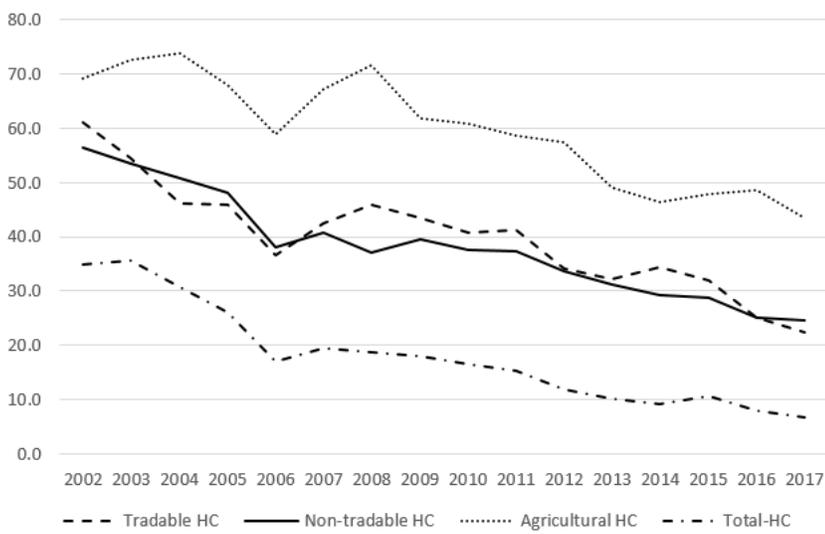


Figure 5

Legend not included with this version

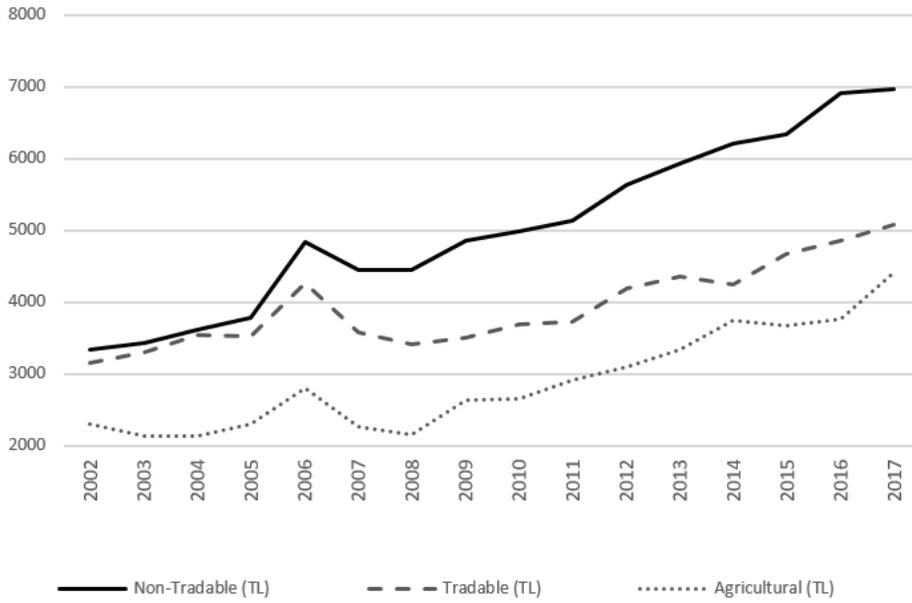


Figure 6

Mean Income of Each Income Type (TL)

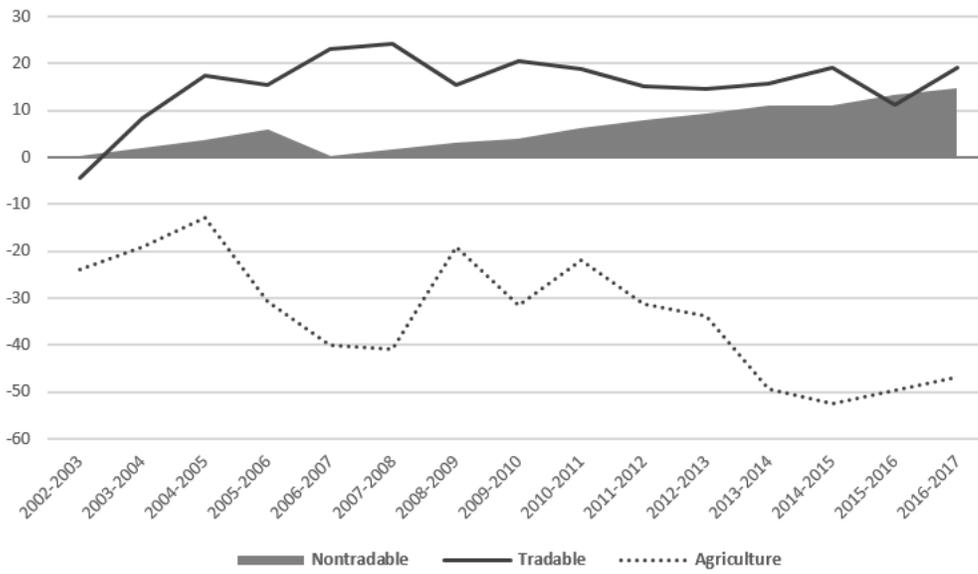


Figure 7

Change in Population Share - Cumulative

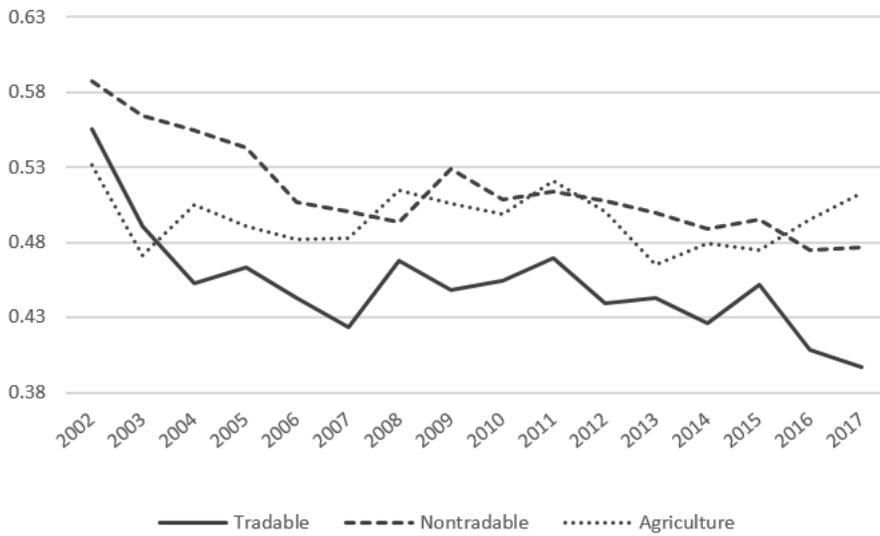


Figure 8
Within-Group Inequalities – Gini Coefficients



Figure 9
The effects on the change in Overall Poverty

Figure 10

The cumulative effects on the change in Overall Poverty

Supplementary Files

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- [Appendix.docx](#)