International Journal of Management Economics and Business, Vol. 21, No. 3, 2025
Uluslararası Yönetim İktisat ve İşletme Dergisi, Cilt 21, Sayı 3, 2025

Research Article / *Araştırma Makalesi*

EVALUATION OF INCOME DISTRIBUTION DYNAMICS IN TÜRKİYE THROUGH WAGE INCOME

Bekir EREN[1]

ABSTRACT

The aim of this study is to analyze the factors affecting income distribution in Türkiye based on wage income This study contributes to the literature by, for the first time, employing wage income as a leading indicator, covering an extended period with quarterly data, and jointly examining the effects of fiscal policy, loans, inflation, and productivity. The dynamics of wage income were examined in the 2006Q1-2024Q2 period using cointegration analysis, OLS, and error correction model. The findings indicate that inflation, taxes, and loans negatively affect wage income and income distribution, while labor productivity, current transfers, and the ratio of minimum wage to average income have positive effects. These impacts are significant in the short and long term. In addition, it is found that the unconventional economic policies implemented since the end of 2021 negatively affected wage income. It is concluded that to achieve improvement in wage income and income distribution, it is necessary to ensure price stability, determine the minimum wage at a level that can provide the necessary living standards, use taxes effectively, and support low-income groups with current transfers. Moreover, the income distribution results should be taken into account when designing economic policies.

Keywords: *Wage Income, Productivity, Inflation, Fiscal Policy, Error Correction Model*

JEL Classification: *E24, E25, E31, E64*

TÜRKİYE'DEKİ GELİR DAĞILIMININ DİNAMİKLERİNİN ÜCRET GELİRİ ÜZERİNDEN DEĞERLENDİRİLMESİ

ÖZET

Bu çalışmanın amacı, ücret gelirinden yola çıkarak Türkiye'de gelir dağılımını etkileyen faktörleri analiz etmektir. Ücret gelirini ilk kez öncü gösterge olarak kullanması, çeyrek bazlı veriyle uzun bir dönemi kapsaması, maliye politikası, krediler, enflasyon ve verimliliğin etkilerini birlikte ele alması bakımından çalışma akademik yazına katkı sağlamaktadır. Yöntem olarak, eşbütünleşme analizi, OLS ve hata düzeltme modeli kullanılarak, 2006Ç1-2024Ç2 döneminde, ücret gelirinin dinamikleri araştırılmıştır. Bulgular, enflasyonun, vergilerin ve kredilerin ücret gelirini ve gelir dağılımını negatif etkilediğini ima ederken, iş gücü verimliliğinin, cari transferlerin ve asgari ücretin ortalama gelire oranının pozitif etkiye sahip olduğunu göstermektedir. Söz konusu etkiler kısa ve uzun dönemde de anlamlı çıkmaktadır. Ayrıca, 2021 yılı sonundan itibaren uygulanan alışılmadık ekonomi politikalarının ücret gelirini olumsuz etkilediği bulunmuştur. Ücret gelirinde ve gelir dağılımında iyileşmenin sağlanabilmesi için, fiyat istikrarının sağlanmasının, asgari ücretin gerekli yaşam standartlarını sağlayabilecek seviyede belirlenmesinin, vergilerin etkin kullanılmasının ve cari transferle dar gelirli grupların desteklenmesinin gerekli olduğu sonucuna varılmaktadır. Bunların yanında, ekonomi politikalarının belirlenmesinde, gelir dağılımı sonuçlarının dikkate alınması önem arz etmektedir.

Anahtar Kelimeler: *Ücret Geliri, Verimlilik, Enflasyon, Maliye Politikası, Hata Düzeltme Modeli*

JEL Sınıflandırması: *E24, E25, E31, E64*

[1] Assist. Prof., Ankara Medipol University, Ankara, Türkiye, *bekir.eren@ankaramedipol.edu.tr*

ISSN:2147-9208 E-ISSN:2147-9194
http://dx.doi.org/10.17130/ijmeb.1607510
Received: 26.12.2024, Accepted: 18.04.2025

1. Introduction

Income inequality has been the most crucial problem that economies have faced for centuries. Although a series of policies have been implemented in developed and developing countries to reduce income inequality, the results are not satisfactory. How income will be distributed between the production factors labor and capital is a complex question considering its economic, social, and political dimensions. A significant part of society in Türkiye suffer from unfair income distribution and expects the state to take actions to decrease the injustice in income distribution. World Bank's 2024 Poverty, Prosperity, and Planet Report indicates that Türkiye ranks first in Europe and 28th among 130 countries worldwide in terms of income inequality. Also, as of 2024, the Gini coefficient in Türkiye has reached its highest level in the last 20 years, confirming the increasing inequality in income distribution (TURSTAT, 2024).

Income distribution directs consumption, savings, investment, and growth. Therefore, unfair distribution of income and policies regarding income distribution also affect many macro variables. Since production factors such as capital and natural resources are concentrated in the hands of certain groups, if income distribution is left to free market conditions, a fair distribution will not emerge. In countries where income distribution injustice is high, a significant portion of the total income flows to a small group. In this case, while the demand for luxury consumer goods increases, resources cannot be used sufficiently to produce goods and services that will increase the general welfare level of society. In addition, the deterioration in income distribution has social, moral, and political consequences, and it may raise social unrest (Şener, 2006: 16). To handle these issues, states aim for a more equitable income distribution by affecting the composition of public expenditures and the distribution of taxes within the scope of fiscal policy (Aksoy, 2011: 450-51). Income distribution policies target to support low-income groups and ensure balance between social groups. In order to prevent social tensions, income must be shared fairly between production factors and individuals. Firstly, the state should develop policies to reduce income gaps between production factors and individuals during the income-generating process and then intervene to reduce inequality by fiscal policy. To guide policy makers, it is necessary to find out the economic factors affecting income distribution.

Personal factors, such as education level, experience, and performance, can affect wage income and income distribution. In addition, the unionization rate and collective bargaining agreements have an impact on wages. Considering the macroeconomic variables, monetary policy, fiscal policy, inflation, and productivity can change income distribution. Moreover, institutional factors such as corruption level, power of democracy, and law can affect income distribution.

Some methods have been developed to analyze whether income distribution is fair. The Gini coefficient, percentile analysis, and wage income trend are the main approaches. Deterioration in income distribution refers to the decrease in the share of the middle- and lower-income groups. A significant portion of this group consists of wage earners. For this reason, the trend of wage income provides important clues about income distribution inequality.

A significant portion of wage earners in Türkiye have wages close to the minimum wage. The level of the minimum wage has also led to hot debates frequently. The high inflation environment that has disrupted economic balances, especially after 2021, has increased the

intensity of the debate. Some argue that rise in wages makes it difficult to combat inflation, and they claim that high wage increases are not rational in an economy where labor productivity is low. Others argue that current wage levels are insufficient to provide even minimum living standards. They protest that inequality in income distribution is deepening, considering the declining share of wage earners in total income and inadequate wage increases.

The factors affecting income distribution also influence the share of wage income in GDP. In this study, the share of wage earners in the national income of Türkiye is considered as a leading indicator for income distribution, and the dynamics of wage income are analyzed. Previous studies on income distribution in Türkiye have generally been conducted with annual data based on the Gini coefficient. There is no comprehensive study in the literature focusing on the share of wage earners in national income. This study contributes to the literature by examining a long time period with quarterly and high-frequency data and by considering the effects of loans and fiscal policy on income distribution in addition to inflation and productivity. Moreover, this study contributes to current discussions by including the period after 2021, when inflation was out of control and significant deteriorations were observed in income distribution. This work also implies that the basis of income inequality is the disproportionate distribution of income between capital and labor. It can guide policy makers to focus more on the share of labor in total income when designing income distribution policies. Finally, revealing the short- and long-term determinants of wage income will guide policy makers for more rational policies.

In the study, firstly, the factors affecting income distribution and empirical studies on income distribution are discussed through literature review. Then, the income distribution developments in Türkiye are analyzed with the help of data. In the next section, the methodology of the study and the data of empirical analysis are explained. Afterwards, by employing an empirical study, the determinants of wage income in Türkiye are examined with the cointegration analysis and error correction analysis. Finally, the study is completed with the results and suggestions.

2. Related Literature

Factors such as the monetary policy, fiscal policy, inflation, development level, productivity of production factors, technological change, structure of the labor market, population growth rate, wealth distribution, trade openness, economic crises, and institutional parameters affect wage income and income distribution (Şahin, 2007: 579; Karluk, 2005: 69-70). Wages are also affected by personal factors and the relationship between employees and employers. Personal factors include the level of education, experience, and performance of employees, while relations with employers include the rate of unionization and collective bargaining agreements (Sileika & Bekeryte, 2013).

Monetary policy can affect income distribution through money supply, interest rate, credit policy, and exchange rate channels. Among these channels, credit policy can alter the income distribution especially when it is selective. Determining limits according to sectors or credit types and differentiating terms and interest rates while providing credit are within the scope of selective credit policy. Providing cheap and long-term credit to small and medium enterprises or exporting companies means income transfer to these companies (Dinler, 2006: 447-

448). In addition, long-term and low-interest rate applications in housing and vehicle loans, which are among the individual credit types, provide income transfer and increase the welfare of households. Moreover, households can make new investments and develop their skills using loans that lead to a rise in their income level. On the other hand, high dependency on loans leads to a high indebtedness level, and it causes rolling over debt using new loans. Also, using loans with high interest rates increases the interest earnings of rich people. These can worsen the situation of lower-income groups in income distribution (Heatcoke et al., 2010; Gornemann et al., 2016; Tüsün, 2021: 17; Uzunhasanoğlu, 2007: 21). Furthermore, there are studies suggesting that the share of labor income has fallen, and income distribution has deteriorated as a result of increasing financialization in the economy (Assa, 2012; Kuş, 2013: 485; Tunalı & Özdemir, 2017).

Fiscal policy affects income distribution through tax revenues and public expenditures. Applications such as the imposition of new taxes, regulation of the existing tax rates, change in the volume and composition of public expenditures, regional distribution of public investments, setting price floors and price ceilings, incentives given to sectors such as agriculture and industry, determination of minimum wage, etc. alter income distribution. In addition, income distribution is improved in countries where the share of income tax and direct taxes is high (Çalışkan, 2010: 94; Stiglitz, 2014). Also, there are studies showing that social transfer expenditures are an important tool to reduce inequality in income distribution (Wimer et al., 2020; Dayar & Akıncı, 2020: 173). However, the effectiveness of transfer expenditures depends on who benefits from the expenditures and how these expenditures are financed. On the other hand, neoliberal policies, which advocate that the state should reduce its social interventions, lead to an increase in poverty and a deterioration in income distribution. In addition, the stabilization programs, in line with IMF agreements, have led to tight budget policies and suppression of wages, further increasing income inequality (Şenkal, 2005: 393).

Inflation, which is mostly a result of the monetary and fiscal policies, also affects income distribution. However, the effect of inflation on income distribution may not be symmetrical. While high inflation increases injustice in income distribution, low inflation may not provide improvement. Unexpected inflation reduces the value of debts of individuals or companies that are not indexed to inflation, while it increases the value of assets whose prices increase according to inflation (Parasız, 2006: 426). Unexpected inflation leads to a redistribution of wealth and income in favor of borrowers and against lenders. In addition, groups that can adjust their income to inflation in a short time are not significantly affected by inflation. On the other hand, the real income of people, who cannot adjust their income to inflation in a short time decreases, and income distribution deteriorates to the detriment of this group. Since civil servants, pension salaries, and minimum wage are updated at certain intervals, the increase in inflation reduces the share of this group in total income. Nevertheless, interest income earners can change their income according to inflation in a short time (Selim et. al., 2014: 53). Thus, inflation usually affects the income distribution negatively (Romer & Romer, 1998; Easterly & Fischer, 2001; Thalassinos et al., 2012).

According to the marginal wage theory, wages are determined by the marginal returns of the production factors. According to the theory developed by William Stanley Jevons and Francis Walker, the share of wages is shaped by other production factors. Firstly, owners of production factors receive their share in the total income, then they pay the wages to workers

(Alivey & Hopoğlu, 2023). According to the Keynesian Wage Theory, employment, marginal productivity of labor, and real wages are determined by effective demand. In addition, Effective Wage Theory, introduced by Keynesian economists, claims that there is a two-way relationship between wages and productivity (Kazgan, 2014). Furthermore, technological developments, the spread of capital-intensive production processes, the change of traditional production methods, and increasing global competition have negatively affected low-skilled workers who cannot adapt to new technologies (Altay, 2007: 58).

The impact of international trade on income distribution can be explained by classical and neoclassical views. Neoclassical trade theory claims that international trade will promote sectors having comparative advantages and the price of production factors increases in these sectors. Moreover, in the classical approach, the Heckscher-Ohlin and Stolper-Samuelson theorem implies that openness to trade raises gains of abundant factor. Therefore, if developing countries export labor-intensive commodities and developed countries export capital-intensive commodities, trade surplus can support share of labor income in developing countries (Stockhammer, 2013; Giovannoni, 2014). To benefit from the positive impact of international trade on income distribution, exports should be higher than imports. However, there are some drawbacks to these approaches. Firstly, production factors are not immobile between the countries, and there is an international labor migration fact. Secondly, the assumption of homogeneous workers is not held in the world (Doan & Wan, 2017). Furthermore, the share of capital-intensive products in export has increased for developing countries. On the other hand, the share of highly skilled labor-intensive commodities in export has also expanded.

In addition to the effects of economic factors on income distribution, socio-demographic, personal, and institutional factors also have an impact. Education, population, migration, urbanization, cooperation culture, and religious beliefs are among the socio-demographic and personal factors (Tüsün, 2021). As institutional factors, the quality of democracy, the superiority of justice, the level of corruption, and the quality of institutions stand out.

The increase in the educated population is quite effective in reducing inequality in income distribution. The relationship between education and income distribution is based on the idea that the quality and productivity of employees will increase through education, and this increase will result in a rise in income. Global studies also show that education and income distribution are positively related (World Bank, 2002; Heshmati, 2004; Eicher & Garcia-Penalosa, 2001).

Furthermore, relations with employers shape the wages. The bargaining power of workers can affect the share of the labor income. Organized groups can reap higher wages. Thus, a rise in unionization rate and collective agreements may increase labor income. Unions directly affect wages through collective bargaining and unionization, and indirectly affect government policies such as minimum wage (Rodrik, 1997; Slaughter, 1999). The minimum wage indicates the lowest amount that can be legally paid. It increases the fairness in income distribution by ensuring that wages increase to a certain level and a portion of the profit is transferred to the employee (Galbraith, 2000). It is expected that the rise in the minimum wage will increase purchasing power and trigger the demand for goods, resulting in higher investments and employment (Prasch, 1996; Cobb and Stevens, 2017). The effectiveness of the minimum wage varies depending on how many workers it affects and the determined level. If the minimum wage can

be implemented effectively, it reduces poverty through the redistribution of income (Volscho, 2005; Engbom & Moser, 2021). On the other hand, there are also studies claiming that the minimum wage increases unemployment and leads to welfare loss (Clemens & Wither, 2014).

A summary of empirical studies in the literature about income distribution is provided in Table 1 below.

Table 1: Empirical Studies in the Literature

Author(s)	Country	Period	Method	Dependent Variable	Result
Dişbudak & Süslü (2007)	Türkiye	1963-1998	ARDL	Gini coefficient	Inflation (+) Economic growth (-) Trade openness (-) Budget deficit (0)
Yardımcıoğlu (2012)	Türkiye	1980-2008	FMOLS, DOLS	Gini coefficient	Economic growth (-) Education expenditure (0)
Gülmez & Altıntaş (2015)	Türkiye	1981-2011	VECM	Gini coefficient	Inflation (+) Trade openness (-)
Ulusoy et al. (2015)	Türkiye	1994-2013	OLS	Gini coefficient	Education expenditures (+) Health expenditures (-) Domestic interest payments (+) Inflation (+)
Destek et al. (2017)	Türkiye	1977-2013	ARDL	Gini coefficient	Financial development (+) Public expenditure (+) Inflation (+) Economic growth (-)
Uzar & Eyuboğlu (2019)	Türkiye	1974-2015	ARDL, FMOLS, CCR	Gini coefficient	Tourism (+) Economic growth (-) Trade openness (-) Foreign direct investment (0)
Günel (2019)	Türkiye	1987-2016	Johansen Cointegration	Gini coefficient	Indirect tax (+) Direct tax (-)
Dayar & Akıncı (2020)	Türkiye	1987-2016	FMOLS	Gini coefficient	Public transfer expenditures (-)
Akalin (2021)	Türkiye	1987-2016	ARDL	Gini coefficient	Public transfer expenditures (-) Income tax (-) Wealth tax (-) Unemployment (+) Inflation (+)
Durak & Akalin (2022)	Türkiye	1988-2016	ARDL	Gini coefficient	Public transfer expenditures (-) Democracy (-) Unemployment (+) Economic growth (+)

Table 1 continue

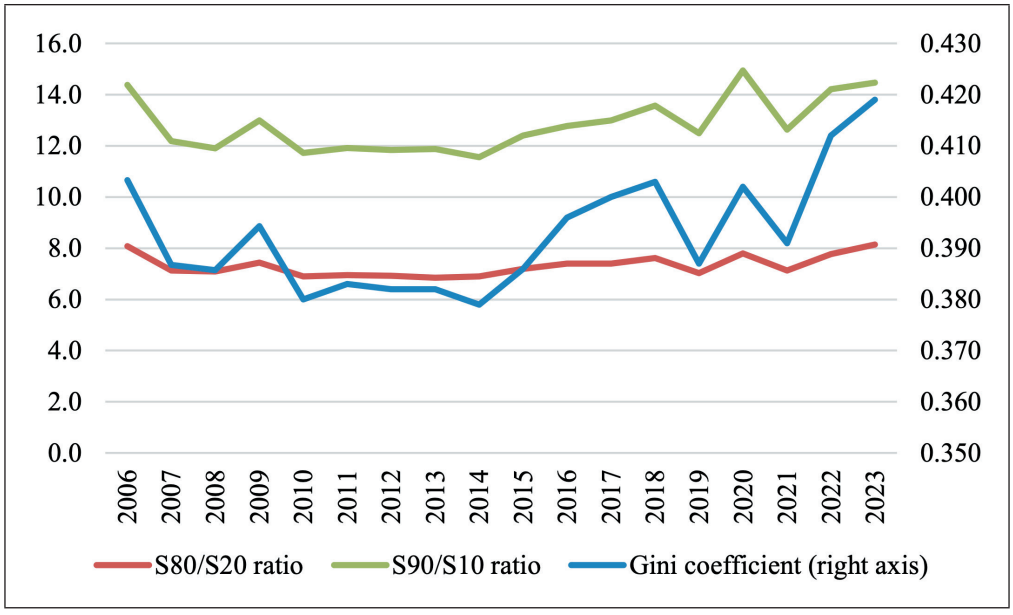
Aliyev & Hopoğlu (2023)	Türkiye	1980-2020	ARDL	Compensation of employees / GDP	Short-run: labor productivity (-) indirect taxes (-) employment (-) minimum wage (+) direct taxes (+) GDP per capita (+) Long-run: labor productivity (+) indirect taxes (-) employment (+) minimum wage (-) direct taxes (0) GDP per capita (-)
Tunalı &Özdemir (2017)	Türkiye	1990-2011	OLS	Compensation of employees / GDP	Financialization (-) Unemployment (-) Unionization rate (+) Strikes (+)
Koç & Sarıca (2016)	OECD Countries	1980-2012	Panel cointegration test with multiple structural breaks, CCE, CCEMG	Wage income / GDP	Unionization rate (+)
Harrison (2005)	100 countries	1960-2000	OLS and instrumental variables	Wage income / GDP	Trade openness (-)
Guscina (2006)	18 industrial countries	1960-2000	Panel data	Wage income / GDP	Openness to trade (-)
Jaumotte & Tytell (2007)	OECD countries	1983-2002	Panel data	Wage income / GDP	Relative export price (-) Relative import price (+)
Jayadev (2007)	80 countries	1970-2001	Panel data	Wage income / GDP	Capital account openness (-)
Azmat et al. (2011)	OECD countries	1970-2001	Panel data	Wage income / GDP	Privatization (-)
Guerriero & Sen (2012)	89 developed and developing countries	1970-2009	Panel data, instrumental variables	Wage income / GDP	Trade openness (+) Technological innovation (+) Education (+) Labor market regulation (+) Foreign direct investment inflows (-)
Decreuse & Maarek (2015)	98 developing countries	1980-2000	Panel data	Wage income / GDP	Inward foreign direct investment stock (-) Outward foreign direct investment (0)
Doan & Wan (2017)	Developed and developing countries	1980-2010	Panel data	Wage income / GDP	Import (+) Export (-) Foreign direct investment (0)
Alvarez-Cuadrado et al. (2018)	16 industrial countries	1960-2005	Panel data	Wage income / GDP	Marginal productivity of capital (-)

3. Development of Income Distribution in Türkiye

Several measurement methods have been developed to reveal whether income distribution is fair, and to show the development of income distribution over time. Lorenz curve, Gini coefficient, percentile analysis, and wage income trend are prominent indicators.

In this part, the developments in the Gini coefficient, percentile analysis, and trend of wage income have been examined for Türkiye to assess income distribution. The Gini coefficient is an important indicator to evaluate income inequality. The higher coefficient shows the higher inequality. The declining trend in the Gini coefficient implies the improvement in income distribution from the beginning of the 2000s to 2014 in Türkiye (Graph 1). Achieving price, financial, and political stability; employing structural reforms; and a high growth rate are the main determinants in this result. Then the increasing trend of the Gini coefficient indicates the worsening income distribution. Particularly, the jump since 2021 has specified how the unusual economic policies deteriorated the distribution of income. High inflation, implementations such as foreign exchange protected deposits (FXPD), and supplying commercial loans with negative interest rate have led to this outcome. Similarly, the ratio S90/S10, compares the income at the highest 10th percentile to the one at the lowest 10th percentile, and the ratio S80/S20, compares the income at the highest 20th percentile to the one at the lowest 20th percentile, can help to judge the situation (Graph 1). Their behaviors are in parallel with the Gini coefficient.

Graph 1: Gini Coefficient, S80/S20 and S90/S10 Ratios



Source: TURKSTAT
Note: Reference period of income is the previous calendar year.

As another approach, income earners can be separated into 5 percentage groups, and the development of each quintile can be examined. While the lowest income group of Türkiye got a similar share between 2010 and 2021, the share of those declined since 2022 and had the lowest level in 2023 (Table 2). Moreover, the portion of the middle-income class reduced more notably after 2014, and there has been a rising trend after 2022. On the other hand, the share of the last 20% group has expanded in the same period and has the highest level in 2023. Hence, it can be claimed that the situation of the middle-income group has been worsened greatly in Türkiye. Also, in the last 2 years, the lowest 20% group has accompanied this group. Considering the income distribution statistics for 2023 were calculated using the 2022 calendar year, tightening policies to control the inflation since the second half of the 2023 probably will deteriorate the share of the low- and minimum-income group more.

Table 2: Distribution Of Annual Household Disposable Income by Quintiles Ordered by Household Disposable Income, 2006-2023

Years	First quintile	Second quintile	Third quintile	Fourth quintile	Last quintile
2006	5.8	10.5	15.2	22.1	46.5
2007	6.4	10.9	15.4	21.8	45.5
2008	6.4	10.9	15.4	22.0	45.3
2009	6.2	10.7	15.3	21.9	46.0
2010	6.5	11.1	15.6	21.9	44.9
2011	6.5	11.0	15.5	21.9	45.2
2012	6.5	11.0	15.6	22.0	45.0
2013	6.6	10.9	15.4	21.8	45.2
2014	6.5	11.0	15.6	22.2	44.7
2015	6.3	10.9	15.5	22.0	45.3
2016	6.3	10.6	15.2	21.6	46.3
2017	6.3	10.6	15.1	21.4	46.7
2018	6.1	10.5	15.1	21.5	46.8
2019	6.5	11.0	15.5	21.7	45.4
2020	6.0	10.7	15.2	21.6	46.5
2021	6.4	10.9	15.3	21.5	45.9
2022	6.1	10.4	14.8	21.1	47.6
2023	5.9	10.2	14.7	20.9	48.3

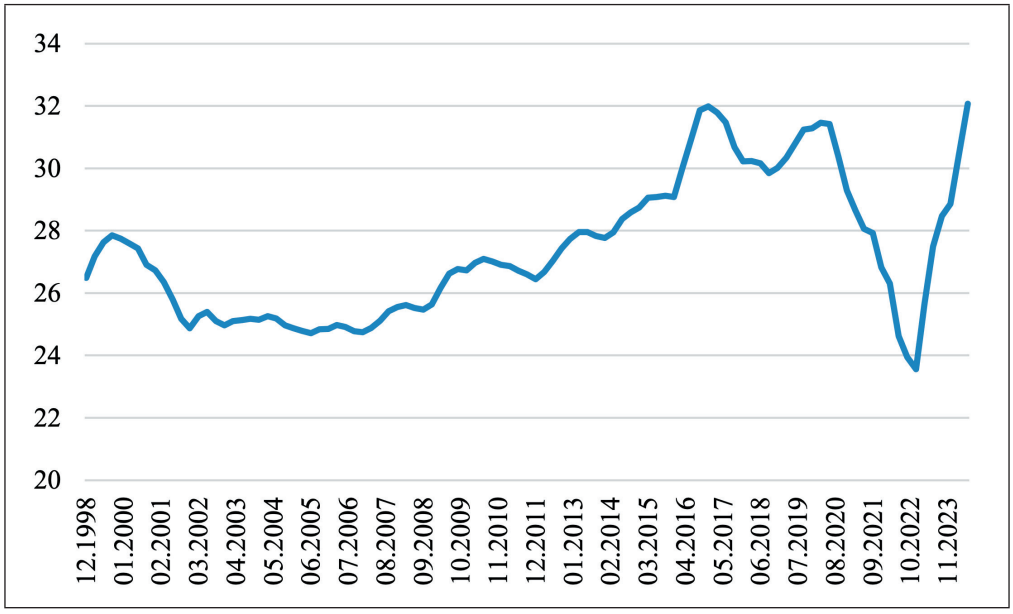
Source: TURKSTAT
Note: Reference period of income is the previous calendar year.

Wage incomes constitute a large part of household income and are obtained in return for labor. Wages and salaries, social transfers, premiums, and compensation payments constitute it. After the 1990s, in both developed and developing countries, the share of wage income in the national income has tended to decrease, while the share of profit has increased. This situation negatively affects especially the middle- and lower-income groups, who earn a large portion

of their income as wages. The share of wage earners from the national income is also followed as an indicator of income distribution, and the decrease in this share indicates that justice in income distribution worsened (Mutlugün, 2020).

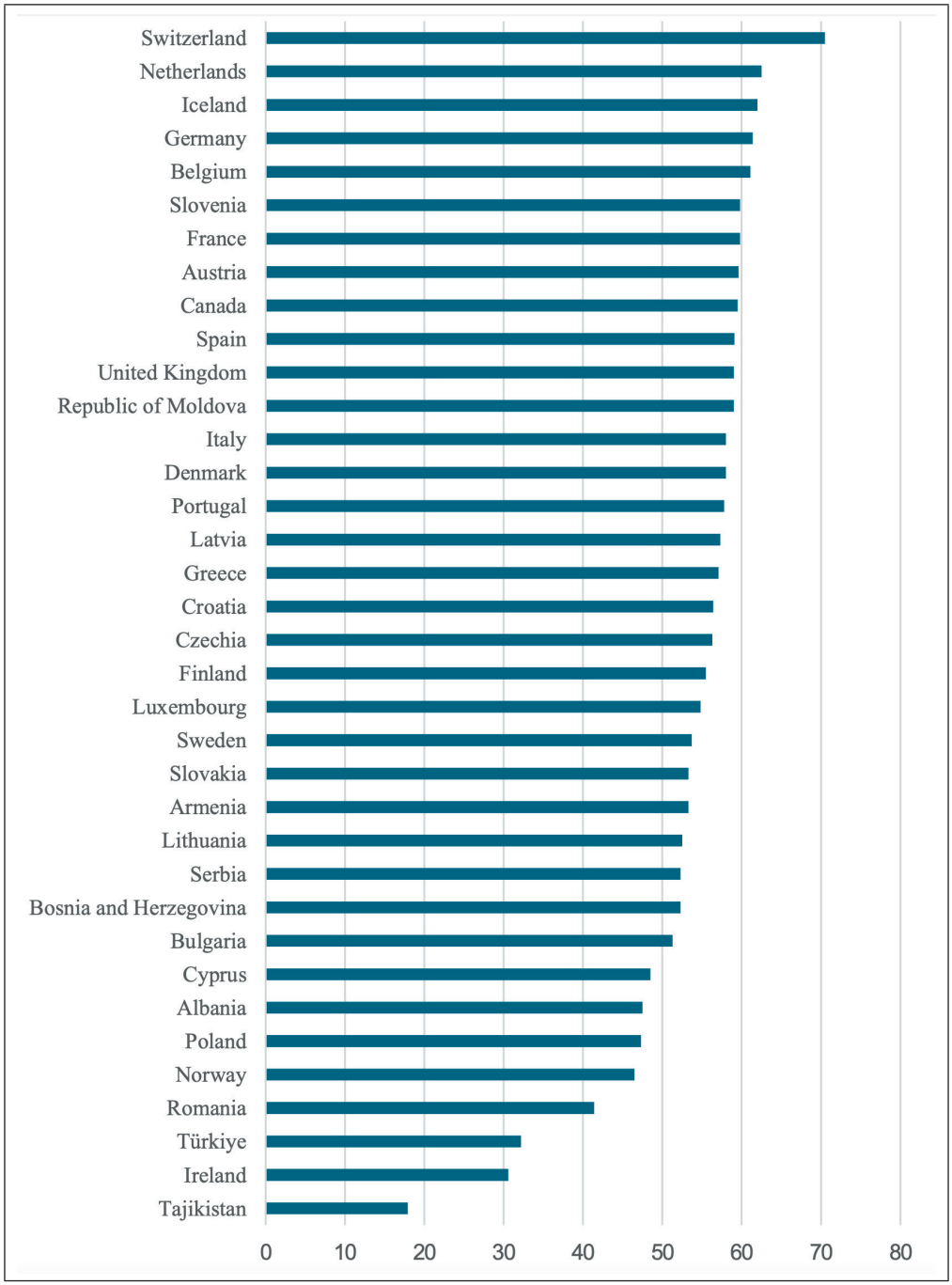
Since the increase in labor productivity has not been sufficiently reflected in wages and unions have lost their power, the share of wage earners in total income has been low in Türkiye (Graph 2). Also, the unionization rate is nearly 15% in Türkiye, and the rate of workers having collective agreements is 8% as of 2023 (Social Security Institution (SSI), 2024). This data implies that the bargaining power of employees is low, and it limits the rise in wages. Thus, the income distribution of low- and middle-income groups, which receive a very large portion of their income as wages, has not improved. The share of wage income in Türkiye has tended to recover between 2008 and 2017. However, as a result of the increase in unemployment due to the exchange rate shock in 2018, the global pandemic period in 2020, and the uncontrolled inflation due to the unconventional economic policies implemented in the last quarter of 2021, the share of wage income has rapidly fallen to historical lows. In 2023, an improvement was observed in the share of wage income due to the jump in the number of retirees and the positive impact of severance payment. People who had to wait until the retirement age limit, despite having sufficient premium days and service period, retired with a regulation in 2023. This regulation can be named as retired in early age (REA). However, it is estimated that this increase will be temporary due to the high inflation and the tightening policies. In addition, Türkiye stands out as the country with the lowest wage share among European countries after Ireland according to the latest available data (Graph 3). The average share of wage earners in total income in European countries is well above Türkiye.

Graph 2: Share of Wage Income in GDP (%)



Source: TURKSTAT

Graph 3: Labor share of GDP %



Source: UNECE

To understand the developments in wage income, it is necessary to examine the structure of employment. Firstly, the composition of employed people in Türkiye is analyzed in Table 3. While the share of the employer and own-account workers have been in a declining trend since the year 2008, the portion of the regular employee and casual employee has been in a rising tendency. The regular employee and casual employee consists of nearly 70% of the employees in recent years.

Table 3: Employed by Status in Employment

	Thousand persons				Share %			
Years	**Regular employee and casual employee**	**Employer**	**Own account worker**	**Unpaid family worker**	**Regular employee and casual employee**	**Employer**	**Own account worker**	**Unpaid family worker**
2008	12,593	1,267	4,287	2,319	61.5	6.2	20.9	11.3
2009	13,124	1,170	4,452	2,706	61.2	5.5	20.8	12.6
2010	14,069	1,229	4,532	3,142	61.2	5.3	19.7	13.7
2011	15,241	1,244	4,659	3,341	62.2	5.1	19.0	13.6
2012	15,867	1,229	4,661	3,008	64.1	5.0	18.8	12.1
2013	16,538	1,105	4,733	2,887	65.5	4.4	18.7	11.4
2014	16,572	1,164	4,398	2,865	66.3	4.7	17.6	11.5
2015	17,132	1,103	4,471	2,748	67.3	4.3	17.6	10.8
2016	18,093	1,216	4,565	2,795	67.8	4.6	17.1	10.5
2017	19,469	1,271	4,854	2,921	68.3	4.5	17.0	10.2
2018	19,778	1,304	4,786	3,002	68.5	4.5	16.6	10.4
2019	19,346	1,238	4,696	3,160	68.0	4.4	16.5	11.1
2020	19,209	1,255	4,447	2,797	69.3	4.5	16.0	10.1
2021	20,137	1,318	4,647	2,695	69.9	4.6	16.1	9.4
2022	21,687	1,374	5,026	2,665	70.5	4.5	16.3	8.7
2023	22,532	1,469	5,117	2,514	71.2	4.6	16.2	7.9
2024	23,153	1,492	5,347	2,705	70.8	4.6	16.4	8.3

Source: TURKSTAT

When the mean annual income at the main job by employment status is examined for the 2006-2023 period, wage of regular employee, self-employed, employer has increased 57%, 86%, and 106% respectively, on average (TURKSTAT, 2024). This result indicates the unfair distribution of income between employee and employer and can help to explain the worsening in income distribution.

Secondly, the portion of minimum wage workers and pensioners should find out. The official number of minimum wage workers is nearly 6.5 million as of the year 2023 (Table 4). Its ratio to compulsory insured employees has fluctuated around 40% for a long time. Considering the informal workers and employees having wages close to minimum wage, it can be

claimed that half of the employees' wages is around the minimum wage. Moreover, the number of pensioners is given in the table. While there has been a slight rise in the number of pensioners up to 2023, a sharp increase has been observed in 2023 because of the REA regulation and the number of pensioners has exceeded 15 million.

Table 4: The Number of Minimum Wage Workers and Pensioner

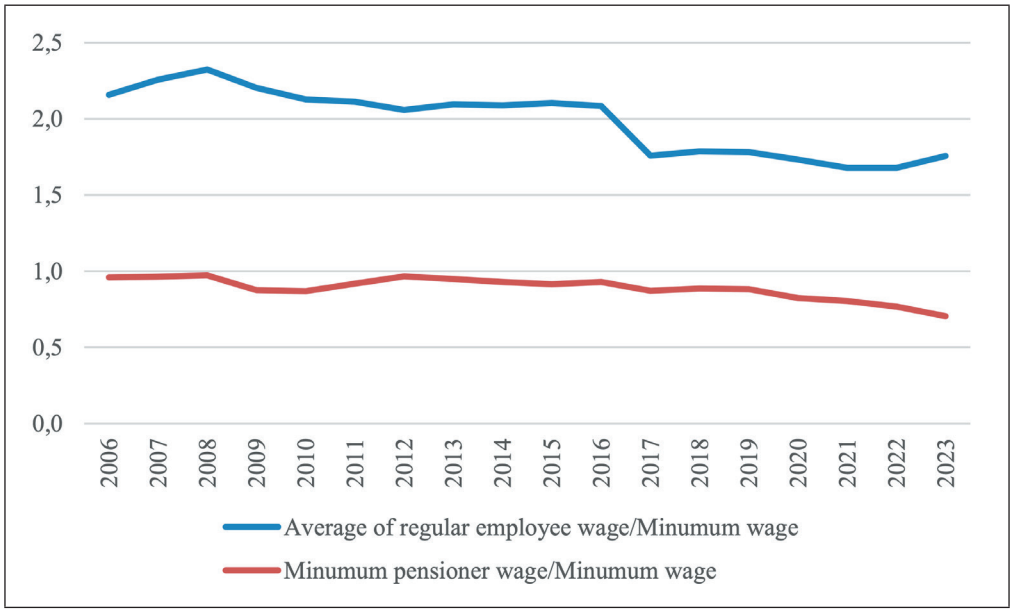
	Minimum wage workers (million person)	Minimum wage workers / Compulsory insured employees	Pensioner (million person)	Insured (million person)	Insured/ Pensioner Ratio
2001	2.68	54.9	-	-	-
2002	2.61	49.9	-	-	-
2003	2.95	52.6	-	-	-
2004	2.70	43.6	-	-	-
2005	3.04	44	-	-	-
2006	3.76	48.1	-	-	-
2007	3.64	42.8	-	-	-
2008	3.62	41.1	-	-	-
2009	3.89	43.2	8.49	15.10	1.78
2010	4.31	43.1	8.82	16.20	1.84
2011	4.81	44	9.27	17.38	1.87
2012	4.92	41.6	9.64	18.35	1.90
2013	4.74	38.3	9.89	18.89	1.91
2014	4.99	38.1	10.23	19.82	1.94
2015	5.29	38.6	10.81	20.77	1.92
2016	5.49	40.9	11.17	21.13	1.89
2017	5.07	35	11.42	22.28	1.95
2018	5.15	36.2	11.87	22.07	1.86
2019	5.27	36.8	12.21	22.00	1.80
2020	6.39	42	12.49	23.34	1.87
2021	6.16	38.2	12.85	24.75	1.93
2022	7.13	41.2	13.13	26.34	2.01
2023	6.56	40	15.24	25.36	1.66

Source: SSI

Thirdly, considering the big share of minimum wage workers and pensioners, the relation between the average income of regular employees, minimum wage, and pensioner wage should be illustrated. According to Graph 4, the ratio of average income to minimum wage has decreased since 2008, and there is a sharp decline in 2017. This result implies that the minimum wage is starting to become the average wage. Moreover, the ratio of minimum pensioner wage

to minimum wage fluctuated around 1 up to 2018, but then this ratio has begun to decline rapidly. Increasing numbers of pensioners and high inflation periods in recent years are the main determinants. These developments also have affected the share of the wage income and income distribution negatively.

Graph 4: The Link Between Average Income of Regular Employee, Minimum Wage and Pensioner Wage



Source: TURKSTAT, SSI

Furthermore, while the minimum wage in Türkiye remained below the hunger line determined by confederation of Turkish trade unions (CTTU) until 2019, it has remained slightly above the hunger line since then. On the other hand, the minimum wage has consistently stayed well below the poverty line (Table 5).

Table 5. Minimum Wage Level, Hunger Line and Poverty Line (TL)

	Minimum wage	Hunger line	Poverty line
2005	350	521	1,484
2006	380	555	1,808
2007	411	629	2,048
2008	492	694	2,261
2009	537	735	2,395
2010	588	812	2,644
2011	644	870	2,835
2012	720	959	3,123
2013	788	1,003	3,266
2014	869	1,099	3,580
2015	975	1,257	4,094
2016	1,301	1,447	4,714
2017	1,404	1,479	4,818
2018	1,603	1,615	5,262
2019	2,021	2,009	6,543
2020	2,325	2,219	7,229
2021	2,826	2,652	8,638
2022	4,877	4,250	13,844
2023	9,955	8,864	28,875
2024	17,002	15,049	49,019

Source: SSI, CTTU

4. Methodology and Data

In the empirical analysis, firstly, it is checked whether the data is stationary applying unit root analysis. Johanson cointegration analysis is used to test the existence of the relationship between wage income and other variables. The long-term connection between time series that are stationary at the same level is investigated by cointegration analysis, namely the Johanson cointegration test. Since the interaction between all variables is investigated in the test, the same result is obtained regardless of which variable is the dependent variable (Kocabıyık, 2016). In addition, the error correction model is used to see the adaptation between wages and other variables in the short term and to comment on long-term relationships. In the error correction model, it is analyzed whether a deviation from the series that have a relationship in the long term continues and whether the series that deviate from the balance converge to the mean value. If the error correction term has a significant and negative coefficient, it will imply that the error correction mechanism works. In other words, there is a long-term equilibrium relationship in the estimated equation, and there is a reliable relationship between the variables (Topaloğlu & Ege, 2020).

The data to be used in the empirical analysis and the sources of them are explained below in Table 6. Institutional factors such as democracy and corruption and personal factors such

as unionization rate and education level were not included in the study due to a lack of quarterly data. Wage Income/GDP is the dependent variable, and it is an indicator of income distribution. Salaries and wages, social transfers, premiums, and compensation payments constitute the wage income. Inflation is employed to measure the impact of an increase in the overall price level on wage income and expected to have a negative sign. Loans are added to the model to evaluate the effect of financialization. Higher loan growth implies higher financialization and transfer of income to the upper-income group. It is expected to have a negative sign. In addition to considering the impact of international trade, the current account is used in the model. If export is based on labor-intensive commodities, higher exports can support wage income. On the other hand, higher imports can worsen the wage income by depressing domestic production. Thus, it is expected to affect wage income positively. Productivity is an indicator for the marginal return of labor. Higher productivity implies higher wages. Taxes and current transfer from the budget are employed to indicate the impact of fiscal policy. If taxes are used effectively, they can create new job opportunities and increase wage income. Moreover, the current transfer can improve the income of low-income groups. Furthermore, the minimum wage rate is vital for the employees in Türkiye, considering the huge number of workers earning minimum wage or close to this level. A rise in the minimum wage rate compared to the average income level improves the wage income and income distribution. Finally, dummy variables are included in the model to measure the effect of policy change in 2021 and REA regulations. The Central Bank of the Republic of Türkiye (CBRT) employed an unusual monetary policy between 2021Q4 and 2023Q2. Policy interest rates are reduced while there was high inflation. Also, new TL instruments were introduced to protect the savers from foreign exchange (FX) risk, and they caused a huge burden on the budget and affected the income distribution. To indicate this impact, dummy1 is added to the model. Moreover, the number of retired people increased sharply, and they got severance payments with the REA regulations in 2023. This effect is included in the model by dummy2.

Table 6: Description of the Variables

Variables	Explanation	Source
Wage Income/GDP	The share of wage income in total income	TURKSTAT
Inflation	The annual change in the producer price index	CBRT
Loan	The annual change in loans granted to households	CBRT
Current account	The ratio of exports minus imports of goods and services to GDP	TURKSTAT
Productivity	The annual change in production per employed person	TURKSTAT
Taxes	The share of indirect and direct taxes in total budget revenues	CBRT
Current transfers	The share of transfers made to households in total budget expenditures	CBRT
MWR	The ratio of monthly net minimum wage to monthly average per capita income	TURKSTAT, Ministry of Labor and Social Security
Dummy1	The impact of unconventional monetary policies implemented since the last quarter of 2021	Author's calculations
Dummy2	The impact of the REA regulation implemented in 2023	Author's calculations

5. Econometric Analysis and Findings

In the first stage of the empirical analysis, the Augmented Dickey Fuller (ADF) unit root test is performed to test the stationarity of the time series (Dickey & Fuller, 1981). According to the ADF unit root test results, it is seen that all variables are stationary in their first differences (Table 7).

Table 7: ADF Unit Root Results (First Difference)

Variables	T Statistics
Wage Income/GDP	-12.358***
Inflation	-5.638***
Loan	-4.967***
Current account	-10.478***
Productivity	-3.799***
Current transfers	-11.716***
Taxes	-14.004***
MWR	-11.691***

Note: "***" indicates that the variable is stationary at the 1% level, "**" at the 5% level, and "*" at 10%. ADF threshold values are -3.54, -2.92, and -2.59 for the 1%, 5%, and 10% levels, respectively.

After employing the stationarity test, cointegration analysis is performed for the following equations. Two different models have been used in the study owing to the multicollinearity between MWR, current transfers, and taxes.

$$\text{Wage Income/GDP}_t = B_0 + B_1\text{Inflation}_t + B_2\text{Loan}_t + B_3\text{Currentaccount}_t + B_4\text{Productivity}_t + B_5\text{Currentransfers}_t + B_6\text{Taxes}_t + B_7\text{Dummy1}_t + B_8\text{Dummy2}_t + u_t \quad (1)$$

$$\text{Wage Income/GDP}_t = B_0 + B_1\text{Inflation}_t + B_2\text{Loan}_t + B_3\text{Currentaccount}_t + B_4\text{Productivity}_t + B_5\text{MWR}_t + u_t \quad (2)$$

To determine the lag value, Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information Criterion (HQ) test results are examined. Cointegration analysis is performed according to the lag value accepted by most of these tests. In addition, heteroscedasticity, serial correlation and normal distribution of models are checked employing diagnostic tests, Breusch Pagan Godfrey, Breusch Godfrey LM test, Jarque-Bera Test. It is found that the model is stable and robust.

Johansen cointegration analysis is used to test whether the variables in the equation have a long-term relationship. In the cointegration analysis, Trace statistics and Eigen values are used. The probability values of the tests are given in Table 8 and Table 9. When the maximum Eigen and Trace test results are evaluated together, it is seen that there is a long-term relationship between the estimated variables. The Johansen cointegration test shows that there are at least 4 cointegrations at the 5% level in the first equation and that there are at least 3 cointegrations at the 5% level in the second equation.

Similarly, since the Engle-Granger cointegration test statistics, which evaluates the cointegration for the equation as a whole, shows that the null hypothesis of no cointegration is rejected at the 1%, 5%, and 10% levels. It implies that there is a long-run relationship in the given equations.

Table 8: Johansen Cointegration Test Results for Equation 1

Maximum Cointegration	Trace Statistics	Critical Value at 5% Level	Maximum Cointegration	Trace Statistics	Critical Value at 5% Level
0	243.3833	124.24	0	113.3403	45.28
1	130.0430	94.15	1	42.7323	39.37
2	87.3107	68.52	2	36.8101	33.46
3	50.5006	47.21	3	26.4988	27.07
4	24.0018*	29.68	4	11.9101*	20.97
5	12.0917	15.41	5	11.6717	14.07
6	0.4199	3.76	6	0.4199	3.76

Table 9: Johansen Cointegration Test Results for Equation 2

Maximum Cointegration	Trace Statistics	Critical Value at 5% Level	Maximum Cointegration	Trace Statistics	Critical Value at 5% Level
0	200.3793	94.15	0	109.1164	39.37
1	91.2629	68.52	1	40.5643	33.46
2	50.6986	47.21	2	23.0362	27.07
3	27.6624*	29.68	3	18.0792*	20.97
4	9.5832	15.41	4	9.3722	14.07
5	0.2110	3.76	5	0.2110	3.76

According to Engle and Granger (1987), if there is a cointegration result indicating that there is at least one long-term equilibrium relationship between the variables, there is also a long-term causality relationship. Outcomes of the Engle and Granger and Johansen cointegration analysis show that an error correction model should be created to determine the deviation from the long-term equilibrium and to determine short-term and long-term causality relationships. To build an error correction model firstly, a long-run link between the variables is estimated by employing the OLS method. Therefore, equations 1 and 2 are estimated using quarterly data for the period 2006Q1-2024Q2 to interpret the long-run link between wage income and explanatory variables. The results are given below in Table10 and Table 11.

The results indicate that inflation, loans, current accounts, and taxes affect wage income and income distribution negatively in the long run (Table 10). On the other hand, productivity and current transfers improve wage income. These outcomes are consistent with the findings in the literature. Although the impact of the current account is expected to be positive for Türkiye, the negative effect of the current account may be explained by the rising share of capi-

tal-intensive products in exports. Also, it can be claimed that exports may improve technology in production to increase competitiveness. This situation can affect wage income negatively. Moreover, dummy1 that shows the impact of the unusual policies implemented in 2021 has a negative effect on wage income. Dummy2, indicates the results of REA regulation, influences the wage income positively. A sharp rise in the number of retired people and their severance payments refine the share of wage income. Furthermore, the ratio of minimum wage to average income is positively correlated with wage income (Table 11). Unemployment, foreign direct investment, and interest rates were also employed in the different models; however, their impacts were insignificant, and they were removed from the model.

Table 10: Estimation Results for the First Equation

Dependent Variable: Wage Income/GDP	**Coefficient**	**P-value**
Inflation	-0.0694187***	0.000
Loan	-0.0870396***	0.001
Current Account	-0.3107525***	0.001
Productivity	0.1514032***	0.000
Taxes	-0.1895385***	0.000
Current transfers	0.3212031***	0.000
Dummy 1	-3.41923**	0.026
Dummy 2	3.949684**	0.013
Constant term	35.4029***	0.000
Observation: 74		
R-square: 0.68		

Note: "***" indicates that the variable is significant at the 1% level, "**" indicates that it is significant at the 5% level, "*" indicates that it is significant at the 10% level.

Table 11: Estimation Results for the Second Equation

Dependent Variable: Wage Income/GDP	**Coefficient**	**P-value**
Inflation	-0.0455737 ***	0.000
Loan	-0.0330423***	0.002
Current Account	-0.0943938 **	0.021
Productivity	0.0583117 ***	0.000
MWR	1.464931***	0.000
Constant term	8.609946***	0.000
Observation: 74		
R-square: 0.93		

Note: "***" indicates that the variable is significant at the 1% level, "**" indicates that it is significant at the 5% level, "*" indicates that it is significant at the 10% level.

Finally, the error correction model is included in the empirical analysis. Some steps are followed to estimate the error correction model based on the equation that estimates the long-term relationship. First, the regression is run using the four-period lagged value of the independent variable. While the statistically significant independent variable is kept in the regression, the insignificant ones are removed, and the estimation is repeated. The residual for the estimated regression is recorded as the error correction term (ECM). Then, the first levels of the dependent and independent variables and the one-period lagged value of the ECM (ECMt-1) are used to estimate the error correction model (Erdal & Pınar, 2018). To have a long-term interaction between the variables, the error correction term must have a significant and negative coefficient. The equation of the error correction model between the share of the wage in total income and other variables is written as follows.

$$\Delta(\text{Wage Income/GDP}_t) = B_0 + \Delta B_1 \text{Inflation}_t + \Delta B_2 \text{Loan}_t + \Delta B_3 \text{Currentaccount}_t + \Delta B_4 \text{Productivity}_t + \Delta B_5 \text{Currenttransfers}_t + \Delta B_6 \text{Taxes}_t + B_7 \text{ECM}_{t-1} + u_t \quad (3)$$

$$\Delta(\text{Wage Income/GDP}_t) = B_0 + \Delta B_1 \text{Inflation}_t + \Delta B_2 \text{Loan}_t + \Delta B_3 \text{Currentaccount}_t + \Delta B_4 \text{Productivity}_t + \Delta B_5 \text{MWR}_t + B_6 \text{ECM}_{t-1} + u_t \quad (4)$$

The results of the error correction models are given in Table 12. In the model where wage income is the dependent variable, the coefficient of (ECMt-1) shows how much of the deviations of wage income from its long-term values are corrected in the following period. Also, the coefficient of (ECMt-1) is negative and statistically significant. This situation shows that there is a long-term significant relationship between wage income and explanatory variables. In addition, all explanatory variables are found to be statistically significant. Therefore, inflation, credit growth, which is a leading indicator for financialization, and the current account deficit negatively affect wage income and income distribution in the short term. The increase in labor productivity also has a positive impact on wages in the short term. While taxes, which are among the fiscal policy tools, have a strong negative effect on wage income, it is seen that current transfers made to households significantly increase wage income.

Table 12: Error Correction model for the first equation

Dependent Variable: D(Wage Income/GDP)	**Coefficient**	**P-value**
D(Inflation)	-0.0591464**	0.037
D(Loan)	-0.1094416 ***	0.010
D(Current Account)	-0.3181468 ***	0.000
D(Productivity)	0.1176206 *	0.069
D(Taxes)	-0.197877 ***	0.000
D(Current transfers)	0.41688 ***	0.000
ECM-1	-0.9271267***	0.000
Constant term	-0.0254713	0.921
Observation: 73		
R-square: 0.70		

Note: "***" indicates that the variable is significant at the 1% level, "**" indicates that it is significant at the 5% level, "*" indicates that it is significant at the 10% level.

In the second equation where the minimum wage is added, there is no significant change in other variables except the current account deficit, which is estimated to be insignificant (Table 13). As the ratio of the minimum wage to average income increases, it is estimated that significant improvements in wage income are observed in the short term. In addition, the coefficient of (ECMt-1) is negative and statistically significant, confirming the long-term link between the variables.

Table 13: Error Correction Model for the second equation

Dependent Variable: D(Wage Income/GDP)	Coefficient	P-value
D(Inflation)	-0.035564 ***	0.001
D(Loan)	-0.0505942 ***	0.002
D(Current Account)	-0.0522309	0.125
D(Productivity)	0.0565814 **	0.021
D(MWR)	1.624936 ***	0.000
ECM-1	-0.5928214 ***	0.000
Constant term	-0.0198328	0.837
Observation: 73		
R-square: 0.96		

Note: "***" indicates that the variable is significant at the 1% level, "**" indicates that it is significant at the 5% level, "*" indicates that it is significant at the 10% level.

Empirical studies in the literature show that there is a positive relationship between inflation and the Gini coefficient, concluding that inflation worsens income distribution (Gülmez & Altıntaş, 2015; Akalin, 2021). However, no study has been found that relates wage income to inflation. This study contributes to the literature by finding that inflation in Türkiye negatively affects the share of wage income and therefore income distribution. In addition, the study demonstrates that unconventional policies implemented in Türkiye between the last quarter of 2021 and the first half of 2023 also negatively affect wage income with dummy1. While these policies provide significant income transfers from the budget and CBRT resources to high-income groups through tools such as FXPD, they worsen the share of wage earners and income distribution and deepen the negative impact of inflation. During this period, since wages could be adjusted against inflation with a lag of 6 months, serious declines were observed in the share of wage income. Thus, the impact of unconventional policies of Türkiye in recent periods on income distribution has been tested for the first time. Another contribution of the study to the literature is the association of wage income with loans. The negative impact of loans, used as a leading indicator for financialization, implies that income is transferred to the rich people through the interest channel. The high course of interest rates in Türkiye strengthens the effect of this channel. In addition, the sudden increase in the number of retirees with REA regulation and the short-term recovery in wage income as a result of severance payments are addressed with dummy2, and this effect has not been studied before.

The positive relationship between employee productivity, minimum wage and wage income found out in this study is consistent with the findings in the literature (Aliyev & Hopoğlu,

2023). On the other hand, the negative effect of taxes and the positive impact of current transfers, which are among the fiscal policy tools, are parallel to the results in the literature (Destek et al., 2017; Günel, 2019). Previous studies are confirmed using quarterly frequency and long-term analysis. However, some studies claim that current transfer has a negative impact on income distribution by including all transfers. This study demonstrates the positive effect of current transfers by employing transfers to households only. Finally, the negative impact of the current balance on wage income implies that the export channel is dominant. In line with the literature (Doan & Wan, 2017), it is estimated that the increase in the share of technology-intensive products in Türkiye's exports and the acceleration of technological development in exports are decisive in this result.

6. Conclusion and Suggestions

Income distribution stands out as one of the most important problems in Türkiye, as it does all over the world. The high inflation rate after 2021, due to the impact of the economic policies, has fueled discussions on income distribution. In this study, the share of wage income, which constitutes a large portion of the income of the low- and middle-income group, has been taken as a leading indicator, and the dynamics of income distribution in Türkiye have been investigated. The study sheds light on the discussions and contributes to the literature by covering the recent years when significant deteriorations in income distribution have been observed in Türkiye. Moreover, consideration of variables such as inflation, loans and labor productivity in addition to fiscal policy tools is another important contribution of the study.

In this study, the factors affecting wage income have been examined for the periods of 2006Q2-2024Q2 with the help of cointegration analysis, OLS and error correction model. According to the empirical study results, inflation and loans are negatively related to wage income and income distribution in Türkiye. The negative effect of inflation shows that the situation of wage earners has worsened due to their inability to adjust their income according to inflation. Especially after 2021, the devastating impact of inflation on the lower- and middle-income groups, whose incomes are largely dependent on wages, confirms the model results. Loans, which are the leading indicators for financialization, also have a negative effect on wage income. This situation implies that as the household's loans increase, there is an income transfer to the upper-income group through the interest channel. Moreover, it has been found that taxes, which are among the fiscal policy tools, are also negatively related to wage income. This relationship implies that the collected taxes in Türkiye cannot be used effectively. Among the fiscal policy tools, current transfers to households have a strong and positive effect on wage income, as expected. The fact that many people have been supported by current transfers in Türkiye and that these transfers have had a significant share of the budget is consistent with the model results. In addition, it has been found that labor productivity positively affects the share of wages. Furthermore, it is seen that the unconventional economic policies implemented since the end of 2021 have disrupted income distribution by providing significant income transfers to a small group through practices such as FXPD and negative real interest loans. Finally, it has been shown that the level of the minimum wage is very important for income distribution.

The study results offer suggestions for policy makers. Firstly, it is seen that ensuring price stability in Türkiye is vital for income distribution. High inflation causes significant losses in the purchasing power of wage earners and worsens income distribution. On the other

hand, the policy tools preferred in combating inflation can also deepen this problem. Tightening monetary and fiscal policies have a negative impact on the middle- and lower-income groups through increasing taxes, decreasing current transfers, and suppressing wages. During the high inflation periods, additional measures are required to support the purchasing power of lower-income groups. Increasing direct taxes and collecting more taxes from high-income earners may be a solution. Also, collected taxes should be used efficiently to make investments and increase employment to support the lower- and middle-income groups.

Considering the negative impact of loans used by households, rational policies are needed to keep interest rates at permanently low levels. In addition, there is a need to develop alternative mechanisms that will remove the interest burden on households' financing-dependent expenditures such as housing and vehicles. Increasing the financial literacy level of households will also be beneficial. To improve labor productivity in Türkiye, it will be useful to increase the quality of education and to raise the number of skill-building courses. In addition, it should be ensured that the increase in productivity is adequately reflected in wages. Considering that there is a large group of people working for minimum wage, employers and the state should bear more costs in determining the minimum wage. Owing to the rising share of non-wage income in total income, it can be argued that there is unfair distribution among the production factors. Moreover, the convergence of average wages to the minimum wage worsens income distribution. Wages should be adjusted according to the qualifications of employees and the nature of work. Finally, a fairer income distribution should be prioritized while designing economic policies.

Conflict of Interests

There is no conflict of interest between the authors or any third-party individuals or institutions.

Ethics Committee Approval

This research does not have a part that needs approval of the ethics committee.

Funding Disclosure

This research does not have any financial support.

References

Akalin, G. (2021). Gelir ve servet vergileri Türkiye'de gelir dağılımını etkilemekte midir? *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, *9*(1), 249-255. https://doi.org/10.18506/anemon.851634

Akbulut, E. (2021). Türkiye'de enflasyon, faiz, vergiler ve gelir dağılımı ilişkisi: ampirik analiz. *Ekonomik ve Sosyal Araştırmalar Dergisi*, *17*(1), 147-169.

Aksoy, Ş. (2011). *Kamu maliyesi*. İstanbul: Filiz Kitabevi.

Aliyev, P. & Hopoğlu, S. (2023). Gayrisafi yurtiçi hâsıla içerisinde ücret gelirlerinin hacmini belirleyen faktörler. *Business, Economics and Management Research Journal*, *6*(2), 186-201. https://doi.org/10.58308/bemarej.1250919

Altay, A. (2007). Küreselleşen yoksulluk olgusunun önlenmesinde mikrofinansman yaklaşımı. *Finans Politik & Ekonomik Yorumlar*, *44*(510), 57–67.

Alvarez-Cuadrado, F., Long, N. V., & Poschke, M. (2018). Capital-labor substitution, structural change and the labor income share. *Journal of Economic Dynamics & Control*, *87*, 206-231.

Assa, J. (2012). Financialization and its consequences: The OECD experience. *Finance Research*, *1*(1), 35-39.

Azmat, G., Manning, A., & Reenen, J. V. (2011). Privatization and the decline of labour's share: International evidence from network industries. *Economica*, *XX*, 1-23.

Clemens, J., & Wither, M. (2014). The minimum wage and the great recession: Evidence of effects on the employment and income trajectories of low-skilled workers. *National Bureau of Economic Research*, No: w20724.

Cobb, J. A., & Stevens, F. G. (2017). These unequal states: Corporate organization and income inequality in the United States. *Administrative Science Quarterly*, *62*(2), 304-340.

CTTU. (2024). *Açlık ve Yoksulluk*. Retrieved from https://www.turkis.org.tr/category/aclik-yoksulluk/ Accessed: 10.11. 2024

Çalışkan, Ş. (2010). Türkiye'de gelir eşitsizliği ve yoksulluk. *Sosyal Siyaset Konferansları*, *59*, 89-132.

Dayar, H., & Akıncı, A. (2020). Kamu sosyal transfer harcamalarının kişisel gelir dağılımına etkisi. *Maliye Dergisi, 179*, 172-185.

Decreuse, B., & Maarek, P. 2015. FDI and the labor share in developing countries: A theory and some evidences. *Annals of Economics and Statistics*, *119-120*, 289-319.

Destek, M. A., Okumuş, İ., & Manga, M. (2017), Türkiye'de finansal gelişim ve gelir dağılımı ilişkisi: Finansal kuznets eğrisi. *Doğuş Üniversitesi Dergisi, 18*(2), 153-165.

Dickey, D. A, & Fuller, W. A. (1981). Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, *49*, 1057-1072.

Dinler, Z. (2006). *İktisada giriş*. Bursa: Ekin Kitabevi.

Dişbudak, C., & Süslü, B. (1970), The macroeconomic determinants of income distribution in Turkey. *Ekonomik Yaklaşım*, *18*(65), 1-23.

Doan, H. T. T., & Wan, G. (2017). Globalization and the labor share in national income. *ADBI Working Paper*: 639. Tokyo: Asian Development Bank Institute.

Durak, S., & Akalin, G. (2022). Türkiye'de gelir dağılımının belirleyicileri. *Anadolu İktisat ve İşletme Dergisi*, *6*(2), 69-86.

Easterly, W., & Fischer, S. (2001). Inflation and the poor. *Journal of Money, Credit and Banking*, *33*(2), 160–178. https://doi.org/10.2307/2673879

Eicher, T. S., & Garcia-Penalosa, C. (2001). Inequality and growth: the dual role of human capital in development. *Journal of Development Economics*, *66*(1), 173-197.

Engbom, N. & Moser, C. (2021). Earnings inequality and the minimum wage: Evidence from Brazil. *NBER Working Papers:* 28831.

Engle, R. F., & Granger, C. W. J. (1987). Cointegration and error correction: representation, estimation and testing. *Econometrica*, *55*, 251-276.

Erdal, B., & Pınar, A. (2018). Enflasyon hedeflemesi rejiminde fisher etkisinin geçerliliği: Türkiye 'den ampirik sonuçlar. *Eskişehir Osmangazi Üniversitesi İİBF Dergisi*, *13*(3), 1-12.

Galbraith, J. K. (2000). *Created unequal: The crisis in American pay*. Chicago: University of Chicago Press.

Giovannoni, O. (2014). What do we know about the labor share and the profit share? Part II: empirical studies. *The Levy Economics Institute Working Paper*, No: 804.

Gornemann, N., Kuester, K., & Nakajima, M. (2016). Doves for the rich, hawks for the poor? Distributional consequences of monetary policy. *International Finance Discussion Papers:* 1167.

Guerriero, M., & Sen, K. (2012). What determines the share of labour in national income? A cross-country analysis. *IZA Discussion Paper Series*, 6643.

Gülmez, A., & Altıntaş, N. (2015), Türkiye'de ticari açıklık ve enflasyonun gelir dağılımına etkisi: Ekonometrik bir analiz. *Kafkas Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *6*(9): 31-44.

Günel, T. (2019), Türkiye'de dolaylı ve dolaysız vergilerin gelir dağılımına etkisi: Ekonometrik bir uygulama. *Yaşar Üniversitesi E-Dergisi*, *14*(55), 277-287.

Guscina, A. (2006). Effects of globalization on labor's share in national income. *IMF Working Paper*, 06/294.

Harrison, A. (2005). Has globalization eroded labor's share? Some cross-country evidence. Unpublished. *Munich Personal RePEc Archive*. Retrieved from http://mpra.ub.uni-muenchen.de/39649/1/MPRA_paper_39649.pdf Accessed: 10.11.2024

Heathcote, J., Perri, F., & Violante, G. L. (2010). Unequal we stand: An empirical analysis of economic inequality in the United States, 1967–2006. *Review of Economic Dynamics*, *13*(1), 15-51.

Heshmati, A. (2004). Inequalities and their measurement. *IZA Discussion Paper*, No:1219. Retrieved from https://docs.iza.org/dp1219.pdf Accessed: 13.9.2024

Jaumotte, F., & Tytell, I. (2007). How has the globalization of labor affected the labor share in advanced countries? *IMF Working Paper,* 07/298.

Jayadev, A. (2007). Capital account openness and the labor share of income. *Cambridge Journal of Economics*, *31*(3), 423–443.

Karluk, S. R. (2005). *Cumhuriyetin ilanından günümüze türkiye ekonomisinde yapısal dönüşüm*. 10. Baskı, İstanbul: Beta.

Kaytancı, U. B. (2008). *Ücret teorileri ve Türkiye imalat sanayiinde ücretlerin durumu üzerine uygulama*. (Yayımlanmamış Doktora Tezi). Çukurova Üniversitesi Sosyal Bilimler Enstitüsü, Adana.

Kazgan, G. (2014*). İktisadi düşünce veya politik iktisadın evrimi*. Ankara: Remzi Kitabevi.

Koç, A., & Sarıca, D. (2016). Analysis on the relationship between the share of labour income and the level of union organization in selected OECD countries in the neoliberal era. *Journal of Current Researches on Business and Economics*, *6*(2), 29-56.

Kuş, B. (2013). Financialisation and income inequality in OECD nations: 1995-2007. *The Economic and Social Review*, *43*(4), 477-495.

Mutlugün, B. (2020). *Türkiye'de gelir dağılımı ve sosyal adalet*. *İKAM Alan İzleme Raporları*, Retrieved from https://ilke.org.tr/turkiyede-gelir-dagilimi-ve-sosyal-adalet Accessed: 20.11.2024

Parasız, İ. (2006). *İktisada giriş*. Bursa: Ezgi Kitabevi.

Prasch, R. E. (1996). In defense of the minimum wage. *Journal of Economic Issues*, *30*(2), 391-397.

Rodrik, D. (1997). *Capital mobility and labor*. Retrieved from https://drodrik.scholar.harvard.edu/sites/scholar.harvard.edu/files/dani-rodrik/files/capital-mobility_0.pdf Accessed 30.09.2024.

Romer, C. D., & Romer, D. H. (1998). Monetary policy and the well-being of the poor. *National Bureau of Economic Research*, No: w6793.

Şahin, H. (2007). *Türkiye ekonomisi*. Bursa: Ezgi Yayınları.

Selim, R. Günçavdı, Ö., & Bayar, A. (2014). Türkiye'de bireysel gelir dağılımı eşitsizlikleri: fonksiyonel gelir kaynakları ve bölgesel eşitsizlikler. *Turkish Business Association Report* , No: TÜSİAD-T/2014-06/554: 18-104

Şener, O. (2006). *Kamu ekonomisi*. İstanbul: Beta Yayıncılık.

Şenkal, A. (2005). *Küreselleşme sürecinde sosyal politika*. İstanbul: Alfa Yayınları.

Sileika, A., & Bekeryte, J. (2013). Theoretical issues of relationship between unemployment, poverty and crime in sustainable development. *Journal of Security and Sustainability Issues*, *2*(3), 59-70.

Slaughter, M. (1999). Globalization and wages: A tale of two perspectives. *The World Economy*, *22*(5), 609-708.

SSI. (2024). *Statistics*. Retrieved from https://www.sgk.gov.tr/Istatistik/Aylik/42919466-593f-4600-937d-1f95c9e252e6 Accessed: 12.10. 2024

Stiglitz, J. E. (2014). *Eşitsizliğin bedeli* (O. İşler, Çev). İstanbul: İletişim Yayınları.

Stockhammer, E. (2013). Why have wage shares fallen? A panel analysis of the determinants of functional income distribution. *Conditions of Work and Employment*, No: 35, Geneva: International Labor Organization.

Thalassinos, E., Uğurlu, E., & Muratoğlu, Y. (2012). Income Inequality and Inflation in the EU. *European Research Studies*, *15*(1), 127.

Topaloğlu, E. E., & Ege, İ. (2020). Kredi temerrüt swapları (cds) ile Borsa İstanbul 100 endeksi arasındaki ilişki: kısa ve uzun dönemli zaman serisi analizleri. *İşletme Araştırmaları Dergisi*, *12*(2), 1373-1393.

Tunalı, H., & Özdemir, O. (2017). The effects of financialization process of the Turkish economy on the labor's share. *İstanbul Üniversitesi İktisat Fakültesi Mecmuası, 67*(1), 57-116. https://doi.org/10.26560/iuifm.331644

TURKSTAT. (2024). *Gelir dağılımı istatistikleri, Gini katsayısı, P80/P20 ve P90/P10 oranları*. Retrieved from https://data.tuik.gov.tr/Kategori/GetKategori?p=gelir-yasam-tuketim-ve-yoksulluk-107&dil=1 Accessed: 10.10. 2024

Tüsün, G. M. (2021). *Maliye politikasının gelir dağılımına etkisi: OECD ülkeleri üzerine bir araştırma* (Yüksek lisans tezi). Retrieved from https://acikerisim.nku.edu.tr/items/1d08e5be-0106-429d-87f6-c33db8b2bb0c Accessed: 18.10. 2024

Ulusoy, A., Karakurt, B., & Akbulut, E. (2015). Eğitim harcamalarının gelir dağılımına etkisi: Türkiye'de yükseköğretimin gelir eşitsizliğini giderici işlevi. *Maliye Araştırmaları Dergisi*, *1*(2), 45-75.

UNECE. (2024). *Labour share of GDP*. Retrieved from https://w3.unece.org/SDG/en/Indicator?id=30 Accessed: 15.10. 2024

Uzar, U., & Eyüboğlu, K. (2019). Can tourism be a key sector in reducing income inequality? an empirical investigation for Turkey. *Asia Pacific Journal of Tourism Research*, *24*(8), 822-838.

Uzunhasanoğlu, Z. D. (2007). *Türkiye'de uygulanan ekonomik ve mali politikaların gelir dağılımına etkisi 1980-2005*. Ankara: Maliye Hesap Uzmanlığı Vakfı Yayınları.

Volscho, T. W. (2005). Minimum wages and income inequality in the American States, 1960-2000. *Research in Social Stratification and Mobility*, *23*, 343-368.

Wimer, C., Parolin, Z., Fenton, A., Fox, L., & Jencks, C. (2020). The direct effect of taxes and transfers on changes in the US income distribution, 1967-2015. *Demography*, *57*(5), 1833-1851.

World Bank. (2002). Globalization, growth, and poverty: building an inclusive world economy. *WB Policy Research Report*, No: 23591.

World Bank. (2024). *Poverty, prosperity, and planet report 2024*. Retrieved from https://www.worldbank.org/en/publication/poverty-prosperity-and-planet Accessed: 16.3.2025

Yardımcıoğlu, F. (2012). *Eğitim harcamaları, ekonomik büyüme ve gelir dağılımı ilişkisi* (Doktora tezi). Retrieved from https://acikerisim.sakarya.edu.tr/handle/20.500.12619/77431?show=full Accessed: 10.8.2024