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ABSTRACT

Social assistance has become prominent in combating poverty in developing countries, and has also contributed to the popularity and election success of governments implementing it. In this paper, I employ household surveys and investigate the effect of social assistance on poverty and income inequality in Turkey. I also review the recent literature on poverty, as well as different components of social protection spending: education, health, pensions and housing. In the empirical analysis, I show that pensions still constitute the bulk of public transfers to households. Moreover, home ownership ameliorates poverty and inequality for Turkey. Despite its modest amounts, social assistance reduces poverty and its marginal effect on income inequality is larger than other income sources. These findings suggest that increases in social assistance budgets should accompany other policy measures in combating poverty and inequality.

In the 2000s, non-contributory, tax-financed social assistance has gained prominence as a new dimension of social protection in many developing countries. In Latin America, these policies are mostly implemented by left-leaning governments (Carnes & Mares 2013). In Turkey, similar policies are implemented by the right-wing, pro-business AKP (Adalet ve Kalkınma Partisi – Justice and Development Party, President Erdoğan's party). In the 2000s, Turkey has imported and implemented many ideas emanating from other developing countries, such as Conditional Cash Transfers from Latin America via the World Bank. The popular press attributes some of the electoral success of the Justice and Development Party to its social policies. Parallel to the 'rise of the left' during the first decade of the 2000s in Latin America, research on voting behaviour indeed finds that approval of the AKP's social policy performance is an important part of its electoral success (Gidengil & Karakoç 2016).[1] Researchers critical of the manner of the extension of social assistance point out that the government is using social assistance as a tool to buy votes (Bozkurt 2013). Yörük (2012) also points to the special case of Turkey, where social assistance extension is especially targeted on

the Eastern regions, not only because these regions are poorer but also in order to buy the consent of the Kurdish minority.

The above literature focuses on the direct relationship between electoral politics and social assistance. However, there is a potential indirect channel too: if social assistance policies reduce income inequality and poverty, then people other than social assistance recipients can form positive perceptions of the government. Moreover, existing studies generally focus on whether the social assistance programmes exist and do not consider the extent to which these programmes assist recipient households. Social assistance programmes' effect on poverty and inequality and the programmes' perception by the larger populace is liable to change depending on the size of these programmes. Third, most of the existing literature on social spending ignores the relationship between 'forbearance' (explained later) of informal housing in urban areas and income inequality and poverty.

This study aims to fill some of these gaps in the literature with an empirical analysis of the level of social assistance reaching households and its effect on income poverty and inequality. The empirical analysis documents the distribution of various sources of income, including social assistance, between households, using the Survey of Income and Living Conditions (SILC). This survey has been administered annually since 2006 and it provides the most detailed data on all kinds of income, including pensions and social assistance, for the period between 2006 and 2015.

The rest of the paper is organised as follows: the next section reviews the salient aspects of social policy in Turkey, especially overall social protection spending and taxation. The following section reviews the oft-ignored asset redistribution, since home ownership turns out to be poverty- and inequality-reducing in Turkey. Then, the recent literature on poverty in Turkey is briefly reviewed. The methodology section introduces the SILC Turkey dataset and presents the methodology of analysis. The results section presents and discusses empirical findings from SILC Turkey. In conclusion, I discuss the implications of this study's findings for future studies and social policy.

Social protection spending in Turkey

The European Commission (2016, p. 8) most broadly classifies the following list of risks or needs requiring social protection: sickness, disability, old age, survivors, family/children, unemployment and housing. For Turkey, the majority of social protection spending is composed of retirement pensions (old age and survivors) and healthcare (sickness). The rest of the risks and needs are either addressed with social assistance spending, in an unconventional manner (for example, turning a blind eye to squatter housing in urban areas) or assigned to families. Nevertheless, in Turkey, the size of the government expenditure (as a share of GDP) is quite large compared to similar middle-

income countries in Latin America such as Argentina, Chile and Mexico, apart from Brazil (Lustig 2016). Unlike many Latin American countries, Turkey never experienced the privatisation of pensions in the 1980s and 1990s and unlike East Asia, mandatory private retirement pensions are very rare in Turkey. Moreover, the size of both overall state spending and social spending within this budget has continued to increase in the 2000s (both in real terms and as a share of GDP). As a result, the discrepancy between Turkey and the above countries has continued to widen in the 2000s.

Despite the pro-business image of the AKP, Bugra and Candas (2011) point out that social policy during the AKP years has increasingly taken an 'eclectic' shape where the limited Corporatist model of post-World War II Turkey was gradually extended to provide some security to people who had not contributed to pension systems via mandatory taxes on labour income. Buğra (2018) argues that social policy during the AKP period is shaped by the problems created by capitalist development, especially jobless growth. There is an increased stress on social protection in Turkey, but the emphasis is not on reducing class inequality, given the ideology of the dominant actor, the AKP. Dorlach (2015) calls the emerging model in Turkey 'social neoliberalism'. It combines neoliberal economic policies (including retrenchment of worker rights) with the expansion of public spending and wider coverage of the welfare state (pensions, education and health).

Size of social protection spending in Turkey

A review of budget documents shows that social assistance is a very small part of social protection spending (health, retirement pensions and social assistance) in Turkey. Yentürk (2013, p. 437) shows that between 2006 and 2012, public health spending fluctuated between 4–4.4 per cent of GDP; pension spending increased from 6.4 to eight per cent of GDP; and social assistance increased from 0.5 to 0.9 per cent of GDP. Both the bulk of overall social protection spending, as well as most of the recent increase, is for health and pensions. Social assistance transfers were roughly seven per cent of total social protection spending by 2012.[2]

Lloyd-Sherlock (2008, p. 633) points out that pensions, and not social assistance, also constitute the bulk of social spending in Mexico, Argentina and Brazil. However, in Turkey the size of pensions relative to GDP is not only larger than these Latin American Countries but also close to the OECD countries' average. Moreover, the size of public spending on health is equivalent to 77 per cent of total health spending, which is more than the OECD average (OECD 2015) (see below for details). Social assistance spending and spending on education are two categories where Turkey lags behind not only OECD countries but also some Latin American countries.

Finally, the pension systems of both Turkey and these Latin American countries exhibit deficits which are covered through the general budget. However,

the driver of these pension system deficits differs between Turkey and major Latin American economies. In these Latin American countries, pension deficits are driven by formal sector jobs becoming relatively scarcer (Lloyd-Sherlock 2008). In Turkey, the share of formal sector employment has continued to increase in the 2000s. The pension deficits are the result of generous early retirement schemes introduced in the early 1990s (Hacıibrahimoğlu & Derin-Güre 2015). Even after repeated reforms, pension system deficits were still four times the annual total social assistance in Turkey in 2015.

Funding of social protection in Turkey

The funding for social protection spending is made up of contributions from those currently employed in the formal sector as well as general taxes. The social security contributions of formally employed workers and their employers are supposed to cover retirement pensions and the bulk of public health spending in Turkey. The deficit of the pension system is almost four per cent of GDP and these deficits are covered from the general budget. Hacıibrahimoğlu and Derin-Güre (2015) show that current contributors to the social security system, as well as current tax payers, are subsidising the current retirees and sick. So, to comprehend the larger picture, we need to answer the following question: 'which households are the sources of taxes in Turkey?'

Gökşen et al. (2008) point out that 70 per cent of tax revenue in Turkey is from consumption taxes. They utilise the 2003 Household Budget Survey to estimate the consumption tax burden for each income quintile. On the one hand, richer households do not consume all of their income, so consumption taxes are likely to be regressive. On the other hand, tax rates on certain goods and services (especially transportation, communication and entertainment) which are disproportionately consumed by higher income households are also higher. In the end, they find that effective consumption taxation rates were 22.9, 22.6, 25.1, 22.6 and 16.1 per cent (from the poorest to richest quintile). In other words, consumption taxes are regressive in Turkey. Nevertheless, because of unequal distribution of income in Turkey, the top two quintiles pay at least 60 per cent of all consumption taxes. As of 2014, consumption taxes were still 60 per cent of total tax revenue (Albayrak, Bahçe & Pınar 2016) and the income distribution was similar to 2003. As shown in the empirical analysis, households in the top two quintiles collect roughly 70 per cent of all pension benefits (close to their share in consumption taxes). When considered jointly, pensions mean redistribution within the top half of the population and from the young and middle-aged to the old.

Redistribution of endowments (assets): land and education

Redistribution can take several forms: some policies redistribute assets within a society, which influences the private earnings of households. For example, the major land reform undertaken in South Korea and Taiwan in the early 1950s significantly equalised the private market earnings in these countries (Griffin, Khan & Ickowitz 2002). Moreover, these countries devoted a larger share of their education budgets to primary education from early on, and as a result, they achieved both higher levels and a more equitable distribution of educational attainment. Early investment in widespread public education [and also in public health], in return, allowed rural immigrants to enjoy opportunities in the rapidly expanding manufacturing sectors (Griffin, Khan & Ickowitz 2002; Kim 2010). The combination of land reform and higher educational attainment in return resulted in both higher average incomes and more equal distribution of market income.

Both land reform and early investment in educational access are examples of asset redistribution.[3] Kim (2010) calls these asset redistribution policies *surrogate social policy* because of their significant effect on poverty and inequality reduction. Yet, the literature on redistribution through government policy often ignores asset redistribution and focuses on redistribution via taxation and social spending. In a different line of research, Milanovic (2016) proposes focusing on re-distribution of endowments (capital and education) and international migration instead of taxing and re-distributing income to reduce global inequality. Below, I briefly discuss policies related to redistribution of endowments in Turkey, because as we will see, home ownership has a moderating effect on poverty and inequality.

Rural and urban land redistribution

Oyvat (2016, pp. 229–230) shows that agricultural land distribution is relatively less unequal in Turkey compared to many Latin American countries.[4] Moreover, except for the Kurdish majority southeast region, landless peasantry has been rare in Turkey (Keyder 1983). The relatively wide access to agricultural land distinguishes Turkey from many Latin American countries. On the other hand, Turkey never undertook land redistribution to the extent of South Korea and Taiwan. In urban areas, Turkey, like many other developing countries, has allowed squatter housing to prosper. Holland (2016) distinguishes Turkey and some Latin American countries (such as Chile, Colombia and Peru) where government has the capacity to stop squatter housing in urban peripheries if it chooses, from countries (such as in Sub-Saharan Africa or Haiti) where the state is too weak to intervene. She introduces the concept of *forbearance* which she defines as 'intentional and revocable government leniency toward violations of law' (Holland 2016, p. 233). In her definition, the state must have the capacity and

police power to enforce the laws, but politicians must choose and be able to not enforce the law because welfare states fail to provide basic housing needs. She further postulates that if forbearance is extended in return for votes on a case by case basis, it is *clientelistic*; if it is extended to the poor as a class it is *welfarist*.

In Turkey, squatter housing neighbourhoods are eventually recognised by authorities and are provided with municipal services. Moreover, in many cases migrants have been allowed to obtain titles for their plots in the new settlements. Obtaining titles removes the threat of eviction and reduces dependency on particular politicians or parties for non-enforcement, hence the case of Turkey probably fits better to *welfarist* forbearance. In Turkey, this unconventional housing policy has been discussed from the perspective of electoral politics, but is rarely if ever discussed in the context of social policy. However, without an empirical analysis of the beneficiaries of forbearance, it is not possible to determine the exact redistributive effects of forbearance policies. The current study cannot address this issue satisfactorily either, because the dataset does not include information about whether the owner-occupied house is or was squatter housing. Nevertheless, this study demonstrates that income derived from home ownership is substantial even for the poorest households in Turkey.

Another oft-mentioned surrogate social policy applied in many countries (especially in East Asia) is agricultural protection offered to farmers (Kim 2010). These countries underwent significant land redistribution after World War II, hence it is safe to assume that income transfers via agricultural protections were broadly shared in rural areas of these countries. The more unequal land distribution in Turkey and Latin America suggests that most of the interventions in agricultural markets have probably been captured by larger farmers. Unfortunately, available data do not allow us to study this issue further at household level in Turkey.

Provision of in-kind public goods

The provision of public goods is not visible in household datasets; nevertheless, they are important determinants of household well-being. Even from the narrow perspective of human capital formation, widespread access to public health and education services can increase the market earnings of poorer households. East Asian countries are widely praised for their early commitment to educating a broad segment of society. Both Latin American countries and Turkey are laggards in this respect. In the 2000s, public spending on health in Turkey has been higher than in Latin American countries.[5] Expansion of access to healthcare in the AKP period is well documented (Yıldırım & Yıldırım 2011; Dorlach 2015; Tekgüç & Atalay-Güneş 2015). The coverage of and access to health services in Turkey generally compares well to Latin America (Yardim, Cilingiroglu & Yardim 2010). Tekgüç and Atalay-Güneş (2015) discuss the healthcare reform from a health economics perspective and document the extension of access as well as cost control and premium collection problems in the General Health Insurance

Scheme. Overall, Dorlach (2015) presents a thorough discussion of expansion in healthcare during the AKP era and concludes that new reforms resulted in an 'egalitarian expansion'.

The picture is much less positive for public spending on education in Turkey. Historically, Turkey has spent a smaller share of GDP on education, and a larger share of the public education budget has been devoted to tertiary education. Moreover, Turkey is used to having a larger gender imbalance in access to education compared to many other developing countries in Latin America and East Asia. As a result, amongst these countries Turkey has the lowest cumulative education level (such as in middle and high school completion shares of the adult population).

Recent empirical literature on poverty in Turkey

There are quite a few empirical analyses of the drivers and trajectory of poverty for Turkey for the last decade. Şeker and Jenkins (2015) employ household budget surveys by the Turkish Statistical Institute (Turkstat) and study the poverty trends between 2003 and 2012. They find a rapid decline in absolute poverty until 2008 and then a more gradual decline. They find no sustained improvement in relative income poverty. They also decompose the change in poverty rates into growth and distribution components and they find that growth explains most of the decline in absolute poverty between 2003 and 2012 and conclude that the role of redistribution is small. Şeker and Dayıoğlu (2015) employ the panel version of the SILC dataset for 2005–08 where the same households can be observed over four consecutive years. They study the characteristics of households that stay below the absolute poverty line throughout the period (chronic poor); those that start as poor and raise their income above the threshold at some point (exit); and those that fall below the poverty line at some point (entry). They find that the primary reason for exit from or entry into poverty in Turkey is increase or decrease in labour income. They also find that social assistance transfers play a very limited role.

Finally, Acar, Anil and Gursel (2017) study income poverty versus material deprivation poverty as defined by Eurostat. They show that identification of the poor changes significantly depending on which definition is used. However, irrespective of the definition of poverty, the probability of being non-poor is increased by home ownership, better education and employment (except for agricultural and informal). Their findings echo Kim's (2010) assertion that land redistribution and education can function as *surrogate social policy* in developing countries.

Data and methodology

I follow the standard definition and regard all non-contributory transfers to households as social assistance, including veterans' and disability benefits, food and fuel support, etc. The European Commission regards social assistance

as a part of social protection which also includes public spending on health, care of the very young and the old, physical environment and contributory transfers (chiefly retirement pensions). I investigate the distribution of the social assistance transfers within overall income distribution and, in order to provide context and relative magnitude, I also present the distribution of other types of income such as labour income, retirement pensions, income derived from property (especially housing) and financial assets etc.

A proper analysis of the effect of social protection spending on income inequality and poverty requires not only the analysis of the effects of direct social transfers, but also the effects of in-kind public goods, as well as the funding of this spending (i.e. which segments of society are paying the taxes). Unfortunately, provision of in-kind public goods such as healthcare, childcare, elderly care or a clean environment is not observable in household datasets, hence these dimensions of social protection are absent from the empirical analysis.[6] The review of social protection spending presented in previous sections suggests that social assistance is a very small part of overall social protection spending in Turkey, and the bulk of the redistribution is probably within the top half of income distribution via pension transfers.

Data

This study employs the SILC Turkey 2006–2015 cross-section micro datasets in the empirical analysis. The cross-section component has a much larger sample size compared to the panel version, which allows for regional estimates. SILC was administered for the first time in 2006 and it is the most comprehensive and consistent resource for data on income sources in Turkey. The primary function of this data set is to provide the official poverty and income inequality measures. These datasets are collected by following Eurostat directives, in order to generate comparable poverty and income inequality statistics. Between 2006 and 2010, the sample sizes for 15+ individuals were around 30,000 (roughly 11,000 households). Then, the sample size gradually increased to 60,000 (roughly 23,000 households) by 2015 (Turkstat 2016). Responding to Turkstat surveys is compulsory by law. Hence, the response rate is quite high: in 2015, the response rate was 93 per cent (Turkstat 2016).

All income-related questions in each wave of SILC pertain to the previous calendar year. For example, SILC 2015 contains income information for the year 2014. In the rest of the paper, I refer to the year that the income data are from instead of the year the data were collected. All incomes from previous years are inflated to 2014 using the consumer price index. Unfortunately, SILC 2006 dataset results did not inspire confidence: the level of income is low and these data are internally inconsistent: households with high school graduate heads seemingly are poorer than less educated households (Turkstat 2017). This anomaly is not present in the following years. The

results for the year 2005 are presented for the interested reader, but I do not comment on them in the rest of the paper.

A detailed summary of the re-classification of myriad income sources in the SILC dataset into major income categories is presented in the Online Appendix. Initial analysis showed that the distribution of social assistance is significantly different according to region. Eastern regions are more likely to receive in-kind transfers like food and fuel, and non-eastern regions are more likely to receive more predictable social assistance such as disability and veterans' benefits. Hence, I grouped different kinds of social assistance into *regular* and *irregular* sub-groups (please see the Online Appendix, available online at https://doi.org/10.1080/13608746.2018.1548120 for exact classification). Table A1 in the Online Appendix presents the share of each income type in the dataset and Table A2 in the Online Appendix presents a comparison with administrative reports and macroeconomic estimates where data are available for 2014. Households have very little incentive to under-report formal sector wage income, pension benefits or social assistance. Those income types are already taxed or tax exempt. Indeed, Table A2 shows that retirement pensions and social assistance are fairly well reported in the surveys. This is not the case for investment income (such as rental and interest income) or entrepreneurial income.[7] As a result, the calculated shares of certain types of income are over-estimates and certain kinds are under-estimates. Hence, it is better to focus on trends over time instead of absolute shares of each kind of income.

Methodology: naïve approach

Comparing actual poverty rates with what would have been if these households had not received social assistance requires some assumptions about how people would have behaved in the absence of social assistance (especially regarding labour market participation). In this study, I naively assume that they would have behaved exactly the same in the labour market. Sen (1995) points out that people are active agents and merely being targeted leads them to change their behaviour. Ravallion (2001) and Jalan and Ravallion (2003) point out that means-tested social assistance programmes may discourage people from pursuing employment, because with income from employment they may lose eligibility for means-tested programmes. In other words, the private income of these households would have been higher than observed private income post social assistance. For a sophisticated impact evaluation of social assistance programmes, Ravallion (2001) and Jalan and Ravallion (2003) suggest employing Propensity Score Matching to match assisted households to similar households (equally poor or including disabled members etc.) who are not assisted.

However, I believe the naïve approach can be justified in Turkey's case, because as Table 1 shows, total social assistance corresponds to roughly seven per cent of income even for the poorest decile. Moreover, Angel-Urdinola, Robayo and

Table 1. Breakdown of income per capita by sources for 2014.

Deciles	1	2	3	4	5	6	7	8	9	10	Average	%
Wage	1,282	2,188	2,672	3,201	3,675	4,095	5,085	6,409	9,733	21,427	5,976	45.9%
Retirement & unemployment benefits	215	517	971	1,631	2,273	2,862	3,864	4,622	4,898	6,539	2,839	21.8%
Self-employed income	347	659	828	871	979	1,419	1,417	1,731	2,778	8,336	1,936	14.9%
Imputed rent	280	381	517	662	783	972	1,142	1,373	1,689	2,742	1,054	8.1%
Investment income	57	96	153	233	293	443	526	781	1,219	4,200	800	6.1%
Regular social assistance	64	83	98	106	93	71	67	67	37	38	72	0.6%
Irregular social transfers	97	70	65	57	43	34	33	26	22	18	46	0.4%
Private transfers (housing)	105	157	187	198	267	251	250	371	486	483	275	2.1%
Private transfers (positive)	99	177	233	268	362	358	376	555	776	1,387	459	3.5%
Private transfers (negative)	37	60	62	138	200	220	300	371	565	1,449	340	2.6%
< 15 child labour wage	8	3	3	3	1	2	1	0	0	0	2	0.0%
Total	2,515	4,245	5,625	7,034	8,498	10,225	12,394	15,445	20,914	43,303	13,019	

Source: Author's own calculations from SILC Turkey (2015). Each figure, except the last column, represents per capita income from a particular column.

Haimovich (2009) find that social assistance does not affect the labour market decisions of workers in Turkey, since the social assistance amounts are meagre compared to labour income. Surender et al. (2010) reach a similar conclusion for South Africa, that social assistance does not reduce work motivation. The available evidence for developing countries suggests that the overwhelming reason for unemployment is the structural conditions of the labour market rather than the motivation of would-be workers or the design of social assistance systems (Surender et al. 2010; Lloyd-Sherlock 2008). Nevertheless, the poverty impact estimates in this paper should be regarded as upper limit estimates.

Targeting of social assistance

The deciles in Table 1 are constructed according to per capita total household income, i.e. including all social spending. Obviously from the perspective of targeting, the more interesting finding is the location of households in national income distribution before receiving social transfers. Table 2 shows the share of households receiving any social assistance in national distribution of household disposable income according to their private income (total income minus social assistance). To construct Table 2, first I identified the households receiving any kind of social assistance and calculated their share for each year (the final row in Table 2). Second, I ranked households from lowest to highest according to their per capita income, excluding social assistance (i.e. before redistribution) and identified households receiving social assistance in each decile. Finally, I calculated the percentage of households receiving any social assistance in each income decile.

Table 2. Percentage of households receiving any kind of social assistance by income per capita deciles (before redistribution).

Decile	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Lowest	49	50	58	63	65	64	64	58	60	58
2	28	27	32	34	39	37	35	31	32	29
3	17	17	24	21	25	24	24	20	21	19
4	13	11	14	15	18	18	16	14	14	13
5	8	7	9	12	12	12	10	9	9	10
6	5	6	8	8	10	8	8	6	7	6
7	5	6	6	7	6	7	5	4	5	5
8	3	3	4	5	4	5	5	4	3	3
9	2	4	3	2	3	4	3	2	3	4
Highest	2	2	2	2	2	1	2	1	1	2
% of households receiving social assistance	13	13	16	17	19	18	17	15	15	15

Source: Author's own calculations from SILC Turkey (2006–2015). The final row is the percentage of households receiving any kind of social assistance in that year. In 2014, 15 per cent of all households and 58 per cent of households in the lowest decile received any kind of social assistance. Since each decile corresponds to ten per cent of the households, 58 per cent of 10 per cent is simply 5.8 per cent of all households.

Absolute poverty

The standard Foster, Greer and Thorbecke (1984) poverty measures (P_α head-count poverty rate ($\alpha = 0$), poverty gap[8] ($\alpha = 1$) and squared poverty gap ($\alpha = 2$), see Equation 1) are calculated both for per capita total income and also for per capita total income minus social assistance. This study employs two alternative absolute poverty thresholds. First, Turkstat's absolute poverty threshold for 2009 is inflated or deflated with the consumer price index for all years.[9] This is the same poverty threshold which Şeker and Jenkins (2015) call the 2009 poverty line. Şeker and Jenkins (2015) provide two more alternative thresholds: the relative poverty threshold (60 per cent of contemporary median) and 2003 absolute poverty line. They find that poverty trends move parallel, regardless of whether one uses the 2003 or 2009 Turkstat threshold, so the 2003 Turkstat threshold is not utilised here. They also find a more or less constant relative poverty over the years. Acar, Anil and Gursel (2017) point out that the relative poverty threshold functions as an inequality measure in Turkey. Since income inequality (see below) is separately analysed, the relative poverty threshold is not utilised either.

Alternatively, one-third of the gross minimum wage is used as a poverty threshold. This is not an ideal absolute poverty threshold, because during the study period the increase in the minimum wage is higher than inflation (most notably by nine per cent in 2008). Nevertheless, this threshold is employed by many ministries in awarding social assistance, and notably it is the cut-off for General Health Insurance which provides free access to healthcare for the uninsured. In order to create a consistent poverty threshold, one-third of the 2014 gross minimum wage for all years is used.

$$P_\alpha = \frac{1}{N} \sum_{i=1}^{N} \left(\frac{z - y_i}{z} \right)^\alpha I(y_i < z), \; \alpha \geq 0, \qquad (1)$$

where z is the poverty line, y_i per capita household income of individual i, N is population.

Decomposing Income Inequality and the Marginal Effects of Income Sources. Finally, this study calculates the Gini coefficient and decomposes it with respect to income sources defined in Table 1. Following López-Feldman (2006), I calculate a revised version of Shorrocks (1982) decomposition and also calculate the marginal effect of a one per cent increase in each source of income on total income inequality. Shorrocks decomposition of income inequality is a relatively simple decomposition which considers all components of income and measures their proportionate contributions to the overall inequality measure. This method takes into account each component's (factor's) share of income; each factor's correlation with total income; and each factor's inequality within itself.

Results and discussion

Table 1 presents the distribution of income sources for 2014 by income deciles. Retirement and unemployment benefits are seen to increase in parallel to total income. Regular assistance increases for the first four deciles and then declines with income. Irregular social assistance is negatively correlated with income. Moreover, the average level of per capita regular assistance is higher than irregular social assistance (except for the poorest decile).

Interestingly, the imputed rent component of income of the poorest decile is almost equal to the social spending transfers (retirement pensions as well as social assistance) they receive. It turns out that in Turkey income derived from home ownership is substantial, roughly ten per cent of disposable income. Probably, the relative lack of landlessness is one of the main distinguishing drivers of poverty and income inequality in Turkey vis-à-vis Latin America. Baslevent and Dayoglu (2005) make some strong limiting assumptions and calculate that at minimum, one per cent of disposable income is the result of income streams from squatter housing. SILC data suggest that more than 75 per cent of the population in Turkey are either homeowners (63 per cent) or live in rent-free (12 per cent) in private housing over the last decade.[10]

I perform an analysis similar to the above for the whole period. As a result of the Great Recession, disposable incomes did not increase between 2006 and 2011. During the study period, households experienced only a 16 per cent per capita income increase between 2006 and 2014. The highest absolute per capita increase took place in the wages category followed by retirement pensions. Wages have the highest share during the study period, and wage share continued to increase between 2006 and 2014. Both self-employment income and investment income showed declines in absolute terms. The share of investment and self-employment income declined by 4.4 and 2 per cent, respectively. The self-employed include not only employers but also farmers and petty traders. These findings are in line with the structural transformation of the Turkish economy from self-employment to wage employment as well as the decline in real interest rates in the aftermath of the Great Recession.

Household data show that retirement pensions are by far the largest part of direct transfers to households from public funds (between 19 and 22 per cent of household disposable income during the study period). Comparatively, social assistance transfers ranged from 0.6 to 0.9 per cent of per capita disposable income. The average per capita social assistance amount increased 53 per cent in the same period, starting from a very low per capita level (per capita disposable income also increased by 15 per cent in the same period). This finding corroborates Yentürk (2013), who has a macro perspective and undertakes a comprehensive analysis of government budgets to determine the size of redistribution through the public sector in Turkey. He finds that the size of retirement pensions and social assistance payments in relation to

households are respectively almost eight per cent (Yentürk 2013, p. 437) and 0.92 per cent (Yentürk 2013, p. 449) of GDP by 2012. The difference between Yentürk (2013) and this study is due to the different methodologies necessitated by a macro versus micro perspective: for example, state administrative expenses or public sector spending are absent in the micro perspective. However, both studies find that retirement pension transfers are many times larger than social assistance in Turkey by 2012.

Targeting of social assistance

Table 2 above shows that the percentage of households receiving social assistance increased between 2006 and 2009 and then declined afterwards. It seems that the much-discussed increase in social assistance is simply counter-cyclical fiscal policy. Moreover, this table shows the pitfalls of evaluating social assistance recipients using single-year data. Yörük (2012) uses data collected in 2010, when the number of social assistance recipients was above the trend for the past decade (final row in Table 2). On average, 60 per cent of lowest income decile and 30 per cent of second lowest income decile households received any social assistance over the study period. There is not any particular trend in the targeting of social assistance.

Moreover, not all social assistance is equally favoured: recent increases in social assistance are concentrated on broadly popular regular income support: veteran and disability benefits, and scholarships. Once somebody qualifies to receive social assistance based on disability or veteran status, they can count on receiving it regularly (or in the case of scholarships regularly until graduation). Critics of social assistance are more concerned with irregular transfers to poor households with able-bodied adults, such as food, fuel, cash transfers conditional on children's school attendance etc. The major concern is whether these types of assistance would reduce the labour market participation of the recipients. In reality, the amount of irregular social assistance per recipient is roughly 20 per cent of regular social assistance per recipient. And these irregular types of social assistance are better targeted at the poorest households.[11]

Figure 1 shows per capita social assistance for recipient households by region. The initial analysis showed a stark difference between three eastern regions (Northeast, Southeast and Central East, the last two being Kurdish majority regions) versus the rest of Turkey. Hence, 12 NUTS1 regions are grouped as east versus non-east to provide a clear figure. Per capita annual social transfers fluctuated between 2006 and 2010 and then started to gradually increase in 2011. Individuals living in the three eastern regions were more likely to collect social assistance. However, the amount of social assistance per recipient in these regions is never more than half of the social assistance per recipient in the rest of Turkey (except for the economic crisis year of 2009). This
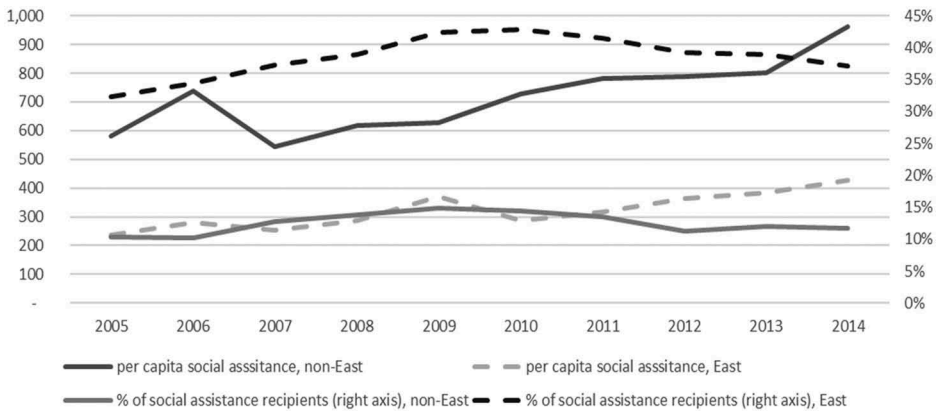
Figure 1. Average per capita social assistance for recipients and share of residents receiving social assistance by region.

East region is composed of three NUTS1 regions; Northeast, Central-east and South-east Turkey.
Source: Author's own calculations from SILC Turkey (2006–2015).

finding both supports and qualifies Yörük (2012), who contends that one purpose of social assistance in Turkey is to buy the consent of the Kurdish minority. The fact that the Kurdish majority regions collect mostly irregular as well as low amount types of social assistance (such as conditional cash transfers) also fits with the argument that the way in which budgets are devoted to different types of social assistance depends on the political power of each receiving group (e.g. Greenstein 1991). Unfortunately, ethnicity or mother tongue data are not available in this dataset, so further analysis of social assistance recipients at household level is not possible.

Poverty alleviation

Table 3 shows the alternative poverty measures before and after social assistance included in household income, both for the 2009 absolute poverty line (top half of the table, Panel A) and for one-third of gross minimum wage (bottom half of the table, Panel B). Calculations presented in this study employing the Turkstat 2009 poverty threshold including social assistance are within one per cent of Şeker and Jenkins (2015, p. 410) findings after 2009, despite different datasets. Both for the Turkstat 2009 threshold and one-third of minimum wage, the poverty rate declined after social assistance was received. Both for headcount poverty and the poverty gap, the impact of social assistance is around one per cent throughout the study period. Interestingly, between 2007 and 2008, headcount poverty and the poverty gap moved in opposite directions. The headcount poverty rate declined or stayed the same (depending on the specific measure), whereas the poverty gap and squared poverty gap increased. This finding suggests that initially the poorest of the poor were affected more severely compared to the less poor from the Great

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Table 3. Poverty measures before and after social assistance.

	social assistance excluded			social assistance included			
	headcount	poverty gap	squared poverty gap	headcount	poverty gap	squared poverty gap	improvement in headcount poverty
Panel A: poverty line: Turkstat 2009 threshold							
2005	28.1	8.1	4.1	27.5	7.5	3.6	0.6
2006	19.9	4.7	2.1	18.9	4.1	1.7	0.9
2007	22.6	5.3	2.3	21.5	4.6	1.9	1.0
2008	22.6	5.7	2.7	21.4	4.9	2.1	1.1
2009	22.5	5.6	2.7	21.0	4.5	1.9	1.5
2010	21.2	5.2	2.4	20.0	4.4	1.8	1.2
2011	19.8	4.9	2.3	18.5	4.0	1.7	1.3
2012	18.2	4.2	1.9	16.6	3.4	1.4	1.5
2013	16.4	3.8	1.7	15.2	2.9	1.1	1.1
2014	15.8	3.7	1.8	14.1	2.8	1.1	1.6
Panel B: poverty line: one-third of gross minimum wage							
2005	40.3	11.9	6.5	39.9	11.4	5.9	0.4
2006	30.7	7.8	3.8	30.1	7.2	3.4	0.6
2007	33.7	8.5	4.2	33.2	7.9	3.7	0.5
2008	32.8	8.6	4.4	32.1	7.8	3.8	0.8
2009	33.3	8.6	4.4	32.2	7.6	3.6	1.1
2010	32.5	8.2	4.1	31.5	7.3	3.5	1.0
2011	30.7	7.5	3.8	29.6	6.7	3.1	1.1
2012	29.1	6.8	3.3	28.1	6.0	2.7	1.0
2013	27.9	6.1	3.0	26.7	5.3	2.3	1.2
2014	26.3	5.8	2.9	25.1	4.9	2.2	1.2

Source: Author's own calculations from SILC Turkey (2006–2015). Since household sizes differ significantly between poor and non-poor households, unit of measurement in this table is share of individuals instead of households. In 2014 the gross minimum wage was 1,071 TL for the first half of the year and 1,134 TL for the second half. As a result, annually, one third of total gross minimum wage is 4,410 TL.

Recession onwards. Overall, most of the decline in income poverty was due to improvements in private income during the study period. This finding corroborates Şeker and Jenkins (2015) findings for 2003–2012, and extends them to 2014.

Despite its meagre size, social assistance somewhat ameliorates both income poverty and inequality in Turkey, because 70–75 per cent of social assistance recipients are in the bottom 30 per cent in income distribution. This ratio did not change significantly during the study period. This finding complements prior qualitative studies, whether ethnographic (Murakami 2014), participant observation (Ark-Yıldırım 2017) or expert interviews (Çoban et al. 2011), which show that poor people have access to social assistance and that social assistance is effective in alleviating the immediate effects of poverty. My findings are also in line with earlier studies which generally conclude that the meagre amount of social assistance in Turkey is unlikely to permanently improve the state of poor households (such as Şeker & Dayıoğlu 2015).

Decomposition of sources of income inequality

Table 4 shows the decomposition of the Gini coefficient by income sources for 2014. The first column shows the percentage of income from each source. The second column shows the Gini coefficient of each source of income. As expected, the Gini coefficient of each source of income is larger than total income Gini because there are some people who have zero income from any particular source, but there is no household with zero total income. Interestingly, among income sources, the imputed rent is by far the least unequal.

A very high Gini coefficient does not necessarily mean that a particular income source is the cause of income inequality. For example, the Gini coefficient for social transfers is extremely high; as Table 2 showed above, only 15 per cent of households receive any social assistance. However, most of the

Table 4. Decomposition of total gross income inequality by income source & marginal effects.

2014 Income Sources	% of total income	Factor Gini	Total and factor Gini corr.	Shorrocks decomposition	Marginal effect
Wage	44.1	0.68	0.63	45.2	0.016
Retirement & unemployment benefits	23.6	0.74	0.55	23.1	−0.005
Self-employed income	15.6	0.89	0.55	18.2	0.025
Imputed rent	8.1	0.64	0.53	6.6	−0.015
Investment income	5.8	0.88	0.70	8.6	0.028
Social assistance	1.1	0.94	−0.20	−0.5	−0.016
Private transfers	2.5	*			
Total Income Gini		0.42			

Source: Author's own calculations from SILC Turkey (2015). *: Negative values do not allow calculation of a Gini coefficient. Shorrocks decomposition presents each factor's contribution to overall inequality. Marginal effect presents what would happen to the total inequality measure if income from each source is increased by one per cent.

recipients of social assistance are in the bottom third of income distribution, so an increase in social assistance will lower overall inequality. The opposite is true for investment income. The next two columns present the correlation between total income and each factor's Gini and Shorrocks decomposition, respectively.

The last column answers the question 'what happens to overall income inequality if we increase each income source by one per cent (one at a time)?' According to this decomposition analysis, an increase in wage income will increase Gini coefficient of income inequality by 0.016 per cent. As can be seen from Table 4, all marginal effects are pretty modest. As expected, entrepreneurial and investment income have exaggerating marginal effects on income inequality. Social assistance has the largest equalising marginal effect on income inequality. Imputed rent has a moderating effect on income inequality as well, but it has a lower marginal effect than social assistance. When we take into account the overall size of social assistance and imputed rent, social assistance has a relatively large impact on reducing income inequality dollar for dollar. Finally, Figure 2 shows the Gini coefficient calculated before and after social assistance is included in household income. The first two bars of Figure 2 for each year present Gini coefficients of per capita income distribution and the last two bars of Figure 2 for each year present the Gini coefficients OECD scale adult equivalent per capita income. Both measures show 0.3–0.7 point improvement due to social assistance in the study period. Most of the improvement in income inequality is due to improvements in private income inequality over the period (due to a decline in extreme inequality in investment income).
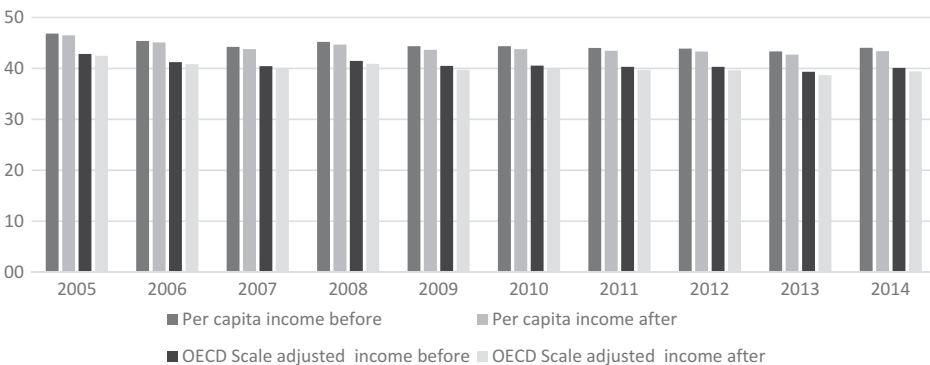

Figure 2. Gini coefficient for total and private income.

OECD Scale adult equivalent: 1 for first adult in the household, 0.5 for every member over 14 years old; and 0.3 for every member younger than 15. Source: Author's own calculations from SILC Turkey (2006–2015). Official Turkstat My OECD scale adjusted Gini coefficient estimates are very close to official Turkstat Gini estimates (Turkstat 2017a).

Conclusion

The overall size of social spending in Turkey is quite large compared to middle-income countries in Latin America. Roughly half of social spending is devoted to the production of public goods (education and health) and the other half is transferred to households. The overwhelming majority of transfers to households are in the form of pensions. The amount spent on social assistance is relatively small. Not only do retirement pensions constitute the bulk of public transfers in Turkey, but also in absolute terms pension transfers grew faster than social assistance over the study period. The overwhelming majority (80 per cent in 2014) of retirement pension payments went to the top half of income distribution. On the revenue side, almost 90 per cent of tax revenue is taxes on labour income (including social security deductions) and consumption taxes (BUMKO 2017), which are mostly paid by the top half of income distribution. All in all, social transfer in Turkey is mostly a redistribution from the young and the middle aged to the elderly within middle and upper middle classes. The poor do not receive much. AKP governments did not alter this fundamental feature of social transfers in Turkey.

Despite the focus of this and many related studies on Turkey in recent years, social assistance is a small part of public transfers in Turkey. The findings of this study show that the relatively small budget devoted to social assistance ameliorates both income poverty and inequality. Nevertheless, the overall improvement in household incomes due to social assistance is modest, and is unlikely to permanently reduce poverty or income inequality. This main finding corroborates the conclusion of Şeker and Dayıoğlu (2015) and Şeker and Jenkins (2015). Lloyd-Sherlock (2008, p. 634) also observes that social assistance programmes in Mexico, Brazil and Argentina also mostly 'ameliorate, but not reduce poverty'. This similarity is not surprising since many aspects of AKP governments' social assistance policies are modelled after Latin American experiences.

Forbearance of squatter housing as a surrogate social policy is an unexplored research area for all developing countries. As I show in the empirical analysis, imputed rent for owner-occupied households is a larger source of income than social assistance, even for the lowest income deciles. Baslevent and Dayoglu (2005) make some very simple assumptions and find that income derived from squatter housing was around one per cent of the disposable income of the average household in 1994. In 2014, the average household's income was four times the income of the lowest 20 per cent of households, so for these households the contribution of income derived from squatter housing can be as high as four per cent. However, Baslevent and Dayoglu (2005) data are old and urban housing policy has changed a lot in Turkey since the mid-1990s. Updating Baslevent and Dayoglu (2005) for more recent periods and juxtaposing those findings with the changes in conventional social

transfers can provide a more complete analysis of government policies' effect on poverty and income inequality.

Investigating whether the higher prevalence of social assistance in eastern regions is a result of higher levels of poverty or political compromises (Yörük 2012) is beyond the scope of this paper and dataset. However, I show that in the three eastern regions (Northeast, Central-east and Southeast), the share of individuals receiving social assistance is three times the rest of Turkey, but per capita social assistance per recipient is less than half of the rest of Turkey. Moreover, in the three eastern regions, most of the social assistance is concentrated in irregular types such as in kind food and fuel supports. In the rest of Turkey, social assistance is more likely to take the form of regular payments for veterans' or disability benefits. These findings are only speculative, and there is need for more research to investigate whether social policy in Turkey is moving towards a two-tier system where poor members of politically powerless groups (such as Kurds) receive the least predictable kind of social transfers.

Finally, the relatively modest effect of social assistance on inequality and poverty should not be a licence to defund social assistance programmes. The modest impact is a direct result of modest assistance. In this study's findings, there is nothing to suggest that larger assistance would not have larger effects on poverty and inequality, at least until a certain threshold is reached. On the contrary, larger assistance to the poorest households can actually help some of those households to break from the cycle of chronic poverty. Second, as this paper also shows, most of the reduction in poverty in Turkey is the result of an increase in market income; however, this does not mean that in the future, policies encouraging employment can reduce poverty more effectively than social assistance. Policies promoting employment and social assistance should be pursued simultaneously. Many of the poorest households do not have adult members who can readily join the labour force (see also Zacharias, Masterson & Memiş 2014). Policies targeted on improving labour market outcomes will not help some of the most vulnerable households, households with multiple children and/or elderly and disabled members. To conclude, there is still room for social assistance programmes to grow and be more effective in combating poverty and inequality before the feedback effects assert themselves.

Notes

1. The study by Gidengil and Karakoç (2016) is concerned with voter intentions before June 2011, and their survey questions on social policy bunch together access to healthcare, education, and non-contributory social assistance but not pensions. In other words, their survey does not separately investigate the impact of each dimension of social policy.

2. Official statistics on social assistance show a marked increase in 2012 which is due to reclassification of healthcare spending for the very poor as social assistance. In the 1990s and early 2000s, spending on the Green Card (health services for people with no social security) was part of the Ministry of Health Budget. With the transition to a General Health Insurance Scheme, the Ministry of Family and Social Policy (MFSP) became responsible for paying the health insurance premiums of the poorest households. In accordance with this re-organisation, Green Card funds are re-classified as social assistance. In other words, neither the poorest households nor the MFSP ever touch this largest chunk of its budget (around 40 per cent every year). What used to be healthcare spending was suddenly reclassified as social assistance, and on paper overall social assistance increased by 0.4–0.5 per cent of GDP.

3. Legislation that influences the bargaining power of workers vis-à-vis employers (such as minimum wage and ease of unionisation) also can influence the income distribution.

4. Gini coefficients for land inequality in 1960 were: Bolivia 0.768, Argentina 0.814, Brazil 0.787, Chile 0.865, Colombia 0.805, Ecuador 0.804, Paraguay 0.863, Uruguay 0.791 versus Turkey 0.608 versus South Korea 0.364 and Japan 0.398.

5. Detailed comparisons of government revenue and expenditure on different dimensions of social protection spending of selected Latin American countries, Turkey and South Korea employing Worldbank Databank (2017) is available from the author upon request.

6. Buğra (2018, pp. 327–328) provides an overview of the most recent picture of in-kind public care services.

7. Başlevent (2016) also concludes that social assistance is relatively better captured in the SILC dataset for 2012. I could not obtain comparable estimates for households' rental income and there is no other source for estimating private transfers between households.

8. The poverty gap measure answers the question: if we can identify and target poor individuals perfectly, what percentage of the poverty line, on average, will suffice to raise every individual to the level of the poverty line? The squared poverty gap is similar but gives greater weight to the poorest of the poor.

9. Turkstat stopped publishing an absolute poverty threshold in 2010; I simply inflated the 2009 threshold using the consumer price index. Turkstat (2017) official poverty line (TL) varied with respect to household size (household size in parenthesis): 5,554 (1); 8,339 (2); 10,560 (3); 12,464 (4); 14,262 (5); 15,863 (6); 17,419 (7); 18,900 (8); 20,184 (9); 21,498 (≥ 10).

10. This overall stability hides the declining homeownership trends in Istanbul and Ankara.

11. Tables corollary to Table 2 and separately for regular and irregular assistance are available from the author upon request.

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Notes on contributor

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