THE EFFECTS OF FISCAL POLICY ON POVERTY AND INEQUALITY IN TAJIKISTAN

Dalmacio F. Benicio, William Seitz, Jon Jellema and Maya Goldman

COMMITMENT TO EQUITY

CEQ INSTITUTE
COMMITMENT TO EQUITY
Tulane University

The CEQ Working Paper Series

The CEQ logo is a stylized graphical representation of a Lorenz curve for a fairly unequal distribution of income (the bottom part of the C, below the diagonal) and a concentration curve for a very progressive transfer (the top part of the C).

COMMITMENT TO EQUITY

THE EFFECTS OF FISCAL POLICY ON POVERTY AND INEQUALITY IN TAJIKISTAN*

Dalmacio F. Benicio, William Seitz, Jon Jellema and Maya Goldman

ABSTRACT

The design of fiscal policies can either improve or worsen poverty and inequality. To quantify the effects of government taxation and social spending on measures of poverty and inequality in Tajikistan, we use the Commitment to Equity (CEQ) Assessment method with data from a survey called Listening to Tajikistan (2015) and fiscal data from administrative sources over the same period. We find that fiscal policy in Tajikistan contributes to an increase in the poverty rate (at the $US PPP 3.20 per person per day poverty line) by 5.12 percentage points. The results also show that the fiscal system achieves some modest redistribution despite a relatively small social expenditure budget. Although some transfers are well-targeted in Tajikistan, direct and indirect taxes fall heavily on poorer households and offset the poverty-reducing effect of public expenditures. The size of the main targeted social assistance program is insufficient to either remarkably reduce poverty or compensate for tax contributions among the poorest households. The findings suggest that social expenditures intended for the poor do not in practice reach their targets, and expenditures on universal services such as education and health care are spread evenly across the population. The strongest options for greater redistribution to support poor and vulnerable households include i) improved targeting of public expenditures, ii) greater progressivity by redesigning tax policy to collect a larger share of revenue from higher income people, and iii) larger transfer budgets for the best targeted expenditures such as Targeted Social Assistance (TSA).

JEL Codes: H22, I38, D31.

Keywords: Fiscal Incidence, Fiscal Policy and Inequality, Income Inequality, Poverty, Social Spending, Social Assistance, Taxation, Tajikistan.

I. INTRODUCTION

1. **Tajikistan has achieved average annual real GDP growth of 7.7 percent over the last fifteen years**. However, Tajikistan's dependence on remittances and official external financing makes it highly vulnerable to external shocks. In recent years, Tajikistan has consistently run relatively large fiscal deficits (at 4 percent of GDP during the first half of 2018, and 6.7 percent in 2017) although this narrowed to 2.8 percent at the end of 2018. High levels of government expenditure, combined with exposure to external shocks, pose a significant challenge in simultaneously maintaining macroeconomic stability, budget sustainability, and protections for the poor and vulnerable. This paper assesses the role of fiscal policy in reducing poverty and inequality.

2. **Tajikistan has maintained positive real per capita GDP growth since 1998 and became a lower-middle income country in 2015.** However, with GDP per capita of $ 2,897 USD in 2017 in Purchasing Power Parity (PPP) terms, Tajikistan remains at about 20 percent below pre-civil war levels of output per capita**.** As a small and relatively undiversified economy, Tajikistan is vulnerable to local, regional, and global economic shocks. For instance, Tajikistan is strongly reliant on foreign remittances, particularly from migrant workers based in Russia. Falling oil and gas prices in late 2014 and the subsequent recession in the Russian Federation weighed on economic activity in Tajikistan through 2016 as the estimated USD value of remittances dropped from nearly 50 percent of GDP to about 29 percent. Remittances began to recover in 2016 and rose to 31 percent of GDP in 2017.

3. **Tajikistan is a young and rural country**. Out of a total population of 8.9 million in 2018, about 57 percent are of working age, and about 73 percent reside in rural areas. Official government estimates indicate that population growth averaged 2.25 percent annually between 2010 and 2018. At the national level, estimates of rural and urban population growth rates are balanced, but rates vary more substantially at the local level. Urban population growth is highest in the Khathlon region, which is estimated to be growing on average by about 3.2 percent per year. The region of Gorno-Badakhshan Autonomous Province (Oblast) (GBAO) is estimated to have the slowest population growth rate in the country, averaging 1.1 percent per year in rural areas, and 1.2 percent per year in urban areas. Tajikistan has the second lowest adult dependency ratio in the Europe and Central Asia (ECA) region (Figure 1 – left) but most of the working age population lives in rural areas (Figure 1b – right). Relatively high population growth coupled with a slow pace of urbanization results in continued low productivity as workers remain in the least productive sectors.

Figure 1: Ratio of Inactive to Active Adults (Left), Share of Individuals by Age Dependency (right)
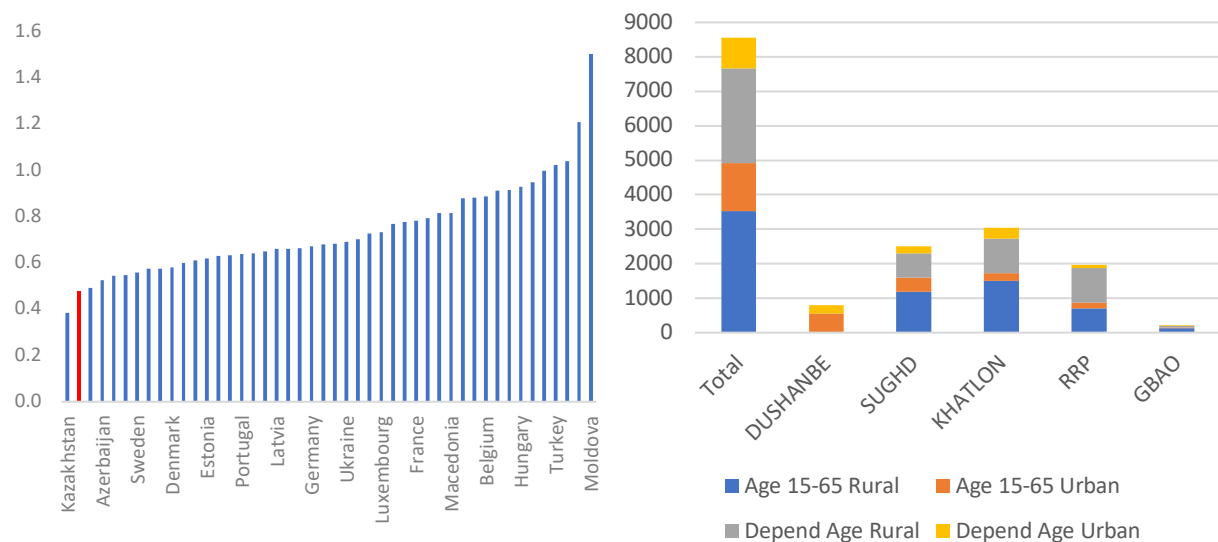
Source: Bussolo et al. 2015. Ratio of inactive to active adults (15+) in ECA, 2012 (left), World Bank staff calculations using HBS 2012-2017 (right)

4.   **Employment and wage growth have been the primary drivers of recent poverty reduction.** Between 2012 and 2017, the sectors with the fastest formal job growth included mining, health and human services and, most importantly, construction[1] However, the pace of job creation is slowing. By international standards wages are low but they are rising quickly. Wages in the formal sector rose by 120 percent over the past decade, much faster than productivity, which grew by only 28 percent over the same period. Productivity is constrained by a large and inefficient agricultural sector. More than 62 percent of the 580,000 jobs created between 2010 and 2014 were in agriculture and most workers (66 percent) remain in agricultural employment (World Bank, 2016).

5.   **Tajikistan is geographically and climatologically diverse**. The country is located on the western tip of the Himalayas with altitudes varying between 100 and 7400 meters above sea level. Average winter temperatures in valleys (Vaksh and Kafimigan valleys in the center and south, Syrdarya valley in the north, and Zerevshan valley in the center east) vary from below 0°C in winter to above 35°C in summer. About 93% of Tajikistan's territory is occupied by mountains, where annual precipitation can be high (over 1000 mm), while rainfall is low in the low-lying valleys (down to 100mm per year). Most precipitation occurs during the winter and spring. The two biggest rivers in Central Asia flow through the country, providing the main source of the country's electricity output in the form of hydroelectric power. Only about 6 percent of Tajikistan's land area is arable, and most the population resides in the valleys in the western half of the country (see heat map below).

---

[1] From TajStat administrative data on formal employment.

Figure 2: Heat Map of Tajikistan's Population and Household Geographic Concentration

Number of Households
- 2,625 - 4,087
- 4,087 - 5,982
- 5,982 - 10,352
- 10,352 - 17,149
- 17,149 - 24,308
- 24,308 - 36,753
- 36,753 - 55,040
- 55,040 - 144,867

Number of Individuals
- 13,287 - 82,455
- 82,455 - 180,779
- 180,779 - 390,849
- 390,849 - 728,485

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
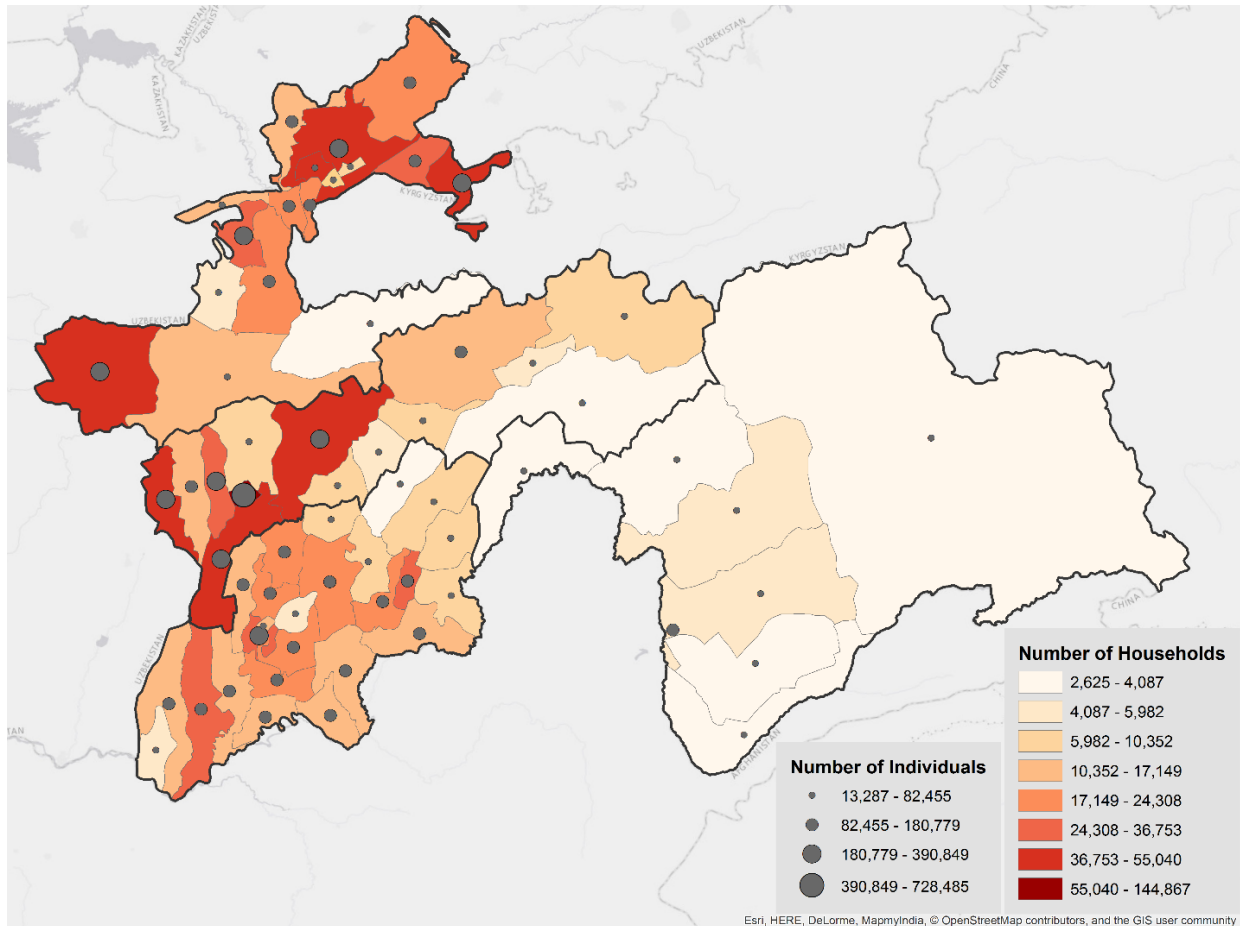
Source: Census of Tajikistan, 2010

Dynamics of Official National Poverty Estimates

6.   **The official national poverty rate in Tajikistan declined from 36.4 percent in 2013[2] to 29 percent in 2017.** The rate of extreme poverty declined from 19.4 percent to 14 percent over the same period. However, since 2015 the national poverty rate has declined more slowly, highlighting the relationship between poverty reduction, remittances, and the shift to investment-led growth following the regional economic downturn. Tajikistan narrowly missed the poverty reduction target set out in the country's National Development Strategy for 2015 (with a target rate of 31.0 percent vs. an actual rate of 31.3).

---

[2] For the period of2012Q3-2013Q2, the baseline for the updated national poverty monitoring method.

Figure 3: Annualized and Unadjusted National Poverty Rate (left), Number of Quarters Households Poor (right)
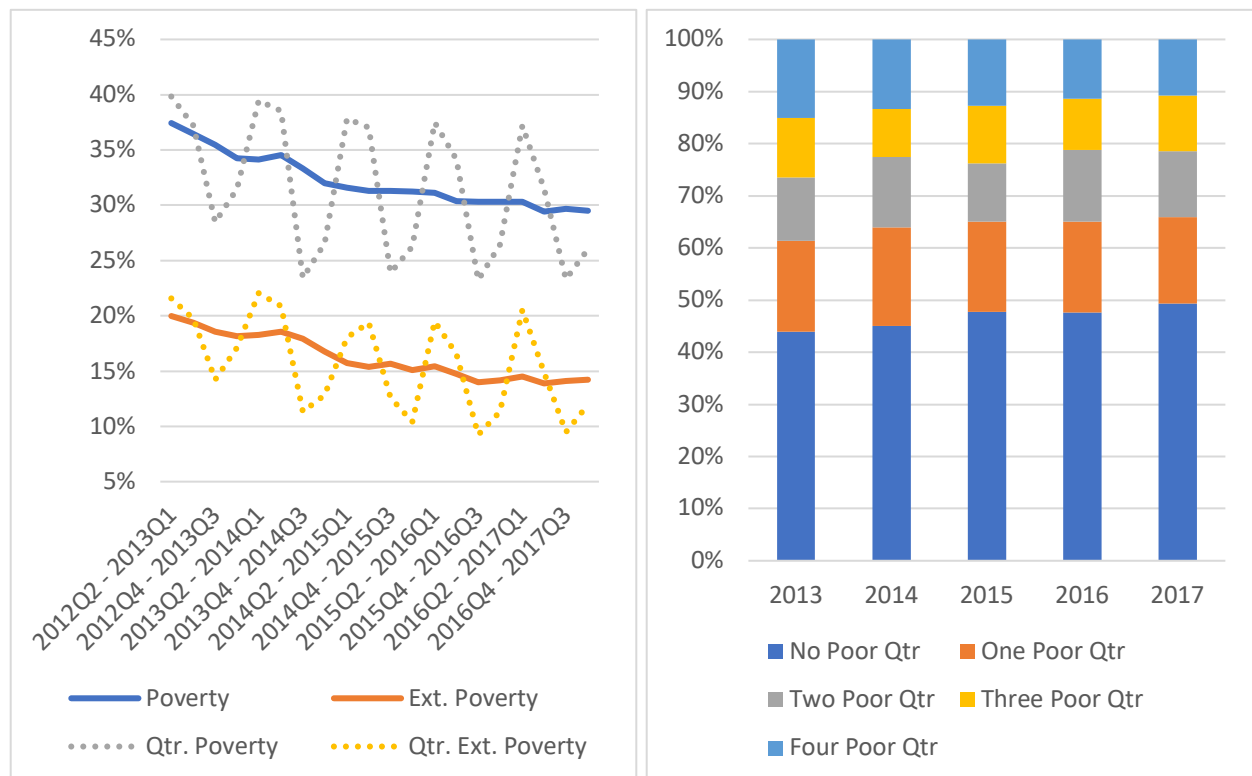
Source: World Bank staff calculations using HBS 2012-2017

7.   **Poverty trends in Tajikistan have a strong seasonal component, driven by the relatively harsh conditions and the cyclical nature of economic activity in the country** (Figure 3). In 2017, the distance from the peak to the trough quarterly poverty rate was about 8 percent in urban areas and about 16 percent for rural areas. In terms of employment Tajikistan remains a largely agrarian economy and, because the seasons dictate production schedules, welfare and consumption fluctuate strongly between seasons. During harvest season there is more work, food, and income available for producers and vendors of agricultural goods. Outside of periods of seasonal agricultural activity, however, incomes tend to be lower, and food is taken from stocks or purchased, which tends to reduce consumption. Similar fluctuations result from seasonal labor migration, and seasonality is present in many other domestic economic activities as well, such as construction.

8.   **The seasonality of poverty in Tajikistan highlights the importance of developing consumption smoothing mechanisms such as saving and loan products.** According to the World Bank's global Findex data for 2014, most of the population in Tajikistan is un-banked: about 12 percent of adults had a bank account, 4 percent borrowed from a formal source and 2 percent had formal savings at that time. Bank accounts are even less common amongst women and members of the bottom 40 percent (ranked according to income), at 9.1 percent and 4.3 of individuals respectively. According to data from the Listening to Tajikistan survey, in 2015-2018

only 11 percent of top 60 households reported that at least one member used a bank card, falling to 6 percent for bottom 40 households. In the absence of functional savings and credit options, households can be subject to large swings in consumption or income, putting them at greater risk of falling into poverty during the winter and spring months. Labor migration also follows a pro-cyclical pattern in Tajikistan, and poor households rely more on remittances than non-poor households. Remittances are also more commonly sent to households that are already less well-off. The poverty rate amongst households that receive remittances fluctuates around 12 percent higher, on average, than households that receive no remittances.

9.   GBAO is the poorest region but is only slightly richer than the Region of Republican Subordination (RRP) and Khathlon (Figure 4)**.** All three regions followed similar poverty trends and ended 2017 within a relatively small range, with poverty rates between 32 and 39 percent. Dushanbe and Sogd consistently record much lower poverty rates - in the range of 18 to 20 percent, however poverty rates in GBAO, RRP and Khathlon have declined more substantially since 2013. Dushanbe, the capital and only entirely urban administrative region of Tajikistan, is distinct from other regions in the country in terms of poverty dynamics. Dushanbe has both the lowest poverty rate and experiences relatively stable poverty rates throughout the year.

Figure 4: Annualized Poverty Rates by Region (Left) and by Unadjusted Quarter (Right)
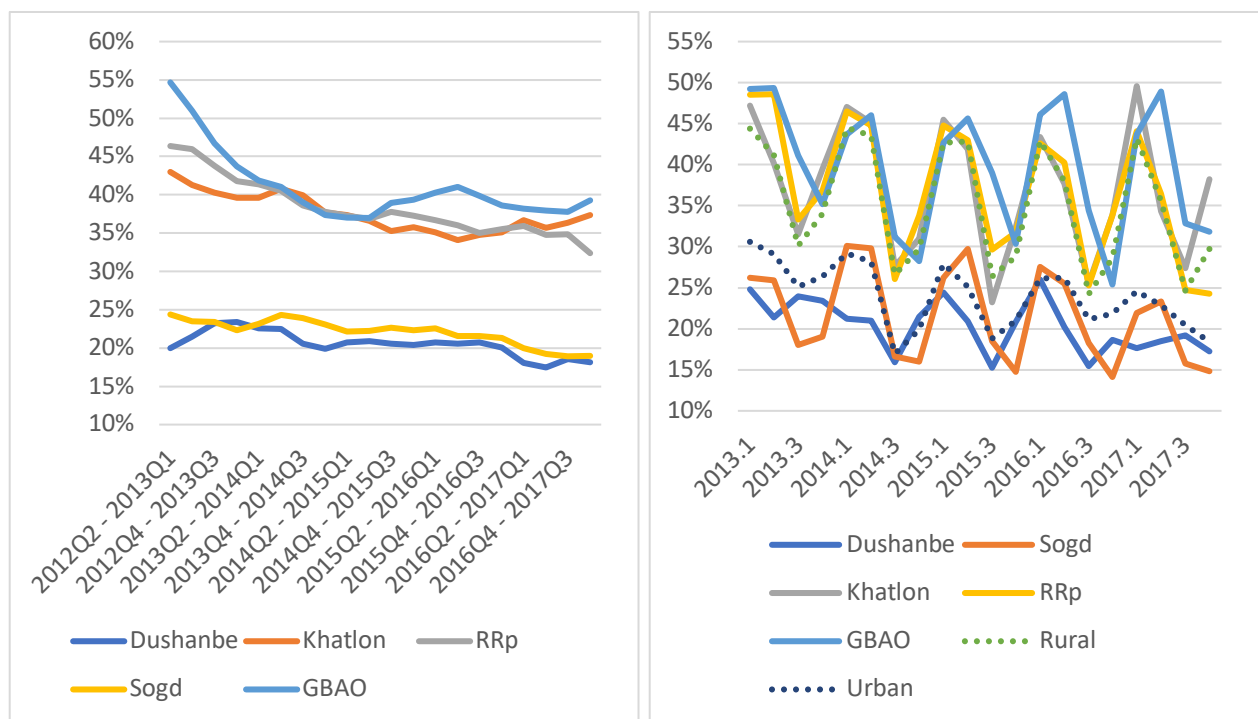
Source: World Bank staff calculations using HBS 2012-2017

10.   **The remainder of this paper is organized as follows:** Section II puts Tajikistan's 2015 general government taxes and expenditures in historical context, with a focus on social expenditures. Section III presents methods, data, assumptions and an overview of the approach used for allocating fiscal interventions to households. Section IV presents the main results focusing

on the poverty and inequality effect of the fiscal system in Tajikistan. Section V discusses simulation results using the CEQ framework. Section VI compares the main results and findings with other incidence studies in Tajikistan while Section VII concludes with a set of policy recommendations.

II.   DESCRIPTION OF TAXES AND EXPENDITURES IN TAJIKISTAN

II.1.   Tax Revenues Sources

12.   **Table 1a disaggregates 2015-era revenue sources**. The overall revenue share (of GDP) is approximately 38.2 percent, while revenue from taxes alone (including off-budgetary contributions to social tax) constitutes 33.2 percent of GDP.[3] Value-added tax (VAT) contributes by far the most tax revenues while social security contributions, the corporate income tax, the personal income tax (PIT) and taxes on international trade and transactions are also relatively large. Excise duties are levied on cigarettes, alcohol, and petroleum products. The fourth column of table 1a indicates which of these tax revenue sources are included in our analysis. CIT, other taxes and state duties taxes were not included because we cannot establish ultimate beneficial ownership of most enterprises or who pays "other taxes" or "state duties." Property taxes and taxes on international trade and transactions were also not included. Presumptive taxes are levied on specific types of small businesses. We can identify the self-employed, including those in the informal sector, in the microdata, but not the specific types of businesses they run. Overall, the analysis accounts for about 87 percent of tax revenues, with corporate income tax being the most important omission.

---

[3] Taxes of Republic of Tajikistan in the year of analysis consisted of 15 national taxes and four local taxes. The July 2017 amendment of Tajikistan's Tax Code reduced national taxes down to eight (1. personal income tax; 2. the corporate profit tax; 3. the value-added tax; 4. Excise taxes; 5. the social tax; 6. the natural resources tax; 7. the road users' tax; 8. sales tax on primary aluminum and local taxes were reduced to two (1. vehicle tax and 2. taxes on real estate).

Table 1a. Tajikistan--Budgetary Revenues of the Republican General Government

Year of Budget Data: 2015	Tajikistan		
Government Revenue	Currency Amounts (billions of somoni)	Total (% of GDP)	Included in Analysis (Yes/No)
Total Revenue & Grants	19.92	41.1%	Yes
Revenue	18.48	38.2%	Yes
Tax Revenue	16.06	33.2%	Yes
Direct taxes *of which*	2.52	5.2%	Yes
Legal income	2.31	4.8%	Yes
of which: personal income	1.30	2.7%	Yes
Property Tax	0.21	0.4%	No
Contributions to Social Insurance *of which*	1.37	2.8%	Yes
Indirect Taxes *of which*	12.17	25.1%	Yes
General Sales, turnover, or VAT	5.42	11.2%	Yes
Domestic VAT	1.71	3.5%	Yes
External VAT	3.31	6.8%	Yes
Excise	0.36	0.7%	Yes
Domestic excise	0.09	0.2%	Yes
External excise	0.26	0.5%	Yes
Taxes on International Trade and transactions	0.57	1.2%	No
Customs and other Import duties	0.45	0.9%	No
Non-tax Revenue	2.42	5.0%	No
Grants	1.43	3.0%	No

Source: Official data and staff estimates.

II.2. Social Expenditures

13. **We also allocate social and subsidy expenditures in the survey-based micro-data**.[4] Social expenditures – which include transfer payments, as well as health, education, and other in-kind public services – are detailed in Table 1b. Overall, these social expenditures accounted for only 55 percent of total expenditures in fiscal year 2015. Health and education spending in Tajikistan (measured as a share of GDP) are broadly in line with the region and other low-income developing countries (LIDC).

---

[4] Governments spend significant amounts of their budgets on genuine public goods—national defense, law enforcement, and public administration—that, by their nature, are difficult to allocate on an individual basis.

While the social insurance and social protection system absorbed some 4.5 percent of GDP, this is mostly taken up by the various pension programs (4.4 percent of GDP). Social assistance in Tajikistan appears to account for only 0.1 percent of GDP[5], the lowest in the ECA Region, and lower than for most countries at similar per capita incomes to Tajikistan. The relatively small share of social protection spending reflects Tajikistan's relatively young population, low coverage and low benefit incidence of social assistance and pensions. The formal social protection system in Tajikistan consists of social insurance (essentially contributory pensions); social pensions for those who do not qualify for public insurance in the case of retirement or disability; a number of social assistance (safety net) schemes, of which the most important ones are subsidies for electricity and gas, and a materially insignificant conditional cash transfer linked to school attendance; and social care services. A new, poverty-targeted social assistance (TSA) scheme has been rolled out. It utilizes a Proxy Means Test (PMT) mechanism of beneficiary selection and has been recently expanded to 40 districts, with plans of countrywide coverage by the end 2019.

Table 1b. Tajikistan—Social Expenditures of the Republican General Government

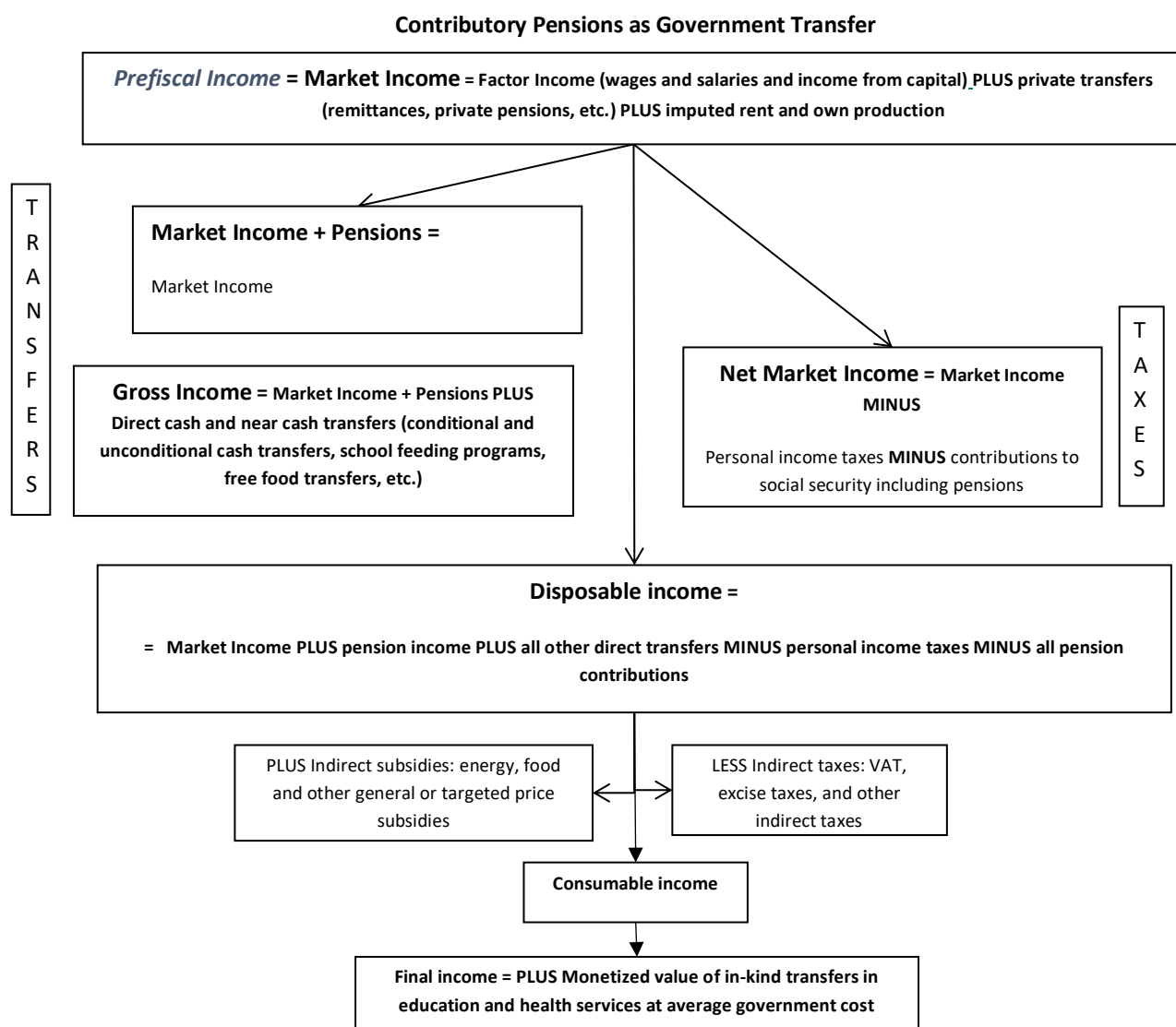| Government Spending 2015	Billions of somoni	Total (% of GDP)	Included in Analysis
Total Expenditure	15.40	31.8%	Yes
Primary Government Spending	12.44	25.7%	Yes
Social Spending	6.78	14.0%	Yes
Social Protection	2.16	4.5%	Yes
Targeted Social Assistance	0.01	0.0%	Yes
Public pensions	2.13	4.4%	Yes
Education of which	2.51	5.2%	Yes
Pre-school	0.13	0.3%	Yes
Primary general	0.64	1.3%	Yes
Primary basic	0.78	1.6%	Yes
Secondary general	0.36	0.7%	Yes
Secondary professional	0.08	0.2%	Yes
Vocational (secondary and primary)	0.04	0.1%	Yes
Tertiary	0.48	1.0%	Yes
Health of which	0.97	2.0%	Yes
Hospital	0.13	0.3%	Yes
Clinics	0.00	0.0%	Yes

Source: Official data and staff estimates.

---

[5] We were left with a doubt regarding this point. We were unable to find programme documents to confirm the size of the social assistance spending, and the small size did not seem to match with programme rules.

III. METHODS, DATA, ASSUMPTIONS AND ALLOCATION APPROACH OVERVIEW

1. III.1 CEQ fiscal incidence assessment methodology

14. **A CEQ Assessment takes specific fiscal policy elements, programs, expenditures, or revenue collections and allocates them to individuals and households appearing in a micro-level socio-economic survey.** Once the allocations are made by adjusting the income levels by household according to the value of the expenditures and benefits, measures of poverty, inequality, and progressiveness are calculated. The amount of redistribution accomplished according to the measures of income – or "income concepts" – is summarized by comparing the changes due to fiscal policy. Income concepts can either exclude these elements of fiscal policy ("pre-fiscal") or include them ("post-fiscal"). Figure 5 summarizes the construction of these income concepts.

Figure 5: CEQ Income Concepts and Fiscal Policy Elements

Contributory Pensions as Government Transfer

Prefiscal Income = **Market Income** = Factor Income (wages and salaries and income from capital) PLUS private transfers (remittances, private pensions, etc.) PLUS imputed rent and own production

T R A N S F E R S

Market Income + Pensions =

Market Income

Gross Income = Market Income + Pensions PLUS Direct cash and near cash transfers (conditional and unconditional cash transfers, school feeding programs, free food transfers, etc.)

Net Market Income = Market Income MINUS

Personal income taxes **MINUS** contributions to social security including pensions

T A X E S

Disposable income =

= Market Income PLUS pension income PLUS all other direct transfers MINUS personal income taxes MINUS all pension contributions

PLUS Indirect subsidies: energy, food and other general or targeted price subsidies

LESS Indirect taxes: VAT, excise taxes, and other indirect taxes

Consumable income

Final income = PLUS Monetized value of in-kind transfers in education and health services at average government cost

III.2. Microdata

15.   The CEQ analysis described in this paper makes use of two different micro-level socio-economic surveys. The principal survey used is the baseline for the Listening to Tajikistan (L2T) study, originally collected on behalf of the Ministry of Health and Social Protection of Tajikistan with assistance from the World Bank. The survey was conducted over a two-month period beginning in March 2015. The sample was designed to be nationally and regionally representative for consumption and expenditure. The L2T baseline survey was used rather than other available surveys due to the comprehensiveness of the questionnaire and the sample design. Specifically, the L2T baseline: i) used the 2010 national census as the sample frame, ii) included a comprehensive consumption module, and iii) used a traditional stratified two-stage clustered sample design. The sample included 150 clusters, with a probability of selection proportional to size, and a total of 3000 households selected using a simple random sample in the second stage.

16.   A second survey called the Household Budget Survey (HBS) of Tajikistan was used to determine the coefficients for the characteristics of recipients of old-age pensions. This survey is commonly used for welfare monitoring in Tajikistan and includes direct measurements of several income concepts. However, survey design limitations including the age of the sample frame and under-measurement of some components of the aggregate consumption measure make the HBS a less ideal candidate for many of the simulations described in the following sections.

III.3.   Construction of the Income Concepts in Tajikistan

17.   The analysis proceeds first by calculating disposable income. Total consumption expenditures – including the value of any consumption of own-production – are assumed equivalent to the Disposable Income concept.[6] Neither rent nor the imputed rental value of owner-occupied housing is included in the welfare aggregate nor the disposable income concept.

18.   Additional income concepts are then obtained by working "backwards": from Disposable Income to calculate Net Market Income, then Market Income plus pensions, and Market Income; or "forwards": from Disposable Income to Consumable Income and Final income.[7]

Two sets of income concepts are created, corresponding to the two extreme treatments of the contributory pension system: Pensions as Deferred Income (PDI) and Pensions as a Government Transfer (PGT).

In the PDI scenario:

---

[6] Described in the middle-section of the flowchart in figure 4 above. When Market Income is not available or is judged unreliable, the CEQ Assessment specifies the use of consumption expenditures as Disposable Income.

[7] As consumption expenditure is our primary income measure, and as all other income concepts including market income are derived from consumption expenditure, we do not create a taxable income concept; other CEQ Assessments do produce this income concept when relevant. Creating a taxable income concept requires knowledge of the composition of market income, but a Tajik household's expenditure profile cannot provide any information in the composition of income. Relatedly, we are unable to say anything about the savings or current asset profile of households for the same reason: a current consumption expenditure profile does not provide any information on investment spending nor on the returns accruing to any households' assets.

- Net market income: direct transfers are subtracted from Disposable Income, in this case the targeted social assistance program for low income families (TSA).
- Market income plus pensions (*pre-fiscal income*): direct taxes and non-pension social contributions are added to Net market Income. Given that we cannot separate off the old-age pension from other social contributions in the case of Tajikistan, here we subtract only imputed Personal Income Tax.

In the PGT scenario:
- Net market income: direct transfers and contributory pensions are subtracted from Disposable Income; in this case the direct transfer is the targeted social assistance program for low income families (TSA).
- Market income (*pre-fiscal income*): direct taxes (namely Personal Income Tax) and pension contributions are added to Net market Income.

The two scenarios converge to the same Disposable Income, and therefore Consumable Income and Final Income are also the same in both scenarios.
- Consumable Income: electricity subsidies are added to Disposable Income, and indirect taxes are subtracted, namely VAT and excise taxes.
- Final Income: in-kind health and education benefits, net of user-fees, are added to Consumable Income.

19. **As in other countries in the Eastern and Central Asia region, the public pension system in Tajikistan accounts for most social protection spending.**[8] We treat public contributory pension system as a tax-and-transfer system in our baseline CEQ Assessment model for Tajikistan (2015), given that a significant component of the pension is redistributive and universal[9] and significant shares of "contributory" pensions are funded through general government revenues. Current contributions are treated as a tax rather than (mandatory) savings[10]. However, a component of the pension system, the insurance for retirement component, also appears to be compensation for work done in the past. We therefore also generate a CEQ Assessment scenario in which Tajikistan's contributory pensions are treated as deferred compensation for work done in the past (rather than as a current transfer payment) and therefore part of market income.

20. The PDI and PGT scenarios generate extreme estimates of the redistributive impact of the public contributory pension system, and neither is a fully accurate description. In the PDI scenario, these expenditures are treated as having zero redistributive impact as they are included in *pre-fiscal* income; whereas in the PGT scenario all public contributory pension system expenditures are added (as a transfer) to pre-fiscal income and therefore produce a redistributive impact that depends entirely on who the pension recipients are and how much they receive. The reality is a combination of both scenarios, and policymakers can draw on both scenarios when designing policy.

---

[8] When expenditures on one program are much larger than expenditures in thematically- or sectorally-similar programs, the large program has an outsize influence on the redistributive or poverty-reducing impact of the sector as a whole.

[9] See the description in the appendix for more details on the Tajikistan public pension system.

[10] In the "Pensions as Deferred Income" (PDI) scenario, we treat income from contributory pensions as deferred compensation for work done in the past (rather than as a current transfer payment) and therefore part of market income.

III.4. Construction of the Fiscal Instruments in Tajikistan

21.   **To estimate the net additions to or subtractions from pre-fiscal income created by receipt of benefits or payment of taxes** (respectively), we estimate the size of the tax or transfer. In some cases, the amount (paid or received) is recorded directly in the survey. For other instruments, other identifying information included in the survey is leveraged to provide an imputation or simulation of benefits received or taxes paid. Both strategies are described in remainder of Section III.4.

22.   **Pilot targeted social assistance program (TSA):** Beneficiaries of the current TSA pilot program are not directly observable in the L2T baseline survey. However, the TSA in Tajikistan is allocated using a proxy-means test (PMT), and the criteria for the TSA PMT - observable individual and household characteristics - are replicated in the L2T baseline survey data. We can therefore accurately generate TSA eligibility (at the household level) using identical proxy characteristics to those used in assessing the eligibility in the pilot social protection program. At the time of analysis, the programme was not yet available in all 28 districts of Tajikistan, however here we simulate the impact of full coverage, and we identify 86 percent of the numbers of recipients according to administrative records. We then allocate the statutory amount of 400 somoni per year to all imputed-eligible individuals which results in a substantial overallocation of total funds in the survey compared to administrative records (by a factor of 13.8). We are unable to find a source to triangulate the administrative numbers, and so we retain the statutory numbers while noting that the impact of the TSA shown here is therefore an upper bound and should be interpreted as such – a simulation of impact should the TSA to be implemented according to programme rules.[11]

23.   **Income Tax**: Personal Income taxpayers are not directly identified in the LTS nor are the amounts of tax paid. We generate a pool of likely taxpayers as the population of employed or hired working-age individuals whose employers contribute to a pension on their behalf[12]. We identify 86 percent of Income is also not directly observed in the LTS. We assume that incomes derived from expenditure records are wage incomes only, and do not separately impute or derive income from dividends, and capital gains or in-kind income. Tajik authorities indicate that dividends, capital gains, and in-kind incomes received by richer households are the most likely to be under- or un-declared to revenue authorities. CEQ Net Market Income less pensions is used as a proxy for wage income in the household and divided equally among the simulated taxpayers in the household. Direct tax for each simulated taxpayer is calculated based on this income proxy and the statutory tax rates for wage income (Tax Code of the Republic of Tajikistan, 2012). Although we cannot observe which households are non-compliant with tax laws, this last step ensures that we allow for informality and do not over-estimate the tax burden. Using this method we allocate 85 percent of the budget amount for income tax.

24.   **Pension Income:** The 2015 HBS is used to predict the probability of receiving a pension and the amount received. A regression-based approach is used to predict the conditional probability

---

[11] The programme is expected to be implemented in all districts of Tajikistan in 2019. The analysis that follows assumes that the program will be implemented as designed.

[12] We assume that the following individuals do not pay income tax: Child, Farmer, Housekeeper, Labor migrant in Tajikistan, Labor migrant in foreign country, Pensioner, Physically handicapped, Student, Unemployed, Worker of different fields.

of receiving a pension based on age, household size, gender, education level, region, and urban or rural area.[13] A percentage of each age category in the L2T survey with the highest probability of receiving a pension are imputed to be pension recipients. We identify 96 percent of the expected number of pension recipients according to the administrative data. We then use a second regression to allocate the amount of pension received by the identified pension recipients. This method results in an overallocation of pension income. To resolve this, we scale down the pension income amounts until the rate of pension income to consumption in the survey matches the rate of pension income to consumption in the national accounts.

25.   **Pension contributions:** Employees, farmers, business owners and hired employers are treated as pension contributors. Other categories of worker (such as workers and seasonal workers) are not included. The same proxy income variable used in the Income Tax model as used for taxable income, and statutory rates are applied to farm workers, business owners, employees, and the self-employed (Tax Code of the Republic of Tajikistan, 2012).

26.   **VAT and Excise taxes:** to calculate VAT or excise tax amounts paid by individuals, the gross amount paid for each purchased item is multiplied by the share of the item's value that is a VAT or excise charge. Existing VAT exemptions on financial intermediation services, rendering of religious and ritualistic services, education, and health were incorporated into the analysis. The method applied in Harris et. al (2018) is adopted here for VAT. The approach makes use of an Input-Output (IO) model (Input output SUT TAJ 2011-3.version) of the Tajikistan economy's sectoral linkages to estimate the indirect effects of embedded, unrecoverable VAT on the prices of other goods in the economy. The approach also distinguishes between domestic and imported products, as the price of imported inputs is not affected by unrecoverable domestic input VAT. Informality, and Tajikistan's VAT threshold, is accounted for in two ways: firstly, the analysis assumes that rural food products consumed by households are produced and/traded outside of the VAT system. Secondly, the value of VAT applied to purchases is adjusted (uniformly for all purchases) until the ratio of estimated VAT revenues imputed within the microdata over total household consumption expenditure in the survey-based micro-data is equal to the ratio of budget-confirmed net VAT revenues relative to final household consumption expenditure in the national accounts.[14]

27.   **Electricity subsidies:** A subsidy rate for household electricity purchases was derived from a World Bank simulation exercise; this rate was then applied to reported electricity expenditure in the L2T baseline survey. The subsidy rate is the difference between the current price of electricity in Tajikistan and the economic cost of producing electricity; the latter is estimated from budget records provided by electricity suppliers. The subsidy rate for household electricity purchases is assumed to be the same as that for industry electricity purchases. The direct effects of the subsidy on the price of electricity are calculated by multiplying current household expenditure by the subsidy rate. The effects of the subsidy on prices in the rest of the economy (indirect effects) are then calculated. This latter estimate is calculated by simulating a shock to the electricity industry of that same subsidy rate. Using the 2011 IO model (Input output SUT TAJ 2011-3.version), the price changes for each IO sector is estimated, while keeping prices fixed for six IO sectors which

---

[13] The adjusted R-squared – an indicator of how well the variables included in the prediction account for variance in the pension variable – of the model that estimates the probability of receiving a pension was 0.57 and that in the model for pension income received was 0.32.
[14] This second adjustment factor for VAT was equivalent to 0.86 in the Tajikistan (2015) CEQ Assessment.

are assumed to maintain administered prices.[15] The change in the price of each survey purchase with the removal of the electricity subsidy is then used to determine the effective indirect electricity subsidy to households.

28. **In-kind transfers:** Expenditures on education and health are allocated to those households where at least one member uses the education[16] or the public healthcare service system. An average regional subsidy amount is allocated to students at each level of education (pre-school, primary, basic, secondary, vocational, secondary professional and tertiary) or level of healthcare (hospital or clinic). The subsidy is calculated by dividing scaled in-kind regional spending by the total number of regional users to get a "per student" or "per patient" subsidy; this uniform regional subsidy amount is then allocated to all directly-identified users (IMF, Data on Visits to Polyclinics and Hospital Admissions 2008-16, 2017) (IMF, Nos Institutions and Students by Level of Education 1991-2016).

29. **User fees:** Fees are calculated based on reported spending on compulsory items such as fees, uniforms and books in the case of education, or out of pocket expenses, in the case of health. User fees should not lead to a higher level of service. In the baseline scenario, we do not subtract user fees from in-kind transfers, however Section IV.7.1. shows the results of a sensitivity analysis in which we calculate in-kind transfers net of user fees. Health user fees include: official payments, medicines, other supplies, laboratory tests, charges for physician services, and charges for other staff services (nurses etc.). The Tajikistan Health Service Review (Khodjamurodov, 2016)[1] suggests a significant incidence of informal payments for medicines and other supplies. We therefore assign the minimum fee from each PSU only for 'medicines' and 'other supplies' fees, and an average for all other types of fees that we consider compulsory. Where the user fee is greater than the subsidy, a zero net transfer is allocated. For education user fees, we assume that official school fees, uniforms, and textbooks are compulsory, and that classroom supplies, meals, lodging, construction / maintenance costs, tutoring, and other fees would increase the level of service (Maksoudova, 2014). We assign an average of the compulsory subset of fees per Primary Sampling Unit (PSU) to each observation that reported paying fees and receiving a subsidy. As with the health user fees, where the user fee amount is greater than the subsidy, a zero net transfer is allocated.

III.5. Consistency between Administrative and Survey Data Sources

30. **Income and Consumption:** Consumption expenditure is used as the measure of primary income, while net market income is used to calculate taxes on income. As is often the case, total consumption in the survey is less than final household consumption in national accounts (plus the consumption of "non-profit institutions serving households" or NPISH). The implication is that the economy represented in the survey is of a different magnitude than that represented or summarized

---

[15] Electricity is assumed to account for 35 percent of the total value-added in the subsector including electrical energy, gas, steam and hot water. Sectors with fixed prices include Coal, lignite & peat; Crude petroleum & natural gas; Coke, refined petroleum products & nuclear fuel; Collected and purified water & distribution services of water; Trade of motor vehicles and motorcycles & retail sale of fuel; and Sewage and refuse disposal services.

[16] The basic education system in Tajikistan is free and universal, and there was no data on whether children were going to a private or public school system. We therefore assume all children to be enrolled in the public schooling system.

in budget reporting and national accounts data, and allocating all transfer expenditure or tax revenues in the budget would be unreasonable. In this case, as is common practice, budget items such as the personal income tax, and VAT and excise duties are scaled down. For Tajikistan, a factor of 91 percent is used to adjust for this inconsistency before allocation. Direct transfers are allocated according to the procedure described above.

IV.   RESULTS

IV.1.   Poverty Effects of Tajikistan's Fiscal System

31.   **Fiscal policy in Tajikistan increases the poverty rate by 2.1 percentage points.**[17] The poverty headcount ratio measured at pre-fiscal (Market) income (before taking the fiscal system into account), using the $PPP 3.20 line[18] is 20.6 percent. It rises to 22.7 percent at Consumable Income, after taking the fiscal system into account, and before in-kind transfers. [19] Poverty measured using the $PPP 1.9 per person per day line is 6.8 percent at Market income and rises to 5.39 percent at Consumable Income.[20]

32.   Income taxes alone, and separately from social contributions, cause an increase in the poverty headcount ratio at the $PPP 3.20 line of only 0.8 percentage points when subtracted from market income. Direct transfers excluding contributory pensions provide modest gains to poor households; with a decline in the poverty headcount rate of approximately 0.29 percentage points when added to net market income (market income minus income taxes and pension contributions).

33.   From Disposable Income, when indirect taxes and subsidies are allocated, the poverty headcount ratio at the $PPP 3.20 line rises by 4.2 percentage points. The fiscal item that contributes the bulk of this increase in the poverty headcount ratio is the VAT. This implies that poorer households face a net cash reduction from the combination of indirect taxes and subsidies at the point of consumption. It also implies that, although there are electricity subsidies in Tajikistan creating direct and indirect benefits for consumers, on average subsidies received are smaller in magnitude than indirect taxes paid.

---

[17] The official poverty headcount ratio in Tajikistan in 2015 is the headcount ratio at Disposable Income at the $PPP 3.20 per person per day line (approximately 20.3 percent). Hereafter we work with the $PPP (2011) 3.20 per person per day poverty line unless explicitly mentioned. Poverty headcount ratio(s) (and other welfare-based statistics derived from the Tajikistan micro-data) estimated at Consumable Income or Net Market Income (for example) do not appear in any official publication; such estimates are "hypothetical" or "counterfactual" measures that are estimates of what the poverty headcount ratio would be if that income concept was the relevant one for calculating poverty statistics.

[18] In the PGT scenario, pre-fiscal income is equal to market income.

[19] Post-fiscal income is measured at consumable income for the poverty headcount, because health and education expenditures are not included when calculating the poverty line.

[20] Consumable Income does not include the government cost-value of in-kind transfers. The difference between Market Income + Pensions and Consumable Income can therefore be interpreted as the net cash addition or subtraction to pre-fiscal income from fiscal activity.

Figure 6: Poverty and Extreme Poverty Headcount ratios at pre- and post-fiscal income concepts
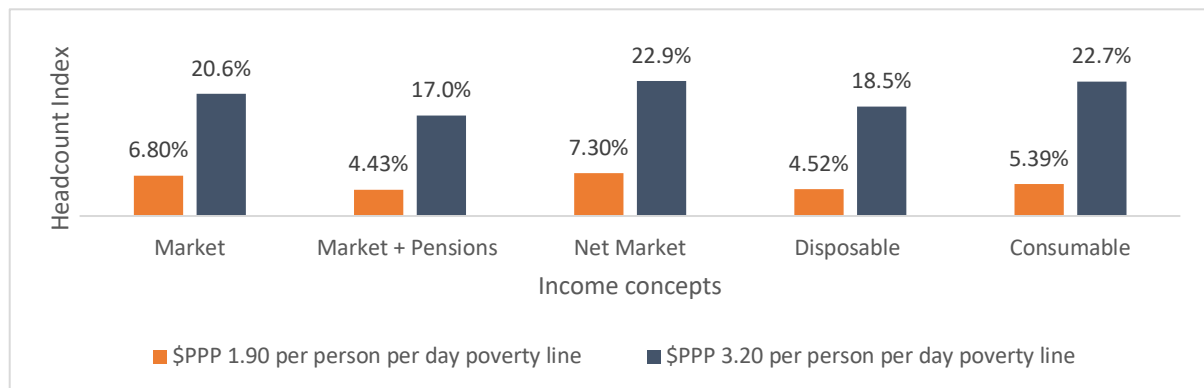
Source: official data and staff estimates.
Note: A CEQ Assessment does not estimate poverty indicators at Final Income (after the inclusion of health and education services). Education and health expenditure are not included in the calculation of the poverty line while subsidies for such services are not "fungible" or convertible into expenditures on other basic needs.

## IV.2. Redistributive Effects of Tajikistan's Fiscal System

34. **Fiscal policy reduces inequality by 3.1 Gini points[21]**. Inequality measured using the Gini coefficient at Market income is 0.361 while at the post-fiscal income concept the Gini coefficient is 0.330, implying a reduction in inequality of approximately 3.1 Gini points from the allocation of the social expenditures, subsidy spending, and direct and indirect tax collections described above.

35. **Income taxes and social contributions are equalizing:** when income taxes are subtracted from market income, the Gini coefficient decreases by approximately 0.28 Gini points and income taxes and social contributions together decrease the Market income Gini coefficient by 0.23 Gini points to 0.359. The TSA is also equalizing: when are added to Net market income (Market income minus income taxes and contributions), the Gini coefficient falls by 0.15 Gini points, but pension income has a more substantial effect. Together, the TSA transfers and pension income reduce the Gini by 2.0 Gini points. Net subsidies are neutral and inequality reducing – the Gini coefficient falls by a very slight 0.03 Gini points when subsidies and indirect taxes are added to Disposable income. Taken individually the excise tax, VAT, and the indirect electricity subsidy are all neutral and their effect size ranges from -0.03 to -0.02 (VAT and indirect electricity subsidy) to 0.04 to 0.05 (excise taxes and direct electricity subsidy) (see also Section IV.4). Finally, in-kind transfers of health and education services – especially primary and basic education services - reduce inequality by 0.87 Gini points to 0.330.[22]

---

[21] Policy can simultaneously reduce the gap between the rich and the poor, while increasing poverty. Personal Income Tax is often an example of a policy instrument that has this effect, as it reduces the income of the rich to a greater extent, but can also reduce the income of the poor.
[22] The Gini coefficients estimated at income concepts other than Disposable Income will not match the official Gini measure for Tajikistan in 2015. They are instead counterfactual estimates of inequality that would be estimated if these incomes were observed.

Figure 7: Inequality (Gini coefficient) at pre- and post-fiscal income concepts
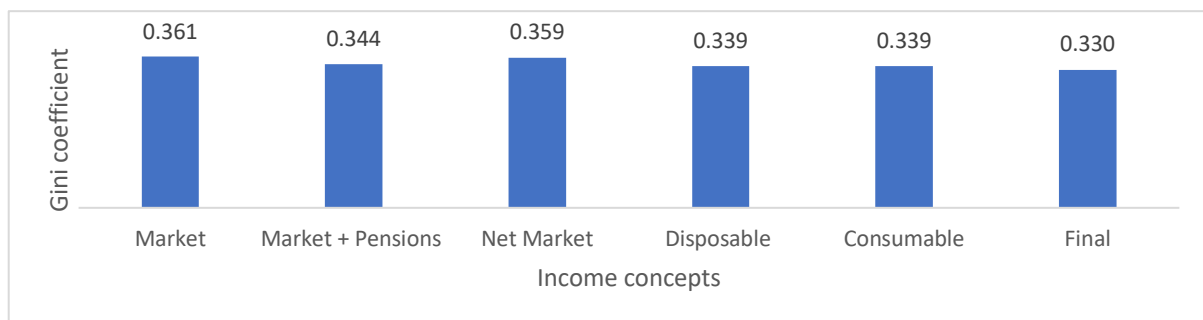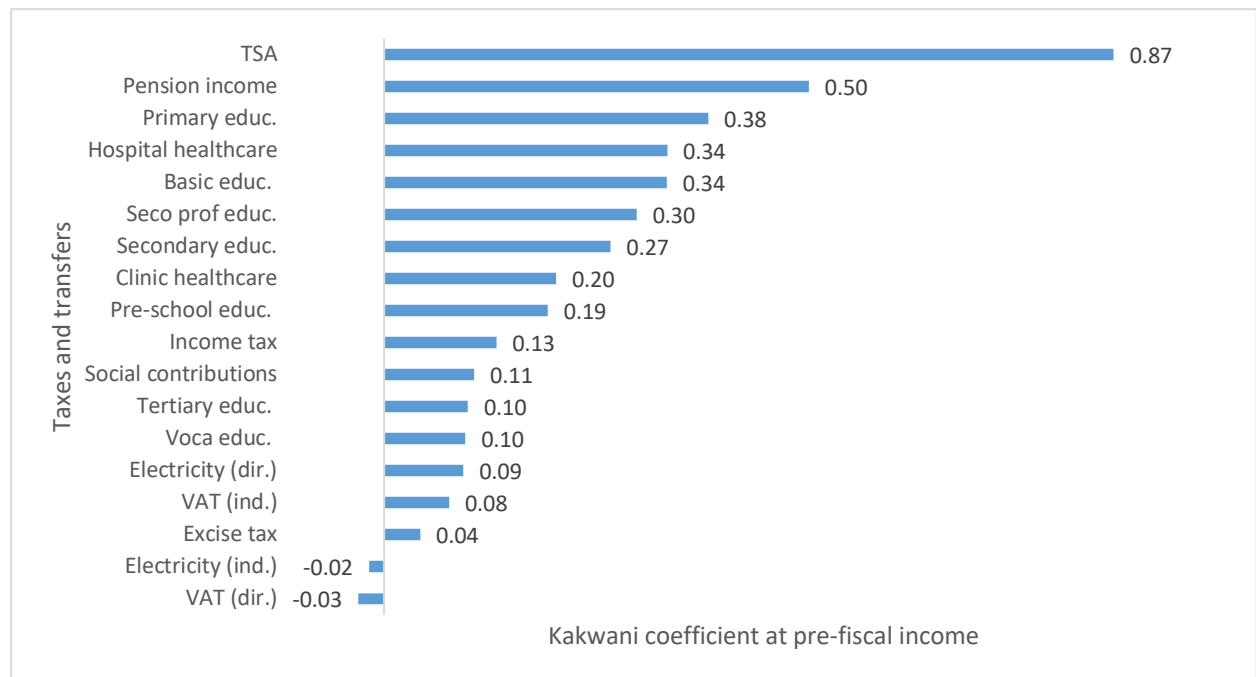

Source: Official data and staff estimates.

36.   **Figure 7 demonstrates that the biggest reduction in inequality occurs between Disposable Income and Net Market Income**. In the PGT scenario – where income from and contributions to the public contributory pension system are treated as transfers and taxes (respectively), the biggest reductions in inequality due to fiscal policy are from pension income and direct taxes and contributions. In the PDI scenario – where income from and contributions to the public contributory pension system are treated as deferred income and mandatory savings (respectively), the biggest reductions in inequality due to fiscal policy are from net health and education transfers.

IV.3.   Progressivity of Individual Fiscal Instruments

37.   **In Figure 8, we show Kakwani coefficients for each fiscal instrument included.** Kakwani coefficients provide a summary measure of how progressively taxes and benefits are distributed *relative to* the distribution of a reference income, in this case Market Income. When a fiscal instrument is more progressively distributed than Market Income, the Kakwani index will be positive which indicates that the instrument in question is more equally distributed than income.[23] See I. Appendix: Glossary of Indicators for a primer on the commonly-included indicators provided in a CEQ Assessment.

---

[23] Note that the Kakwani coefficient formula for taxes is the mirror-image of the Kakwani coefficient formula for benefits because taxes are progressive when individuals with higher income shares pay larger amounts of the tax in question whereas benefits are progressive when individuals with higher incomes shares receive smaller amounts – when measured as a share of pre-benefit income - of the benefit in question. A benefit distribution is "pro poor" when individuals with higher income shares receive smaller absolute amounts.

Figure 8: Kakwani index for taxes and transfers

Source: Official data and staff estimates.

38.   **Figure 8 demonstrates that the most progressively distributed benefits are the TSA and pension income** – which deliver the largest concentrations of available benefits to poorer populations – and then the in-kind education ad health transfers. Primary education is the most progressive of all the education transfers, and hospital healthcare is more progressive than clinic healthcare. The indirect and direct taxes are all neutral, that is, very close to the distribution of market income. The direct component of the VAT and the indirect component of electricity subsidies are neutral-regressive – the only regressive instruments in Tajikistan. Excise taxes, while more progressive than the direct VAT, are less progressive than the indirect component of the VAT.

### IV.4.   Marginal Impact of Individual Fiscal Instruments

39.   **The impact of a benefit or tax on inequality or poverty cannot be determined from its distribution alone.** A very small tax that is distributed proportionally may lead to greater inequality (as the tax still represents a greater burden relative to own incomes for poorer populations) but have zero impact on the poverty headcount; while a small benefit that is pro-poor may also have only very minor impacts on the poverty headcount and inequality.

40.   **Marginal impacts – which summarize a fiscal instrument's contribution to overall inequality or poverty reduction via fiscal policy – are critical.** Via the estimation of, for example, the Gini coefficient at Consumable Income both with and without the TSA benefit, we can say that the marginal impact of TSA (at Consumable Income) is to reduce or increase inequality; or, in other words, that we expect that inequality would be higher (at Consumable Income) if there were no TSA program. A positive marginal impact signals an equalizing or poverty

reducing effect in the presence of all other instruments included in the post-fiscal income concept; and a negative marginal impact signals an increase in inequality or poverty in the presence of all other fiscal instruments.

Figure 9 summarizes the marginal impacts of all of the above instruments on both poverty and inequality and combines in one measure a signal of the overall distribution of the instrument in question as well as its magnitude.[24]

Figure 9: Marginal Impacts of Fiscal Instruments: a. Redistributive effect (top panel) and b. Poverty Reduction Effect (bottom panel)

---
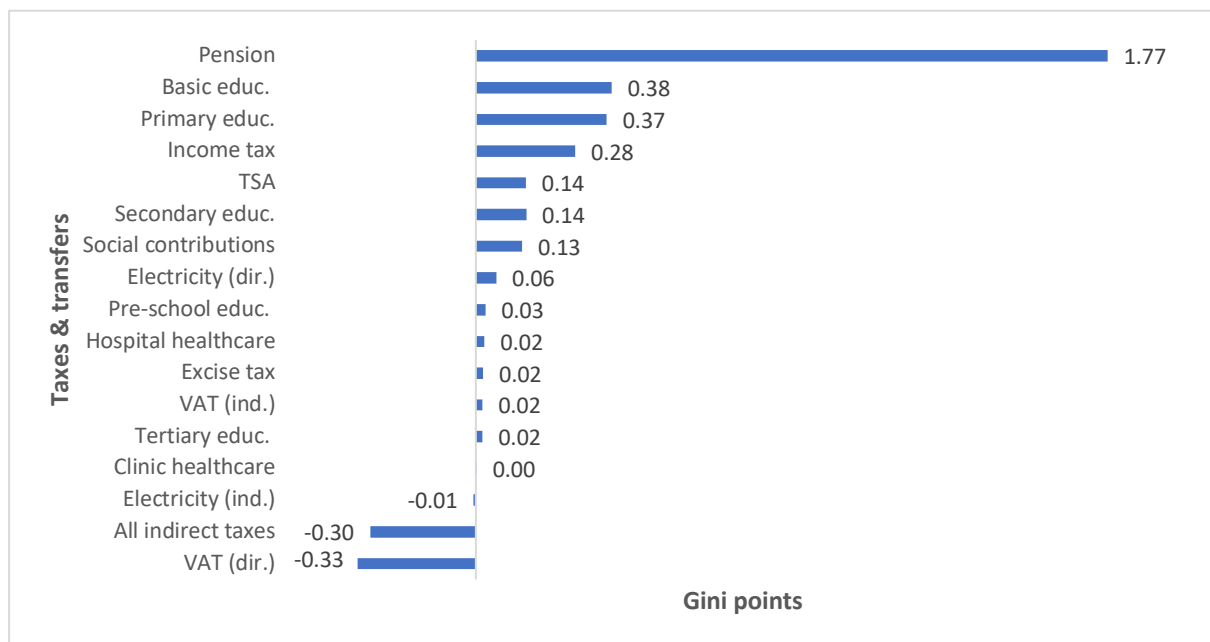
[24] Marginal impacts therefore summarize both a fiscal instrument's progressivity, or how intensely a benefit (tax) is concentrated in the poorer (richer) populations; as well as its magnitude or incidence, or how large the benefit or tax is relative to pre-benefit or pre-tax incomes.
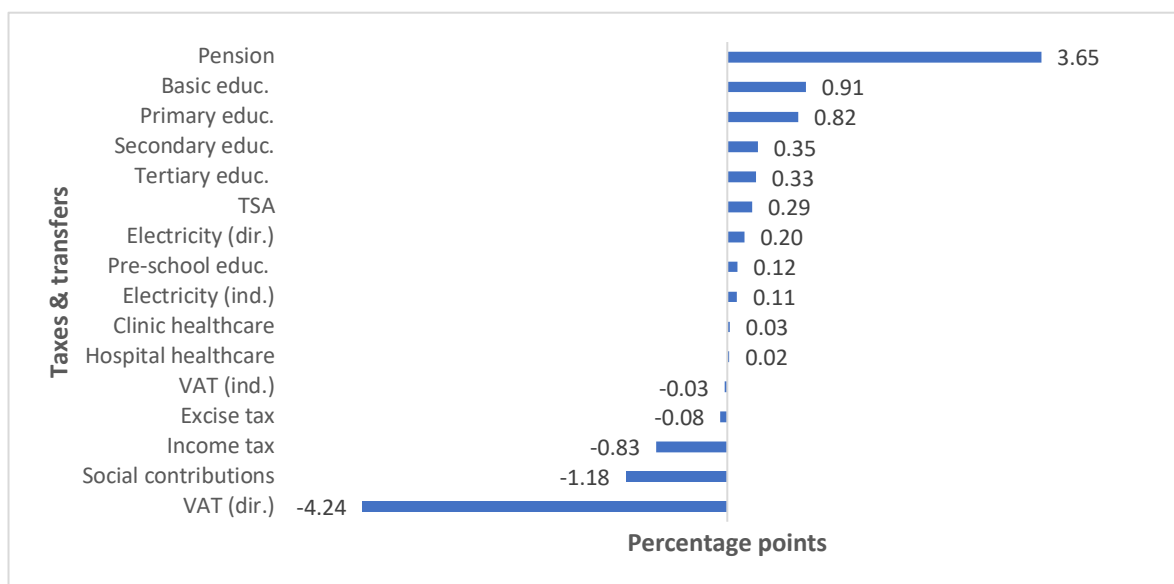
Source: Official data and staff estimates.
Notes: Marginal Impacts are calculated at Market income. The Marginal Impact on Poverty Reduction is calculated using the 2011 PPP's $3.20 per person per day poverty line.

38.   **In the PGT scenario, pension income has the biggest impact on inequality and poverty.**[25], The public contributory pension system covers a significant portion of the labor force; and we are unable to separate out the old-age pension from the disability, survivorship, and social pension. As a result, the pension system redistributes a non-trivial amount of income.

39.   **In the PGT scenario, general education transfers, the income tax and the TSA programme have a large impact on inequality reduction.** We allocate more income tax in the survey (at 2.63 percent of Disposable Income) than we do primary, basic and secondary education transfers (at 1.04, 1.27 and 0.59 percent of Disposable Income respectively). Nonetheless, the primary and basic education transfers are progressive enough that their impact on inequality is larger than the income tax. The secondary education transfers are smaller and less progressive than the primary and basic education transfers. Their small size reduces their impact on inequality to below that of income tax, despite being more progressive (Section IV.3).

40.   **The marginal impacts on poverty reduction of the TSA program and the electricity subsidy are relatively small compared to the pension and education transfers.**[26] The TSA transfer was still a pilot program with low coverage levels in 2015; it provided meaningful benefits to poor individuals and households but did not cover enough poor individuals with large enough benefits to make a significant reduction in poverty. The electricity subsidy, meanwhile, had greater coverage but those households who capture the bulk of the available subsidy benefits are those who

---

[25] The PGT scenario, by treating the public contributory pension system as a tax and transfer fiscal program provides a pathway within a CEQ Assessment for this program to impact inequality (and poverty), rather than as mandatory savings and deferred income.

[26] As taxes will either contribute to an increase in poverty or leave poverty levels unchanged, we do not discuss the marginal impacts on poverty of taxes. We also do not discuss the marginal impacts of in-kind services on poverty: access to in-kind services does not change purchasing power over all other goods and services, and the determination of poverty here in this report (and in Tajikistan more generally and also worldwide) relies on an estimation of purchasing power over other goods and services.

consume significant quantities of electricity and poorer households generally consume less electricity per capita. The following sections explain in more detail why the impacts of progressively-distributed fiscal instruments in Tajikistan produce relatively minor poverty or inequality-reduction impacts.

IV.5.   Effects of Direct Transfers

41.   **Social Assistance played a very limited role in 2015 in Tajikistan**.[27] However, the 2019 delayed rollout of the national Targeted Social Assistance program covering the poorest 15 percent of the population may propel further poverty reduction in the coming years. In 2015, a validation and calibration of the proxy means testing formula used by the TSA program to identify beneficiaries better targeted those in need: the revised formula led to an approximate doubling of eligibility in the bottom decile (from 38 to against 64, see Figure 10, left). When TSA is implemented in full, it is expected that poor and vulnerable households, and specifically those individuals in the poorest 40 percent of the population will benefit the most.

Figure 10: TSA Coverage by Targeting Formula (left), Expected Distribution of Beneficiaries (right)
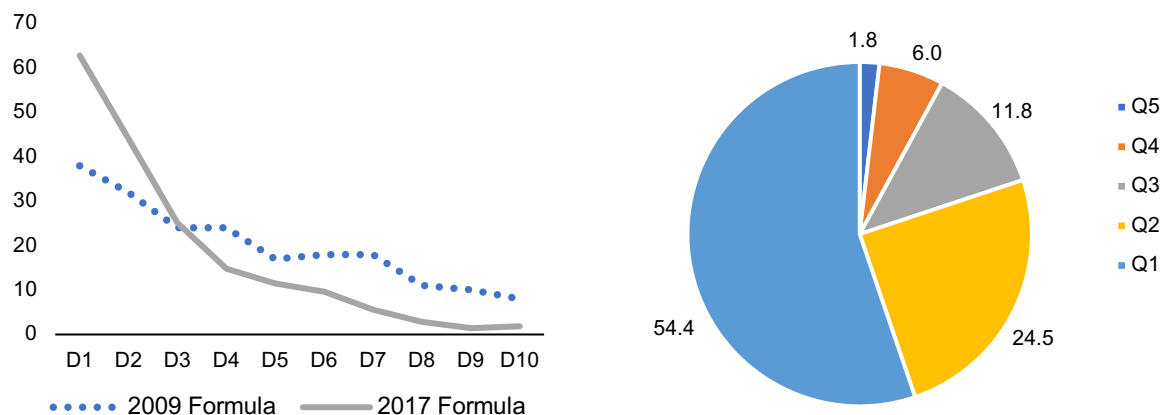
Source: World Bank staff calculations using data from L2T baseline survey.
Notes: Assuming national rollout of the TSA system.

42.   **At 2015-era coverage and benefit levels, the TSA provided Fiscal Gains to 55% of the Pre-fiscal Poor (measured at the \$3.20 per person per day poverty line), and yet had an insignificant effect on the national poverty rate, with a decrease in Poverty of 0.3 p.p. from Market Income to Gross Income.** At 400 Somoni per year per household (an average of \$0.06 per person per day), the TSA payment is relatively small in comparison to the cost of basic needs

---

[27] Both the L2T survey and the HBS identify less than 1 percent of households as receiving "social assistance". This is an underestimate: social pensions are not considered separately from private or work-related pensions in the HBS, nor does the L2T survey identify the type of "pension income" received.

in the country: in 2015, poverty line expenditure stood at about 168 Somoni per capita per month. Less than 2 percent of the population experience expenditure levels sufficiently high such that the TSA benefit would bring them above the poverty line (in per capita terms).

- **IV.5.1. Direct Transfer simulations**

43. **The CEQ architecture described above was also used as the basis for running different reform scenarios** with the TSA transfer, to determine a) the impact of increasing the size of the TSA, b) whether the design of the transfer can be adjusted so as to more effectively protect the most vulnerable by making it responsive to household size, or changes in the depth of poverty, and c) whether it is an effective vehicle for protecting the most vulnerable from the removal of electricity subsidies.

a. **Doubling the TSA**

In this scenario, we look at the impact of doubling the size of the TSA to 800 Somoni per year per household. This is the most expensive of all the simulations, and results in the biggest reduction in poverty of and inequality, of 0.32 percentage points and 0.14 Gini points respectively (measured at Disposable Income).

b. **TSA compensation for electricity tariffs**

44. **In this scenario, we look at the direct and indirect impacts of an elimination of electricity subsidies through a 35 percent tariff increase, and simulate providing an additional 100 somoni per year** (25 percent of the TSA grant) to those households that are both TSA eligible, i.e. fall in the bottom 15 percent of the population, and that are electricity poor. Households are categorized as electricity poor if they spend more than 10% of their disposable income on electricity.

45. **The combined effect of the reduction in subsidies and the resulting increase in the price of electricity for private and industrial consumers; the existing TSA transfer; and the additional transfer component** for those households that are electricity poor result in an annual mean transfer of 12.41 somoni to households that receive the TSA benefit. Government expenditure is reduced by 0.35 billion somoni (0.7 percent of GDP) in this scenario.

46. **There is little to no change to poverty or inequality measured using the 2011 PPP's $3.20** or $5.50 per person per day daily poverty line at Disposable Income (after transfers are taken into account but before electricity subsidies). When we take these measures again at the Consumable Income concept, once the removal of electricity subsidies are taken into account, we find that the rise in electricity tariffs causes an *increase* in the poverty headcount of 0.52 percentage points at the $3.20 per person per day daily poverty line, that the depth of poverty increases by 0.20 percentage points, and that inequality rises by 0.03 Gini points.

1. **Changes in TSA Targeting and Average Benefit**

47. **We run two scenarios for changes to TSA targeting and benefit size.** In scenario 1 we make the TSA sensitive to household size, by calculating the average per capita subsidy that keeps total disbursement constant and allocating that to everyone within eligible households. Government expenditure does not change. In scenario 2 we make the TSA sensitive to the average depth of

poverty, which has the benefit of facilitating adjustments over time. We do this by calculating the average poverty gap per region and applying it to each eligible household. Government expenditure increases by 81 percent. The changes to the poverty headcount and Gini coefficient are summarized in Figure 11, and Table 3 provides further detail.

48.   **Both reforms to the TSA calculation method aim to improve the targeting of the social assistance benefit** to reach the most vulnerable, either by ensuring that the size of the benefit changes with household size, or by providing a subsidy based on the regional poverty gap.

49.   **The TSA reform for household size scenario provides a social assistance benefit that is sensitive to household size but keeps expenditure constant.** The reform *decreases* poverty at Disposable Income by 0.23 percentage points, *decreases* the poverty gap by 0.14 percentage points, and *decreases* inequality by 0.12 Gini points.

50.   **The TSA reform for poverty gap provides a social assistance benefit that is equivalent to the average regional per capita poverty gap.** This reform increases the cost of the programme by 81%. It reduces extreme poverty measured at Disposable Income by 0.16 percentage points but makes little difference to the poverty gap and inequality.

51.   **Figure 11 and Table 3 show that doubling the size of the TSA has the biggest impact on both poverty and inequality**, however it is also the most expensive of the scenarios. The reform *decreases* poverty at Disposable Income by 0.32 percentage points, *decreases* the poverty gap by 0.17 percentage points, and *decreases* inequality by 0.14 Gini points.

Figure 11: TSA simulations, comparison of a. poverty headcount (left panel), and b. Gini coefficient (right panel)
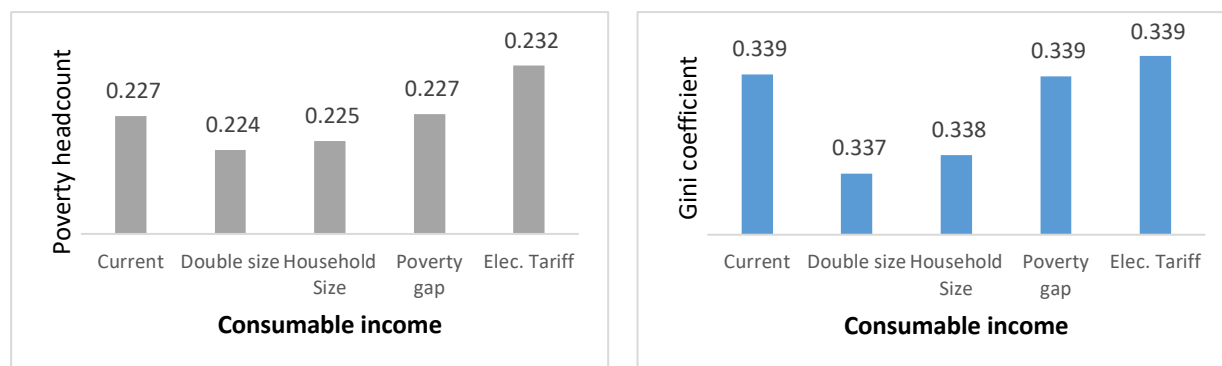
Source: Authorities data and staff estimates.
Notes: Poverty calculations taken at Consumable Income, and based on the $PPP (2011) 3.20 per person per day poverty line.

Table 3: TSA Reform Scenarios

TSA Reform scenario	Expenditure (Billion somoni)	@ Disposable Income			@ Consumable Income		
		Headc.	Pov Gap	Gini	Headc.	Pov Gap	Gini
Baseline	0.07	0.185	0.049	0.339	0.227	0.061	0.339
Elec. Tariff	- 0.35	0.185	0.049	0.339	0.232	0.063	0.339
Household size	0.07	0.183	0.048	0.338	0.225	0.059	0.338
Poverty gap	0.13	0.187	0.049	0.339	0.227	0.061	0.339
Double size	0.14	0.182	0.047	0.338	0.224	0.059	0.337

Authorities' data and staff estimates.
Note: Poverty calculations based on the 2011 PPP's $3.20 per person per day poverty line.

IV.6. Effects of Indirect Taxes and Subsidies

52. **Indirect taxes increase poverty significantly by 4.8 percentage points[28] but the impact on inequality is small due to their relatively uniform incidence increasing inequality by only 0.3 Gini points.** In absolute terms, larger shares of indirect taxes are collected from the richer deciles nonetheless the *incidence* (calculated as a share of total income) of the same indirect taxes is approximately uniform across the second-poorest to the richest deciles. Figure 12a shows the incidence - which is the magnitude of the tax paid or the subsidy received as a share of market income - and Figure 12b shows the concentration shares - which are the shares of the tax paid or the subsidy received as a share of total taxes paid or total subsidies available - of the electricity subsidy, VAT (split into direct and indirect effects), and excise taxes.[29]

53. **Indirect subsidies reduce both poverty and inequality. The impact on poverty is insignificant at only 0.31 percentage points due to their small size.** They reduce inequality by only 0.05 Gini points[30]. Similar to the indirect taxes, the indirect electricity subsidy concentration shares demonstrate that richer individuals capture more subsidies (in absolute terms) while the incidence of those subsidies is approximately uniform – and low – across deciles.

54. **Most of the individual indirect taxes and subsidies are inequality reducing at final income, and the direct and indirect components work in opposite directions.** Excise and the direct component of the electricity subsidy are inequality reducing, however the indirect component of the electricity subsidy is inequality increasing. The impact of the direct and indirect components of VAT is overall inequality increasing at -0.3 Gini points before the inclusion of all taxes and transfers in the system (at Market income). The indirect component of VAT reduces inequality slightly, while the direct component is inequality increasing (as shown in Figure 9a).

---

[28] Measured by the Marginal Impact at Market Income.
[29] As discussed in Section III.4, we allocate the burden of indirect taxes and the benefits of indirect subsidies according to the value of household-level expenditure on *purchased* goods and services that attract the tax or are subsidized.

[30] Measured by the Marginal Impact at Market Income.

Figure 12: a. Incidence (top panel) and b. Concentration shares (bottom panel) of Indirect Taxes and Subsidies
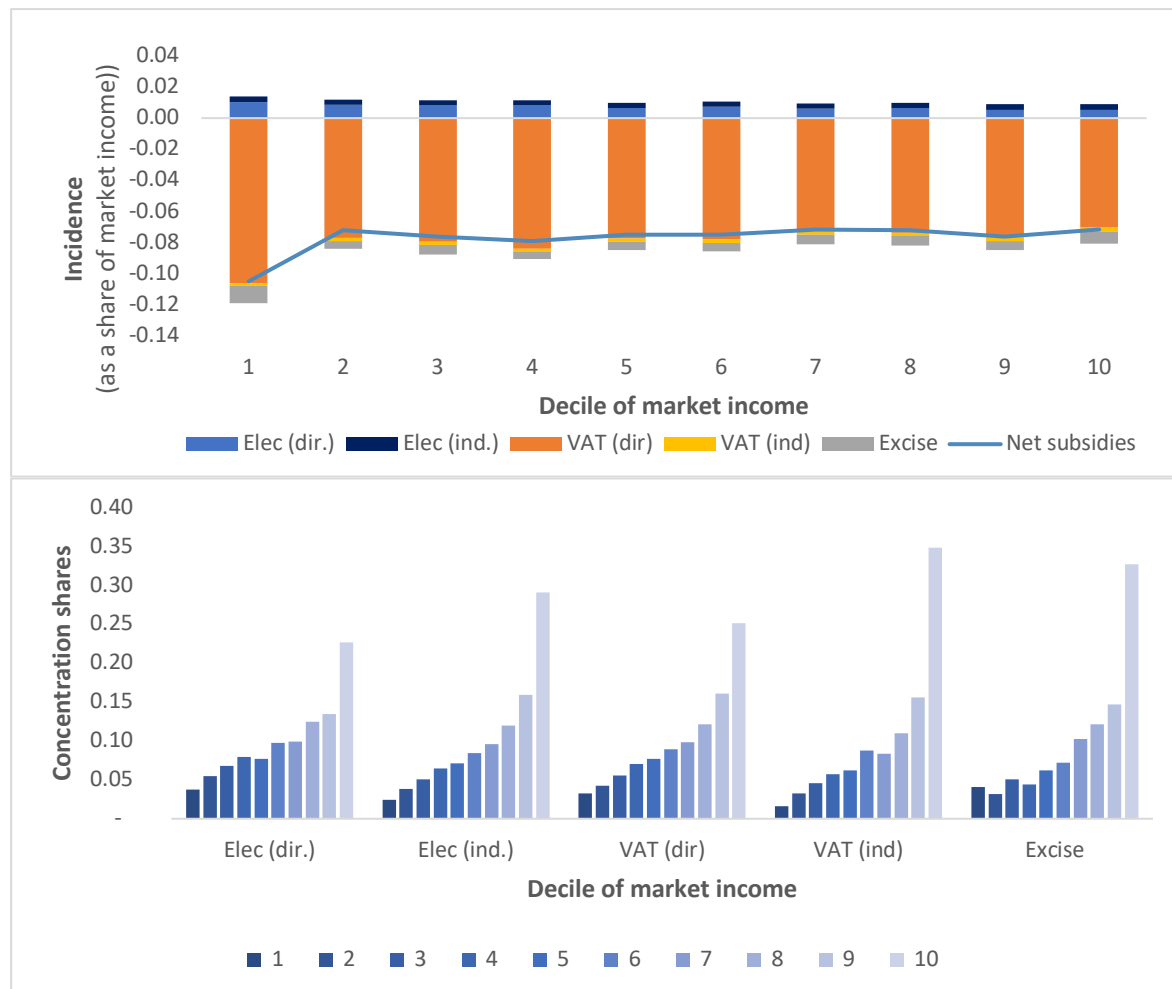
Source: Authorities data and staff estimates.
[1] Excise tax excludes fuel.
[2] Deciles are ranked by market income + pensions.

a. VAT exemptions

55.   **If VAT exemptions were to be cancelled[31], the incidence of VAT on households would go up.** Typically, VAT exemptions mean that producers do not have to charge VAT to the final consumer of the good or service. However, producers may still pay VAT on their inputs; and producers of exempt goods are not allowed to claim a refund for this VAT paid. In our model, this unrefunded VAT (indirect VAT) for exempt producers is "passed on" or "carried through" to the final price of the good or service. In the case of Tajikistan, we estimate the removal of exemptions to increase direct VAT collections by more than is lost due to the refunds on VAT inputs granted to the previously exempt producers.

56.   **Removing exemptions increases the overall progressivity of the VAT.** Figure 13a shows that the burden of the indirect VAT falls more on the rich (35 percent) than does the direct VAT

---

[31] While maintaining the informality assumption that VAT is not collected on rural food purchases.

(25 percent). When exemptions are removed, the concentration share for the richest decile increases slightly to 27 percent of the total VAT burden.

Figure 13: a. Concentration shares (top panel) and b. Incidence (bottom panel) of VAT
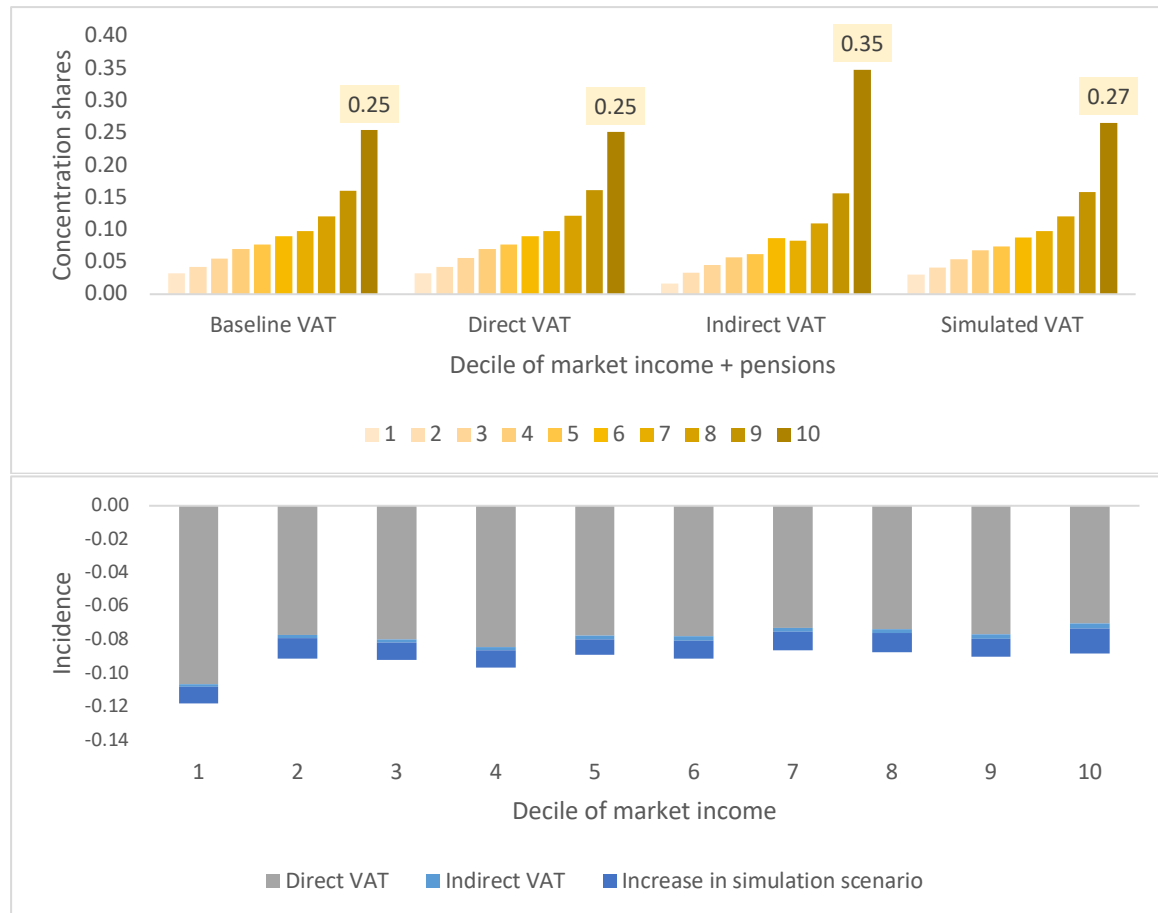
57.   **While the removal of exemptions results in an increase in the incidence of VAT at all deciles, the incidence increases by more in the tenth decile than in the other deciles (Figure 13b).** We therefore see an increase in the poverty headcount (Table 4) of 0.6 percentage points, and a reduction in inequality of 0.12 Gini points.

Table 4: VAT reform simulation

	Total revenue (Billion somoni)	@ Consumable Income		
		Headc.	Pov Gap	Gini
VAT baseline*	3.34	22.72 %	0.061	0.3390
VAT simulation: no exemptions	3.85	23.33 %	0.063	0.3378

*Baseline exemptions include: financial intermediation services, cultural and religious rituals, education and health.
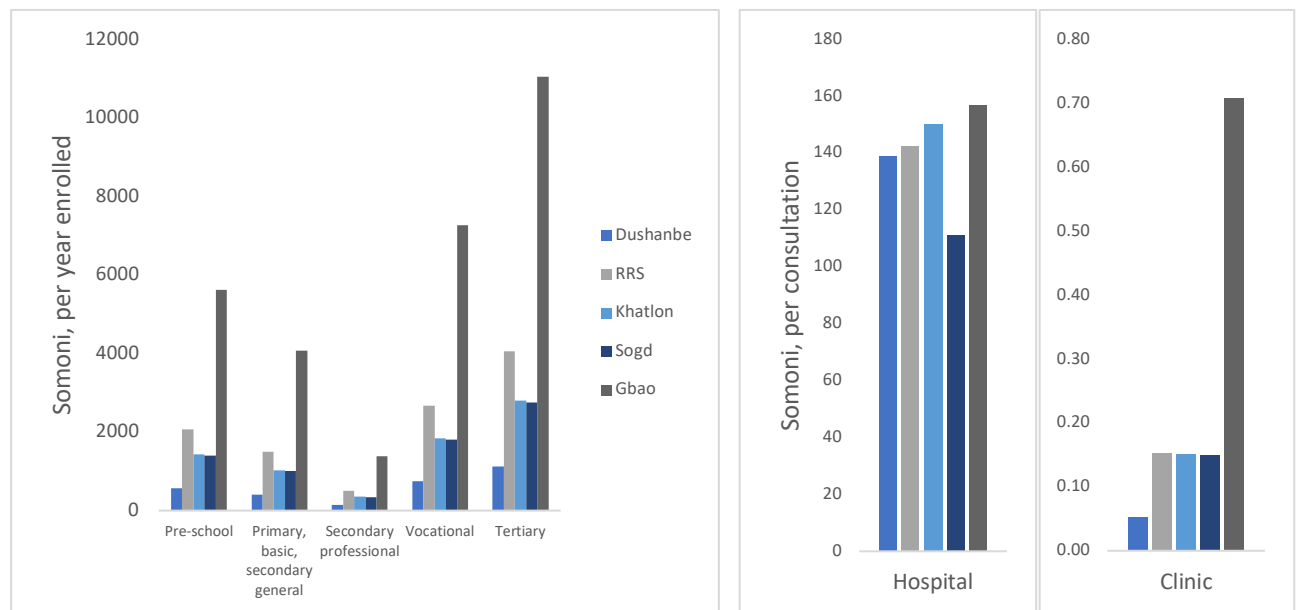
Authorities' data and staff estimates.

Note: Poverty calculations taken at Consumable Income, and based on the 2011 PPP's $3.20 per person per day poverty line.

IV.7. Effects of In-Kind Transfers

58.   We allocate the government cost of publicly-delivered services in education and health to those who have accessed those services, and the impact of public education or health expenditures on inequality depends on rates of enrollment or utilization. When enrollment in public schools or utilization of public healthcare services is more frequent among a certain subset of the population – the non-poor population, for example – then the benefits delivered through the public provision of free education or healthcare will be more concentrated in that subset. Different levels of public service are more expensive for the government to deliver; so one year of tertiary education (for example) costs more than one year of primary education; one visit to a public hospital is more expensive (from the point of view of the provider) than one visit to a public clinic. Therefore, a greater share of benefits delivered via the provision of public services will be captured by those enrolled in (or utilizing) the more expensive type of public education service.

59.   The size of the per capita allocation for in-kind transfers varies substantially across regions, for both health and education, with GBAO receiving the largest subsidy per head for all education and clinic benefits, and Dushanbe the lowest subsidy per head, except for the hospital benefit (Figure 14).

Figure 14: In-kind transfers, per capita subsidy by region, a. education (left panel), and b. health (right panel)
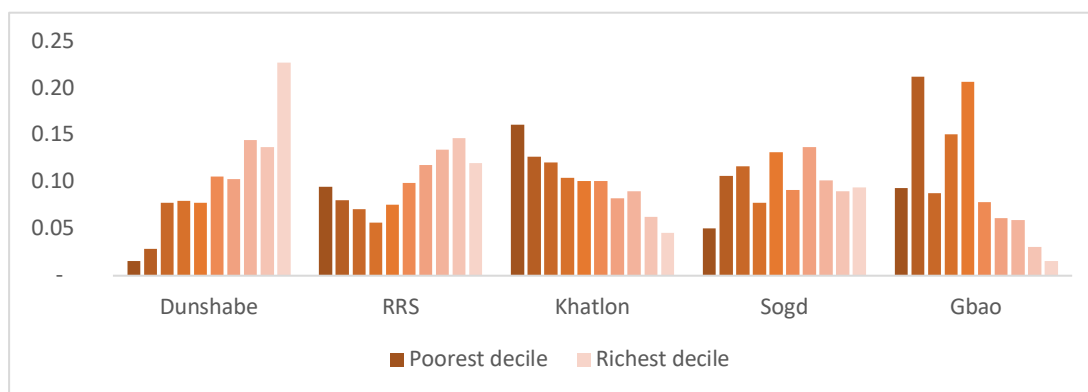

Source: authorities' data and staff estimates.

60.   Access to healthcare and education across regions and deciles also varies widely. Figures 14 and 15 show that patterns of access by region and by decile, respectively, are similar for both health and education. In Dushanbe, RRS, and Sogd (RRS and Sogd to a lesser extent), the richer 50 percent have proportionately greater access to both healthcare and education services than the poor. In GBAO and Khatlon, the poor access public healthcare more frequently than the other regions, with the poorer 50 percent of households comprising 75 to 62 percent of total regional consultations and 51 to 49 percent of total regional enrolment.

Figure 15: By region, proportion of total consultations / enrolment in each decile, a. Healthcare consultations (top panel), and b. Education enrolment (bottom panel)
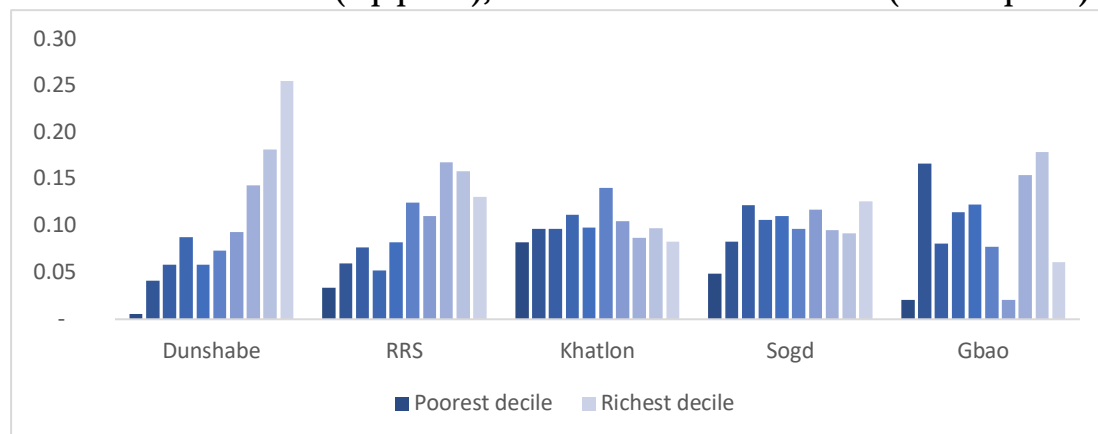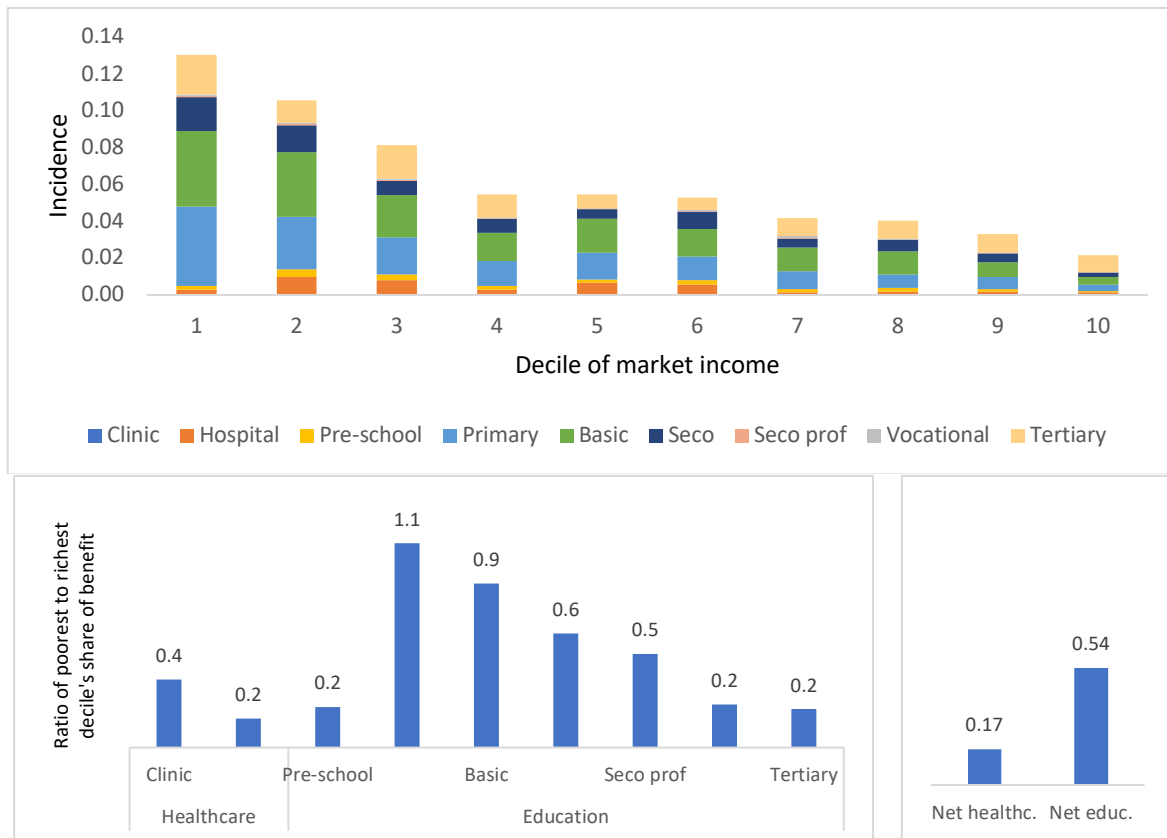
Source: authorities' data and staff estimates.

61.   **The benefits of healthcare and education services accrue more frequently to richer individuals** (Figure 16b)**.** Only at the primary education level, does the poorest 10 percent of the population capture a greater share of available benefits than the richest 10 percent. For pre-school, basic, secondary, secondary professional, vocational, and tertiary education and either clinic- or hospital-based healthcare, the richest decile captures a greater share of benefits than the poorest 10 percent. The richest decile's share is especially large relative to the poorest decile's share for pre-school, vocational and tertiary education services and for hospital-based healthcare services.

Figure 16: a. Incidence (top panel) and b. Poorest Decile's In-kind Benefit (by type) Relative to Richest Decile's share (bottom panel)

Source: Authorities data and staff estimates.

IV.7.1. Sensitivity Analysis – Health and Education User Fees

62.   **The impact of in-kind services on inequality reduces slightly when those services are included net of health and education user fees.** As discussed above in Section III.4, user fees accompany access to the publicly-provided healthcare and education services. Subtracting user fees from in-kind benefits leads to a decrease in inequality of 0.11 Gini points at Final Income, with a larger impact in rural areas (0.14 Gini points) than in urban areas (0.04). From this we can infer that user fees – which are recorded in the data and not imputed – are higher relative to pre-user-fee income for the rural poor than the urban poor.

**Table 5: Overall change in Inequality**

	Gross transfers			Transfers net of user fees		
	All	Urban	Rural	All	Urban	Rural
Gini coefficient*	0.330	0.328	0.321	0.329	0.328	0.320

* At final income

63.   **Education fees are substantially smaller than health fees, and less progressively distributed (Figure 17a).** While in absolute terms (Figure 17b), more of the user fees are coming from the richest decile for both health and education in rural and urban areas, the incidence of fees paid for education is higher as a share of pre-fiscal income for poorer households than for richer households. On the other hand, the incidence of health fees is higher as a share of pre-fiscal income for richer household than for poorer households.

Figure 17: Incidence of health and education user fees by decile and by a. rural / urban (top panel), and b. Concentration shares of health and education user fees, disaggregated by urban / rural (bottom panel).
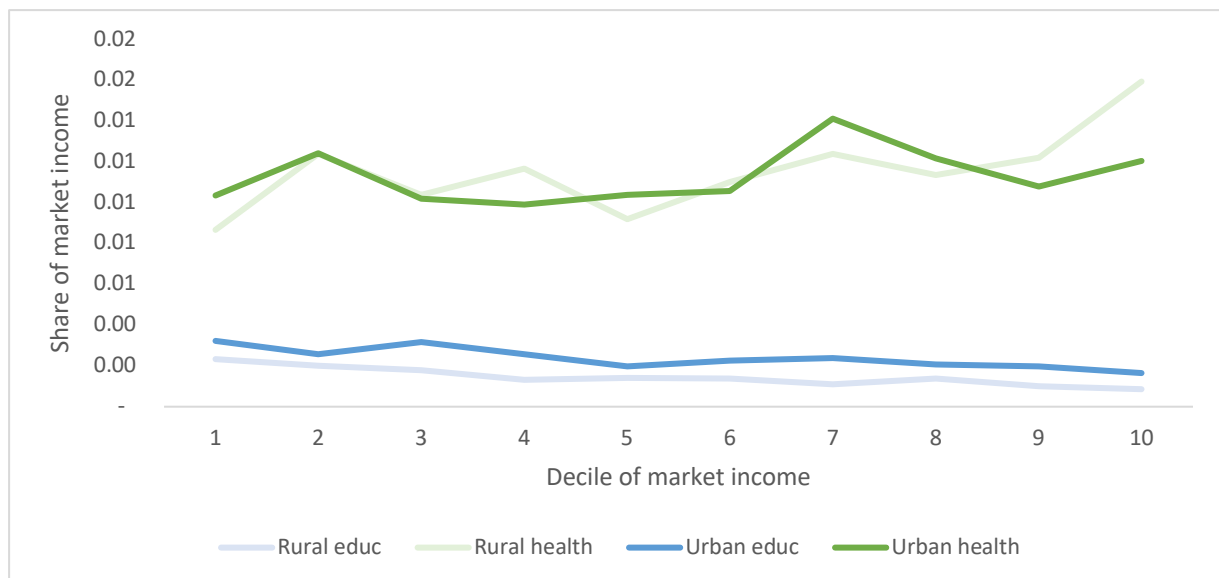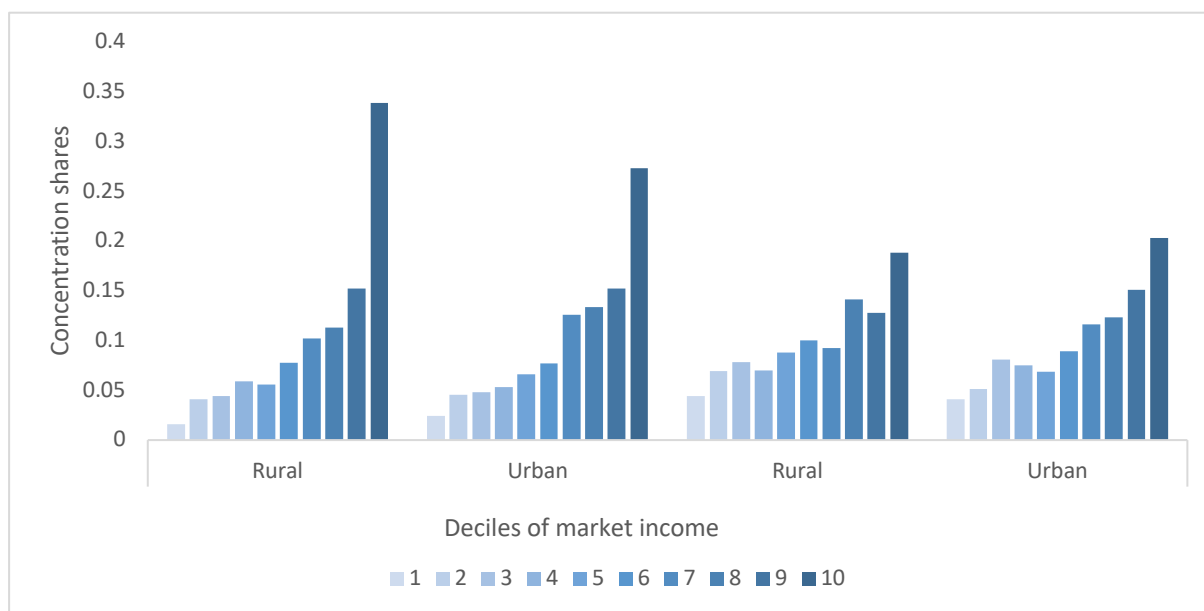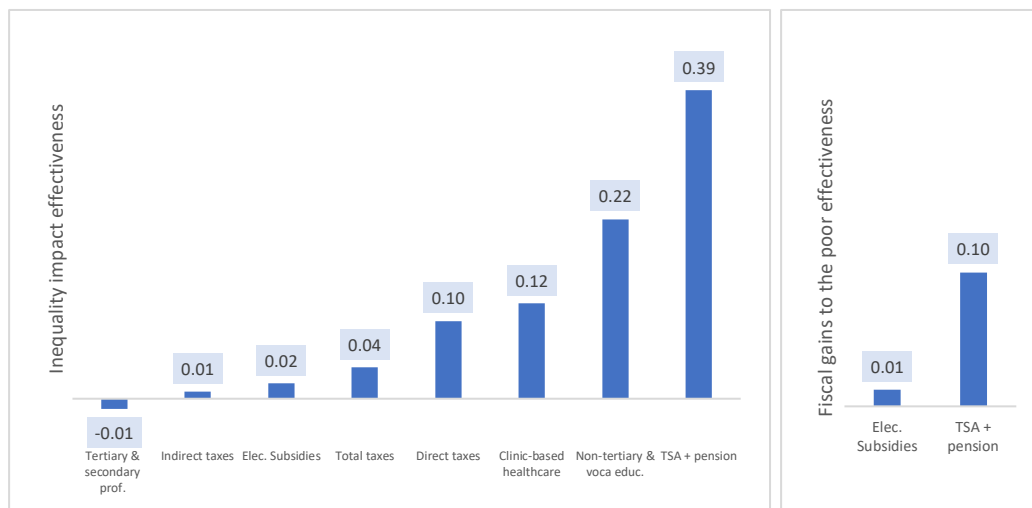
Source: Authorities data and staff estimates

IV.8. Impact Effectiveness Indicator (Inequality), Fiscal Gains to the Poor Effectiveness Indicator

64. **The CEQ Effectiveness Indicators are summary indicators of the "effectiveness" of each fiscal instrument with respect to inequality (Enami, 2017) or poverty reduction (Higgins & Lustig, 2016).** Positive marginal impacts only indicate the direction and magnitude of an instrument's contribution to inequality or poverty reduction. In essence, the CEQ Effectiveness indicators compare the *actual* impact of the fiscal element to the impact the same fiscal element could have had it been precisely distributed such as to create the largest drop in inequality or the poverty gap. Comparing each fiscal program's actual impact to the theoretical maximum impact gives us a sense of how effectively that particular program is being used to combat inequality.

Figure 18: a. Inequality Impact Effectiveness Indicator (left panel) and b. Fiscal Gains to the Poor Effectiveness Indicator (right panel)

Source: Official data and staff estimates

65. **One somoni collected in income tax is much more effective at reducing inequality than one somoni collected through indirect taxes** (Figure 18a); and one somoni spent on the TSA program or pensions is more effective at reducing inequality than one somoni spent on electricity subsidies. That is reasonable: direct taxes (on incomes) can be easily targeted to those whose income exceeds a certain threshold while indirect taxes are a burden for anyone who makes purchases in the goods and services markets. Analogously, the TSA and pension program targets the poor and vulnerable parts of the Tajik population while the electricity subsidy is available to all who consume electricity.

66. **Direct cash benefits (the TSA and pension program) are the most effective instruments the Tajik government has in the fight against poverty (Figure 18b)**.[32] Note that one somoni of electricity subsidies does have a positive impact on poverty reduction, but the impact of electricity subsidies on the pre-subsidy poverty gap is only one percent of the potential impact on the poverty gap a similarly-sized expenditure *could* have if it were distributed in order to eliminate the poverty gap. Worldwide the impact of subsidies is similar: subsidies do provide a benefit for poorer individuals or households, but providing that benefit through a general subsidy is expensive.

IV.9. Fiscal Policy Impact in International Perspective

67. **Relative to other countries in the Central and East Asia regions and other lower middle-income countries worldwide for which comparable CEQ Assessment data exists**, the impact of fiscal policy (from pre-fiscal to final income) on inequality in Tajikistan is low. The average of the 29 countries in Figure 19 below is 8.4 Gini points (8.2, excluding the United States),

---

[32] Taxes are not included in the bottom panel as the "best" a tax instrument (or other revenue collection instrument) can do is to leave indicators of poverty unchanged.

and Uzbekistan achieves a 5.64 reduction in the Gini coefficient, while in Tajikistan the impact is 3.11 Gini points.

68. **Fiscal policy in Tajikistan is poverty decreasing.** Of the 25 countries for which comparable data exists, in 20 countries, including Tajikistan, the poverty headcount ratio at the $PPP (2005) 2.50 per person per day poverty line *decreases* from Market Income to Consumable Income. Of these 20 countries, Tajikistan has the second lowest decrease in the poverty headcount due to fiscal policy, at 0.19 percentage points, higher than Uzbekistan which sees an increase in poverty of 0.89 percentage points.

Figure 19: Impact of Fiscal Policy on a. Inequality (top panel) and b. Poverty (bottom panel)
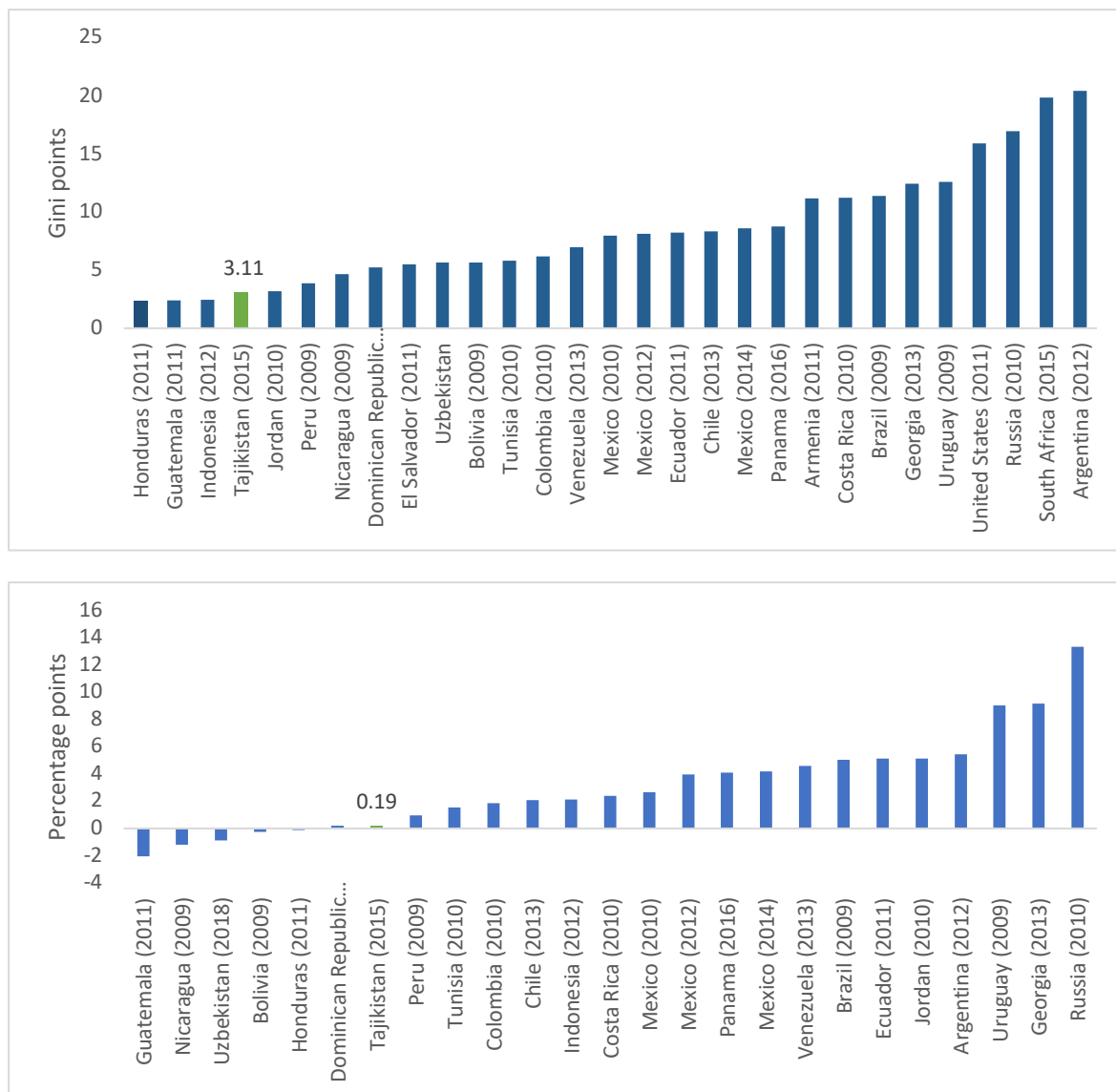
V.   Conclusion and Main Policy Recommendations

69.   This fiscal incidence analysis of Tajikistan addresses three broad questions about the redistributive effect of taxes and expenditures:

●   How much redistribution and poverty reduction are being accomplished through social spending, subsidies, and taxes?
●   How progressive are tax collections and government spending?
●   Within the limits of fiscal prudence, what could be done to increase redistribution and poverty reduction through changes in taxation, subsidies and spending?

70.   Using survey and administrative data, this assessment maps several of the country's main policy tools and assesses their impact on poverty and inequality. From the expenditure side, the exercise accounts for social spending (including pension fund contributions, social pensions, social assistance, and direct electricity subsidies). We also account for education and health spending, as well as expenditures on implicit electricity subsidies. For the revenue side, the exercise includes the direct personal income tax, excise tax, and the direct and indirect burdens created by the VAT.

71.   The answer to the first question is: a redistribution occurs. Moving from market income to final income is moderately equalizing: the Gini coefficient drops by 3.11 Gini points (or 1.18 Gini points in the PDI scenario). The moderate amounts of redistribution is largely the result of low levels of pre-fiscal inequality, and a small share of GDP dedicated to transfer payments in Tajikistan. For instance, Brazil (2009) and South Africa (2015) with more unequal starting point observed much higher Gini reductions of 11.4 and 19.8 Gini points, respectively, while Honduras (2011), Guatemala (2011) and Indonesia (2012) registered more modest reductions of 2.4, 2.4, and 2.5 Gini points respectively; (Commitment to Equity Institute Data Center on Fiscal Redistribution, 2020).

72.   If we treat contributory (social security) pensions as deferred income, fiscal policy reduces inequality by 1.18 Gini points. This is not because contributory pensions are the best-targeted social expenditures, but rather because they have by far the largest budget. By comparison, similar analyses for Brazil (2009), Mexico (2014), Russia (2010), Uzbekistan (2018), and the United States (2011) find that fiscal policy reduces the Gini by 9.4, 8.6, 5.6, 4.5, and 11.7 Gini points, respectively.

73.   Results for poverty reduction are more discouraging. At the $PPP (2011) 3.20 per person per day poverty line, fiscal policy increases the headcount by 2.1 percentage points (or 4.7 percentage points in the PDI scenario). Even though transfers are reasonably well-targeted in Tajikistan, taxes (especially indirect taxes) do fall on poorer households, thus offsetting the poverty-reducing effect of public expenditures. Mobility matrices show that fiscal policy causes a significant amount of downward mobility among the poor or near poor, much more so than in Latin American countries where similar analyses have been completed.

74.   As for the second question, expenditure targeting is improving in Tajikistan. Expenditures that are supposed to help the poor and vulnerable go disproportionately to the poor, as they should.

While it is true that transfer programs in developed countries often have better targeting (with concentration coefficients of 0.8 or lower), the concentration coefficients for most transfers are as good as or better than those found in other low-income countries that rely on proxy means tests to identify transfer payment beneficiaries.

75.   At the same time, expenditures on services that should be universal—education and health care— are spread fairly evenly across the population. This is not, however, because they are in fact universal. Coverage for schooling is less than 100 percent, despite the lack of private education in Tajikistan, and worsen at higher levels of education. But income and (in)ability to pay for schooling do not seem to be a factor because coverage does not increase as income increases. The only exceptions to this general finding are for preschool and university, neither of which is meant to be a universal service in Tajikistan.

76.   Even though the targeting of transfers other than contributory pensions have been improving, they have a limited effect on the income distribution. This holds an important policy implication: large redistribution requires both good targeting and significant expenditures. Tajikistan has been working on the former but, except for contributory pensions, not the latter.

77.   Coming to the third question, the fact that targeting is not yet optimal in Tajikistan means that there is scope for improving the distributional effect of fiscal policy by shifting expenditures among items. While it is true that, say, Family Benefit and unemployment compensation have lower concentration coefficients than noncontributory pensions and other transfers, the fact that the budgets involved are small and that the differences in concentration are not too large means that relatively little could be achieved by shifting expenditures toward the more progressive items. To achieve greater redistribution, Tajikistan would have to increase social spending. The fact that the one large (and moderately well-targeted) social expenditure— contributory pensions—has a very large redistributive effect underscores this point.

78.   Whether greater redistribution is desirable is a question for policy makers and voters. But if the polity feels that fiscal policy should have a greater influence on the distribution of income in Tajikistan, the best candidate on the expenditure side of the budget is the TSA transfer which is more concentrated among the poor than any other social expenditure. This could be achieved by increasing the amount of the benefit or by increasing its coverage, which remains quite low.

79.   On the revenue side, most recent discussion of tax reform revolves around indirect taxes, especially the VAT. This analysis shows that these taxes are significantly less progressive than direct taxes, despite that the income tax structure is relatively flat. Indirect taxes also have a large poverty increasing effect: the poorest households only rarely pay direct taxes in Tajikistan, but they do pay VAT, import duties, and excises, especially on tobacco. From an equity perspective, then, it would be preferable to consider tax reforms to increase direct taxes either by raising rates or by drawing more workers into the formal economy.

I.   Appendix: Glossary of Indicators

Indicator	Description
Concentration coefficient (quasi-Gini)	The concentration coefficient serves as a summary indicator of whether the concentration curve is above [coefficient less than Gini] or below [coefficient greater than Gini] the original income Lorenz, and above [coefficient less than 0] or below [coefficient greater than 0] the 45-degree line of perfect equality.

Spending is defined as regressive whenever the concentration coefficient is higher than the Gini for Market or prefiscal income. When this occurs, it means that the benefits from that spending as a share of Market Income tend to rise with Market Income. Spending is progressive whenever the concentration coefficient is lower than the Gini for Market Income. This means that the benefits from that spending as a share of Market Income tend to fall with Market Income. Within progressive spending, spending is neutral in absolute terms—spending per capita is the same across the income distribution—whenever the concentration coefficient is equal to zero. Spending is defined as pro-poor whenever the concentration coefficient is not only lower than the Gini but its value is also negative. |
| **Concentration share** | The share of a total tax or transfer paid by or received by (respectively), or "concentrated" in a particular individual, household, or group of households or individuals. The concentration share for a particular quantile is calculated by dividing a concentration total for that quantile by the total tax or transfer paid by or received by all households. |
| **Concentration total** | The absolute value of how much of a tax or transfer is paid by or received by (respectively), or "concentrated" in, a particular individual, household, or group of households or individuals.
We usually refer to the concentration of a tax or transfer in the "first decile" or in the "bottom 50 percent of the population" (for example), where "deciles" or "the bottom 50 percent" refer to groups of individuals ranked by incomes from poorest to richest. The "first decile" would refer to the poorest (lowest-ranked) 10 percent of individuals as a group while "the bottom 50 percent" would refer to the poorest (lowest-ranked) 50 percent of individuals as a group. |
Effectiveness	A CEQ Assessment measures the "effectiveness" of fiscal instruments (or groups of fiscal instruments) in reducing inequality or poverty according in two ways:
i) Impact Effectiveness	Keeping the total value of the allocation (of a tax or transfer or group of fiscal instruments) fixed, Impact Effectiveness compares the maximum theoretical impact on inequality or poverty (if the tax or transfer were allocated optimally to reduce inequality or poverty) to the actual estimated impact. In other words, Impact Effectiveness measures how closely the actual distribution of taxes or benefits is to the optimum distribution of that same tax or benefit, where the optimum distribution is defined as that distribution (among the microdata population) which reduces inequality or poverty by the greatest amount.
ii) Spending Effectiveness	Keeping the actual estimated impact (of a tax or transfer or group of fiscal instruments) on inequality or poverty constant, Spending Effectiveness compares the minimum theoretical expenditure necessary (if the tax or transfer were allocated optimally to achieve the same impact on inequality or poverty) to the actual expenditure. In other words, Spending Effectiveness measures how closely the actual expenditure (or revenues collected) on benefits (or from taxes) is to the minimum expenditure (or revenue collection) necessary to achieve the same impact. Note that Spending Effectiveness is not defined for poverty indicators
Fiscal gains to the poor (FGP)	FGP measures the net positive gains from fiscal policy experienced by the *pre*-fiscal poor population; FGP applies only to the *pre*-fiscal poor population that becomes less poor (or non-poor) in between pre and postfiscal income. FGP can be calculated as either a headcount of the individuals experiencing FGP or as an estimate of total net monetary gains accruing to the FGP population. • The FGP headcount: can be expressed as a proportion of the population overall and as a proportion of the pre-fiscal poor population.

	• The monetary FGP: can be expressed as a per-capita amount or as a proportion of pre-fiscal incomes.
Fiscal impoverishment (FI)	FI measures the net losses from fiscal policy experienced by the postfiscal poor population. FI applies only to the postfiscal poor population that have become poor or poorer in between pre and postfiscal income. As with FGP, FI can be calculated as either a headcount or as an estimate of total net monetary losses accruing to the FI population. • The FI headcount: can be expressed as a proportion of the population overall and as a proportion of the pre-fiscal poor population. • The monetary FI: can be expressed as a per-capita amount or as a proportion of post-fiscal incomes.
Incidence	Incidence is calculated as the size of a tax paid or transfer received as a proportion of pretax or pretransfer (so, prefiscal) income.
Kakwani coefficient	A Kakwani coefficient is calculated as the concentration coefficient of a fiscal instrument minus the Gini coefficient for income, where the Gini coefficient is taken over the income used to rank households for the estimation of the concentration coefficient. A Kakwani coefficient therefore measures, for a group of individuals or households ranked by (an) income (concept), whether the fiscal instrument is more- or less-concentrated than income. For transfers, a concentration coefficient less than the Gini coefficient for income indicates a relatively progressive distribution of benefits. For taxes, a concentration coefficient less than the Gini coefficient for income indicates a relatively regressive tax as it indicates that individuals with smaller shares of income are paying proportionally larger shares of the tax.
Marginal impacts to poverty reduction effect and redistribution:	The marginal impacts of a particular tax or transfer are the contribution to <u>overall</u> inequality or poverty reduction from the fiscal system, (regardless of the order with which we calculate the income concepts). Calculated as: the poverty headcount or Gini coefficient with the tax or transfer included less the poverty headcount or Gini with the tax or transfer excluded. For example: the marginal impact of direct transfers at consumable income is the difference between the poverty headcount at consumable income less the poverty headcount at consumable income without direct transfers[34].
Redistributive effect	The total impact of government policy on the Gini coefficient (or other inequality indicator). Calculated as: the Gini point change between final and pre-fiscal income, where pre-fiscal income will be either market income or market income plus pensions - depending on whether we are working with the PDI or PGT scenario as the baseline*.
Poverty reduction effect	The total impact of government policy on the poverty headcount ratio, or poverty gap ratio, or squared poverty gap ratio. Calculated as: the percentage point change between consumable and pre-fiscal income, where pre-fiscal income will be either market income or market income plus pensions - depending on whether we are working with the PDI or PGT scenario as the baseline*.
* PDI refers to a scenario in which contributory pensions are treated as deferred market income. PGT refers to a scenario in which contributory pensions are treated as government transfers.	

---

[34] Marginal contribution does not provide a direct decomposition of the total effect into a sum of its parts from each tax or transfer. Attempting to do such a decomposition encounters path dependency issues. For example if the marginal contribution of direct transfers was the difference between disposable income and net market income then this begs the question - why add them in after net market income, rather than after indirect subsidies?

II.   Appendix: Description of the public contributory pension system in Tajikistan

After the collapse of the Soviet Union in the early 1990s, Tajikistan inherited a defined benefit pension system managed and guaranteed by the government. It is based on the social contributions of current workers. The Agency for Social Insurance and Pensions under the Government of Tajikistan (ASIP) manages the scheme on behalf of the government, while all the payouts are processed through Amonatbank. Pension reform (circa 2013) brought significant changes by introducing a Notional Defined Contribution (NDC) system. It provides a stronger link between contributions and benefits by converting individual contributions to notional individual balances, yet financing follows the "Pay As You Go" (PAYGO) principle. In parallel, some administrative reforms were initiated, including a system of individual accounts, modernization of benefit payments, and others. Prior to the reform, the labor pension was calculated based on the salary amount received within last two working years of retirement.

There are two main types of pensions: insurance pension and social pension. The ***insurance pension*** is available for those having at least 60 months of service. Its level is linked to the amount of pension contributions (reflected in the notional pension capital) and is calculated based on the presumed life expectancy. ASIP administers the following types of insurance pensions:

- old age insurance pension;
- disability insurance pension;
- survivors' pension;
- and other benefits, such as funeral benefits.

Social pension is a minimum guarantee for all types of citizens usually those with limited or no service due to physical constrains or any other reasons.

According to ASIP, as of 1.1.2019, there were 687,000 pensioners with an average pension amount of 310 Somoni a month. The average social pension is 170 Somoni.

III.   References

Commitment to Equity Standard Indicators. (2019). Commitment to Equity Institute Data Center on Fiscal Redistribution.

Education budget by levels_MOES_TJK_2011-16. (n.d.). Ministry of Education and Science.

Enami, Ali. 2017. "Measuring the Effectiveness of Taxes and Transfers in Fighting Inequality and Poverty." CEQ Working Paper 64 (CEQ Institute, Tulane University), July.

Harris et. al. (2018). Redistribution via VAT and cash transfers: an assessment in six low- and middle-income countries. IFS.

Higgins, Sean and Nora Lustig. 2016. "Can a Poverty-Reducing and Progressive Tax and Transfer System Hurt the Poor?" Journal of Development Economics 122: 63-75

IMF. (2017, August 10). Data on Visits to Polyclinics and Hospital Admissions 2008-16.

IMF. (n.d.). Budgetary Revenues Data 1997-2016.

IMF. (n.d.). Nos Institutions and Students by Level of Education 1991-2016.

IMF. (unpublished). Fuel Imports, Taxes and Retail Prices for Tajikistan 2008-2016.xlsx. IMF.

Input output SUT TAJ 2011-3.version. (n.d.).

Khodjamurodov, G. S. (2016). Tajikistan Health System Review. Health Systems in Transition: Vol 18 (1), pp. 1–114.

Kochnakyan, A. B. (2013, October). Tajikistan: Financial Assessment of Barki Tojik. The World Bank.

Krelove, R. M. (2011, June). Republic of Tajikistan: Tax Policy Review . IMF Fiscal Affairs Department.

Law on the State Budget of the Republic of Tajikistan for 2015. (n.d.). Republic of Tajikistan.

Lustig, N. e. (2018). Commitment to Equity Handbook. Estimating the Impact of Fiscal Policy on Inequality and Poverty. Brookings Institution Press and CEQ Institute, Tulane University.

Maksoudova, K. (2014). Private Expenditure in the Tajikistan Education Sector. UNICEF, Ministry of Education & Sciences.

On approval of the Taxation Rules for individual entrepreneurs operating on the basis of a patent or certificate. (2012, August 31). Decree of the Government of the Republic of Tajikistan No. 451.

Seitz, W. &. (n.d.). The Distributional Impact of Household Electricity Tariff Reform in Tajikistan, September 2018 (preliminary draft, not for circulation) [PowerPoint presentation].

Swinscoe, J. (2015, June). A Review of Energy Tariffs in INOGATE Partner Countries. INOGATE.

Tax Code of the Republic of Tajikistan. (2012, September 17).