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The Quest for the Holy Grail: Efficient and Equitable Fiscal Consolidation in India

By Chadi Abdallah, David Coady, Sanjeev Gupta, and Emine Hanedar

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I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

Fiscal Affairs Department

The Quest for the Holy Grail: Efficient and Equitable Fiscal Consolidation in India¹

Prepared by Chadi Abdallah, David Coady, Sanjeev Gupta, and Emine Hanedar

July 2015

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Abstract

Achieving fiscal consolidation without undermining growth and poverty-reduction efforts is a key policy challenge in many countries. Using India as an illustration, this paper shows how a mix of well-designed taxation and spending policies can help address these challenges. On the tax side, the analysis focuses on increasing consumption taxes on goods with negative consumption externalities. On the spending side, some of the additional revenues from the tax reform are allocated to scaling up key social transfer programs. Substantial additional gains are possible if the increased social transfers can be accompanied by improved targeting.

JEL Classification Numbers: D30, D60, H20, O53

Keywords: fiscal redistribution, fiscal consolidation, efficient consumption taxes, social transfers, targeting, India

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I. INTRODUCTION

The need for continued fiscal consolidation in India is widely recognized (Kelkar, Rajaraman, and Misra 2012). However, a key challenge facing Indian policymakers is how to achieve fiscal consolidation objectives without undermining growth and poverty-reduction efforts. Reflecting these concerns, various authors have emphasized that fiscal consolidation needs to be achieved through expansion of the consumption tax base and accompanied by a reallocation of public spending toward public investment and social spending (Mundle, Bhanumurthy, and Das 2011; Tapsoba 2014).

This paper demonstrates the potential for achieving efficient and growth-friendly fiscal consolidation in India while simultaneously reinforcing efforts to alleviate poverty and reduce inequality. It shows that although higher consumption taxes result in the classical trade-off between efficient fiscal consolidation and equity objectives, this trade-off can be substantially mitigated, or even reversed, by reallocating some of the increased consumption tax revenues to finance expansion of well-targeted social spending.

The paper is structured as follows: The next section provides a brief overview of the existing tax and transfer system in India. On the tax side, it highlights the potential for efficiently expanding the consumption tax base through the reduction of tax subsidies for consumption items with negative environmental and health externalities, that is, fuel, alcohol, and tobacco. On the spending side, it focuses on two of the key social programs in India—the Public Distribution System and the Employment Guarantee Scheme. The subsequent sections discuss the impact of tax and transfer reforms on households and how these impacts are distributed across household income groups. The analysis demonstrates how the design of taxes and transfers can generate fiscal space in support of fiscal consolidation as well as reinforce equity objectives, especially when the efficiency of social spending is further improved. The final section summarizes the main findings and concludes.

The analysis presented below is solely intended to be illustrative of the potential for designing tax and transfer reforms that can simultaneously increase fiscal space, improve the efficiency of the tax system, and contribute to lowering poverty and income inequality. In this respect, some caveats should be borne in mind. First, for the most part, the discussion abstracts from the important distinction in India between central and state revenues when analyzing taxes. Second, the choice of social programs examined in the paper reflects as much the availability of household survey data to analyze the distributional impact of transfers as it does their relative importance in the overall social safety net. For these reasons, care needs to be taken before translating these findings into specific policy recommendations, which would also need to consider the implications for the distribution of revenues between the center and states, the importance of other important components of the safety net, and the institutional capacity to implement these reforms.

II. RECENT FISCAL POLICY IN INDIA

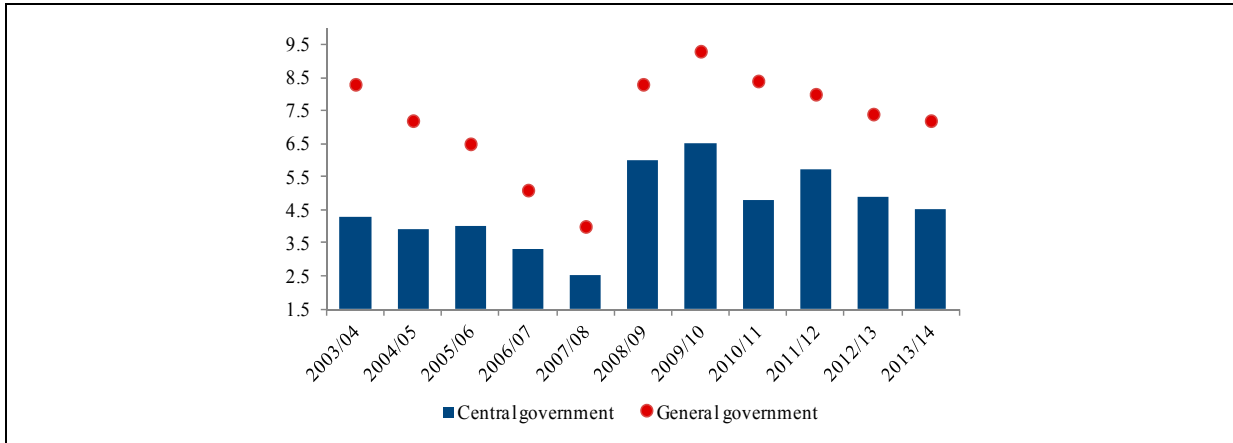
The need for fiscal consolidation has been a recurring theme in India over the last two decades. In fiscal year 2003/04, the central government fiscal deficit reached nearly 4.5 percent of GDP, and the general government deficit was almost 8.5 percent of GDP (Figure 1). These deficit levels prompted the government to adopt the Fiscal Responsibility and Budget Management (FRBM) Act, which set a target ceiling of 3 percent of GDP for the central government budget deficit.² The deficit subsequently declined, with the central government deficit falling below 2.5 percent of GDP in 2007/08.

Countercyclical fiscal policy responses aimed at mitigating the adverse impact of the global financial crisis quickly reversed the decline in the fiscal deficit. Following the implementation of fiscal stimulus measures in 2008, comprising both increases in spending and cuts in taxes, the central deficit more than doubled and reached a peak of 6.5 percent of GDP in 2009/10. Indian states, however, have had more success in containing their deficits to within the 3 percent ceiling. Although renewed fiscal consolidation efforts lowered the central deficit during subsequent years so that it reached about 4.5 percent of GDP in 2013/14, it is still well above the FRBM ceiling of 3 percent of GDP. In addition, much of the fiscal consolidation has been achieved by cutting capital spending. Therefore, substantial additional fiscal consolidation is still required to attain the fiscal deficit target, create the fiscal space necessary to increase growth-enhancing public investment, and rebuild fiscal buffers.

India's tax-to-GDP ratio has been declining in recent years. After peaking at about 12 percent of GDP in 2007/08, the central government tax ratio declined to about 10 percent of GDP in 2013/14 (Figure 2). Although the general government tax ratio similarly declined, its upward trend was renewed beginning in 2010/11. The decline in the central government tax ratio reflects the decline in excise tax revenues, partly due to the sizable reduction in indirect tax rates as a component of the 2009/10 stimulus package. India's general government tax ratio is well below levels observed in many countries with similar levels of income.

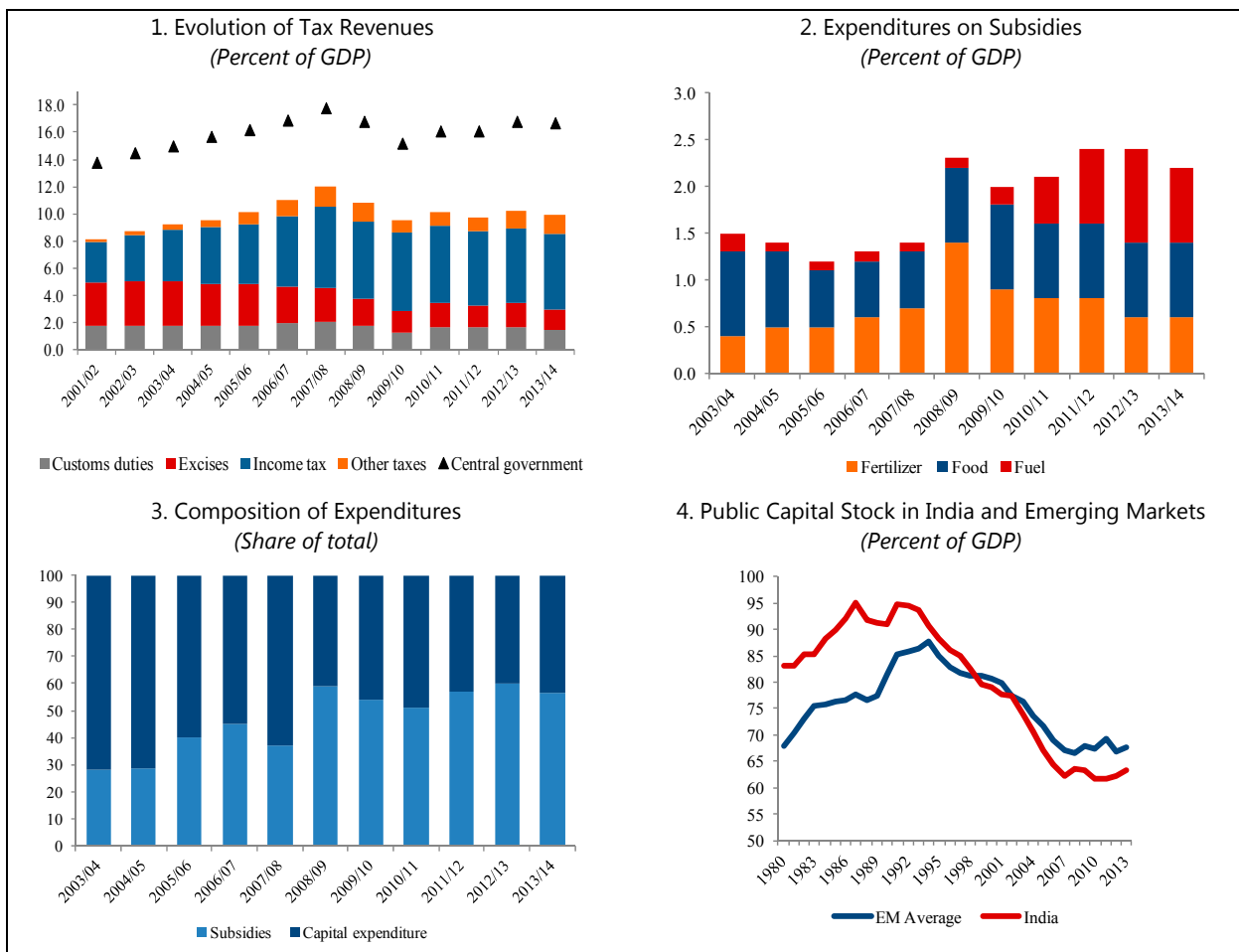
² States have also successfully enacted their own FRBM legislation to benefit from the "debt write-off package" that was put in place by the Twelfth Finance Commission for the period 2005/06 to 2009/10.

Figure 1. Evolution of Fiscal Deficits in India, 2003–14
(Percent of GDP)



Sources: IMF, Article IV Staff Reports (various years); and IMF staff calculations.

Figure 2. Tax and Spending in India, 2001–14



Sources: IMF, Article IV Staff Reports (various years); Fiscal Monitor database; India's Economic Survey (various years); and IMF staff calculations.

A notable feature of India's public expenditures is the large and increasing share absorbed by subsidies and the decline in public capital spending. Spending on subsidies has increased substantially since the mid-2000s, from 1.2 percent of GDP in 2005/06 to 2.4 percent of GDP in 2012/13. This increase has been largely driven by increasing fuel subsidies, reflecting a reluctance to pass through rising international oil prices to controlled retail fuel prices (Anand and others 2014). At the same time, public capital expenditures have declined and stagnated, as reflected in a declining stock of public capital as a share of output, a fall much sharper than that observed in other emerging market economies.

III. SIN TAXES AND SOCIAL TRANSFERS IN INDIA

A. Sin Taxes in India

There is ample room in India to generate more revenue from higher taxation of consumption that generates large negative externalities. This study focuses on three such consumption items: fuel, alcohol, and tobacco.

Fuel product taxation

The government in India has traditionally controlled the retail prices for key fuel products: petrol, kerosene, diesel, and liquefied petroleum gas (LPG). These products are consumed directly by households for cooking, lighting, and personal transport (Anand and others 2014). They are also consumed indirectly through the use of public transportation and the consumption of other goods and services that use fuel in their production and distribution. Consumption of these fuels is widely recognized to cause considerable environmental and health damage, both locally and globally.

Reforms have recently been implemented to help reduce energy subsidies and prevent their recurrence. Gasoline and diesel prices were deregulated in 2010 and 2014, respectively, and now move in line with international prices. The excise duties on petrol and diesel have been raised on four occasions (most recently in January 2015). The formula for fixing the price of natural gas has also been revised and gas prices have been raised with a provision to revise prices every six months. LPG subsidies have been reduced and fixed on a per cylinder basis. In January 2015, the government also relaunched the modified Direct Benefit Transfer Scheme in LPG, which covers all 676 districts of the country.

However, energy prices are still substantially below levels that would fully internalize their associated negative externalities. For example, based on estimates provided by Parry and others (2014), the optimal corrective (or "Pigouvian") taxes for diesel and gasoline in India are 36 rupees (Rs) and Rs 50 per liter, respectively, both of which are substantially above the currently prevailing levels. The drop in international oil prices in 2014–15 presents an opportunity to increase fuel taxation levels to generate additional indirect tax revenues and to raise the overall tax ratio. At domestic international prices as of mid-2015, eliminating tax

subsidies (including levying Pigouvian taxes) on diesel and gasoline would require almost a doubling of the tax on gasoline and a more than fivefold increase in the diesel tax, resulting in approximately a doubling of both of their domestic retail prices.

Although increasing fuel taxation is an efficient way of generating additional tax revenues, the resulting higher prices will have an adverse impact on households, including poor households. The magnitude of this impact, as well as how it varies across income groups, will depend on the importance of these consumption items in household budgets. On average, households in India spend about 3.8 percent of their total consumption on direct consumption of these fuel products, ranging from 2.1 percent for the poorest income decile to 6.7 percent for the richest decile (Table 1)—these budget shares also represent the percentage decrease in real incomes from a doubling of retail prices, absent any demand response. The relatively large budget share for the highest income groups reflects the relatively high share of total spending they allocate to transport fuels (that is, diesel and petrol) as well as to LPG for cooking. Kerosene, in contrast, absorbs a relatively higher share of expenditures for low-income households. The impact of fuel price increases will be substantially higher if the indirect impact of higher prices for other goods and services due to higher fuel and distribution costs are included. Typically the indirect impact accounts for more than half of the total impact on households, with the percentage impact being similar across income groups.

Table 1. Household Budget Shares for Fuel Products
(Percent of total household consumption)

Decile	Kerosene	LPG	Petrol	Diesel	Total
1	1.54	0.37	0.15	0.02	2.08
2	1.24	0.63	0.39	0.01	2.28
3	1.17	0.69	0.49	0.02	2.37
4	1.05	0.90	0.78	0.02	2.75
5	0.92	1.13	0.96	0.03	3.04
6	0.80	1.38	1.39	0.04	3.62
7	0.72	1.57	1.94	0.07	4.31
8	0.59	1.88	2.60	0.10	5.17
9	0.47	2.08	3.25	0.16	5.97
10	0.24	1.72	4.33	0.40	6.70
Total	0.88	1.24	1.63	0.09	3.83

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey.

Note: Kerosene consumption includes purchases from Fair Price Shops and from the open market. LPG = liquefied petroleum gas.

Alcohol and tobacco taxation

The taxation of alcohol and tobacco differs according to the level of government responsible for determining rates and collecting revenues.³ Alcohol is subject to taxation at the state level with an excise duty typically levied at a rate of 10.3 percent.⁴ In addition, some states levy sales taxes on both the intrastate and interstate sale of alcohol. For tobacco, the central government levies and collects a central sales tax. In addition, states impose sales taxes on tobacco products, and some have also experimented with imposing penalty tax rates (for example, 67 percent in Rajasthan).

Smoking is a key driver of the recent dramatic rise in annual deaths from noncommunicable diseases in low- and middle-income countries, and the age-adjusted mortality rate for these diseases is higher than in high-income countries (Jamison and others 2013). In India, one in five adult male deaths and one in twenty adult female deaths at ages 30–69 are due to smoking and this is only expected to worsen over time (Jha and others 2008). Tobacco taxation is widely viewed as the single most effective policy tool for reducing tobacco consumption (Jamison and others 2013). However, in India, the share of the retail price accounted for by excises is especially low compared with other countries of a similar level of development and is well below the 70 percent recommended target level (WHO 2013). Tax increases are also a highly cost-effective approach for reducing total alcohol consumption and the number of episodes of heavy drinking, especially in young people.⁵ In addition, since smoking and drinking are often highly complementary, the public health benefits from taxing both alcohol and tobacco are magnified (Young-Wolff and others 2014).

On average, households allocate nearly 1.9 percent of total consumption expenditures to alcohol and tobacco consumption (Table 2). Across most income groups, consumption expenditures on tobacco exceed those on alcohol. The share of total consumption absorbed by alcohol is similar across income groups, ranging from 0.66 to 0.84 percent. However, the share of total consumption absorbed by tobacco is higher for lower-income groups, ranging from about 1.3 percent for the bottom income quintile to 0.75 percent for the top quintile.

³ The Indian Constitution distributes legislative powers over taxation between the Parliament of India and the state legislatures according to three commodity lists. List I relates to commodities for which only the parliament is competent to determine tax rates; List II relates to commodities for which only the state legislatures are competent to determine tax rates; and List III relates to commodities for which both the parliament and state legislatures are competent to determine tax rates.

⁴ Customs duties are levied on imported alcoholic products, but no central tax applies to domestic manufacturing and sales.

⁵ The appropriate taxation of alcohol and tobacco should also take account of the existence of often very low-quality substitutes that fall outside of the tax system. To realize the revenue and health benefits of alcohol and tobacco taxation, it is important that consumption of low-quality substitutes be properly regulated.

B. Transfer Programs in India

India has a range of social programs aimed at supporting the income and consumption levels of lower-income households (World Bank 2011). Two of the most prominent of these programs are the Public Distribution System (PDS) and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) public works program. At their peak in 2009/10 the budget cost of these programs reached around 1.2 percent of GDP (Figure 3).

Public distribution system

The PDS has a long history. It was introduced initially in urban areas of India in the 1960s to protect consumers from food shortages and producers from price fluctuations. Since then it has gone through a number of reforms to expand coverage to rural areas and improve its performance, especially since the early 1990s. The current version of the program, the Targeted Public Distribution System (TPDS), was launched in June 1997 with a greater emphasis on providing better support to lower-income groups and increasing state-level responsibility.

Table 2. Household Budget Shares for Alcohol and Tobacco

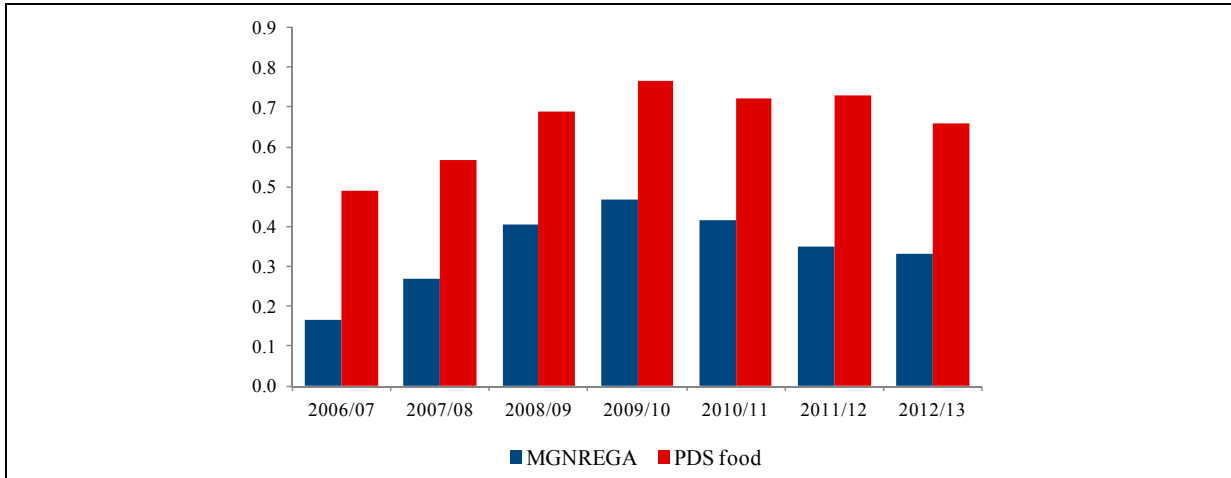
(Percent of total household consumption)

Decile	Tobacco	Alcohol	Total
1	1.27	0.78	2.05
2	1.31	0.69	1.99
3	1.29	0.68	1.97
4	1.29	0.71	2.00
5	1.24	0.71	1.95
6	1.26	0.79	2.05
7	1.17	0.84	2.01
8	1.05	0.71	1.76
9	0.94	0.73	1.67
10	0.57	0.66	1.23
Total	1.14	0.73	1.87

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey.

Note: The tobacco category includes bidi, cigarettes, leaf tobacco, snuff, hookah, tobacco, cheroot, zarda, kimam, surti, and other tobacco products. The alcohol category includes ganja, toddy, country liquor, beer, foreign or refined liquor or wine, and other intoxicants.

Figure 3. Fiscal Cost for Transfer Programs, 2006–13
(Percent of GDP)



Sources: Indian Institute of Management; and India's Economic Survey (various years).

Note: MGNREGA = Mahatma Gandhi National Rural Employment Guarantee Act; PDS = Public Distribution System.

The TPDS is operated under the joint responsibility of the central and the state governments. The central government, through Food Corporation of India, is responsible for the procurement, storage, transportation, and bulk allocation of food grains to state governments. States are responsible for allocation, identification of eligible families, issuance of ration cards, and supervision of Fair Price Shops. The main commodities distributed at subsidized prices under the program are wheat, rice, sugar, and kerosene.

Eligibility for PDS food subsidies is determined by comparing monthly household income to the income level constituting the poverty line. Entitlement is based on three categories with corresponding ration cards—a below the poverty line card (BPL card), an above the poverty line card (APL card), and an Antyodaya Anna Yojana card (AAY card) introduced in 2000 to reduce hunger among the poorest segments of the BPL population. An APL card entitles a household to 15 kilograms of food grains every month, a BPL card to 35 kilograms, and an AAY card to 50 kilograms. Subsidized “issue prices” for food grains vary across states and cardholders, with the lowest prices being for AAY cardholders.

Despite reform efforts, the current PDS program suffers from poor performance in a number of respects.⁶ Household data show that coverage of ration cards is very high, with 84 percent

⁶ It should be noted that performance varies substantially across states as do ration prices and eligibility rules (Drèze and Khera 2013). For instance, subsidy levels (the difference between issue and market prices) are substantial in Tamil Nadu and West Bengal, but much smaller in Bihar and Arunachal Pradesh. Evaluations of the program have also found substantial illegal leakage of food from the system, including through nonexistent “ghost” beneficiaries and families with duplicate cards (World Bank 2011).

of the total population reporting having a ration card (Table 3); 57 percent of all cardholders have an APL card, 37 percent have a BPL card, and only 6 percent have an AAY card. However, only about two-thirds of all households report using their cards. Extensive coverage results in significant leakage of subsidy benefits to non-poor households with the top half of the income distribution receiving about one-third of all benefits. At the same time, coverage of lower-income groups is incomplete, with about one-quarter of the poorest three income deciles not purchasing subsidized items. But for those who do receive benefits, these benefits are very important; for example, the benefits are equivalent, on average, to half of total household consumption for the poorest income quintile.

Public works (MGNREGA)

Public works programs also have a long history in India. The current public works program, MGNREGA, was enacted by parliament in September 2005 and became operational in February 2006. In an important departure from past programs, it focuses on providing a legislatively backed employment guarantee rather than the provision of rural works. It was initially rolled out in 200 marginal districts, expanded to an additional 130 districts starting in 2007, and then finally expanded to cover the remaining districts as of April 2008. The program now covers all rural districts.

Table 3. Targeting Performance of PDS Food Program

Decile	Current program			
	Possession of a ration card (percent)	Coverage (percent)	Benefit level (percentage of household consumption)	Benefit share (percent)
1	85.1	74.5	60.0	17.5
2	85.9	73.4	41.2	14.2
3	85.6	76.0	33.6	12.4
4	85.9	70.2	28.9	10.2
5	88.0	69.1	25.4	10.6
6	86.0	62.5	22.4	8.8
7	86.1	61.6	19.3	8.2
8	84.7	56.8	17.1	8.1
9	81.2	49.1	12.6	6.1
10	72.8	38.2	7.3	3.8
Total	84.1	63.5	29.6	100

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey.

Note: Coverage refers to "using a card." PDS = Public Distribution System.

In principle, MGNREGA is a rights-based and demand-driven approach to public works provision, guaranteeing all rural households up to 100 days unskilled employment per year on public works projects, with a heavy focus on irrigation and communication activities. The work is supposed to be provided on demand, so it is self-targeted, and should be provided

locally within 5 kilometers of one's residence. However, in practice, opening a worksite requires "enough" people expressing demand for work. Under the program, each rural household receives upon registration a free job card and has discretion as to how the 100 guaranteed days are to be distributed among the household's adult members. The job card contains photographs of all the adult household members listed on it. The holder of the card may then apply for employment, which the government is required to provide within 15 days. If the government fails to provide employment, a daily unemployment allowance is to be paid to the applicant.

Benefits under MGNREGA are paid on a piece-rate basis at the agricultural minimum wage rate, which can vary significantly across states. Wages are based on a Schedule of Rates that depends on the amount of work done by a person. Wages are paid fully in cash and are required to be directly deposited into the post office or bank account of the household. Administrative data indicate that employment generated under MGNREGA is less than the 100 day guarantee, although much higher than under past public works programs, and varies significantly across states. This variation could reflect either demand-side factors (for example, lower demand for the program in richer states) or supply-side factors (for example, limited state budgets). Program expenditures amounted to about 0.35 percent of GDP in 2012/13, with the central government bearing 90 percent of all the costs. Costs include wage disbursements (0.25 percent of GDP), as well as the cost of materials and the administrative structure (0.1 percent of GDP).

Household survey data indicate that a quarter of rural households participated in MGNREGA in 2011/12, ranging from about one-third of households in the poorest three income deciles to less than a fifth of households in the top three deciles (Table 4). The large coverage of higher-income group's results in substantial leakage of benefits to non-poor households, for example, the richest half of the national population receives slightly more than 40 percent of total benefits.⁷ Although benefits are less than those received under the PDS they are still substantial, being equivalent to 10–15 percent of annual household consumption for lower-income groups. However, because participants self-select into the program, employment and income can, in principle, be received when households need them most (for example, in the agricultural off-season or after receiving an income shock) so that the program can be expected to have an important insurance value.

IV. DISTRIBUTIONAL IMPACT OF TAX AND TRANSFER REFORMS

The above-noted taxes and programs are now used to illustrate the impact of reforms in India. This type of analysis can be extended to other taxes and programs as well. The impact of reforms and how that impact is distributed across income groups will depend on both the

⁷ The broader performance of MGNREGA has been much debated in recent years (for example, Sheahan and others 2014; Bhagwati and Panagaryia 2014; Abreu and others 2014).

magnitude and composition of these reforms. These factors are discussed below, first for tax reform and transfer reform separately, and then for the two combined. Throughout the paper the term *progressivity* is used to mean that the transfer benefit (tax burden) as a share of household total income decreases (increases) with the level of household income, and vice versa for the term *regressivity* (see Box 1 for more discussion).

Table 4. Targeting Performance of the MGNREGA Program

Decile	Rural (percent)	Coverage (percent)	Benefit level (percent of HH consumption)	Benefit share (percent)
Current program				
1	85.2	33.7	16.0	12.1
2	81.7	31.0	12.2	11.6
3	82.7	29.5	11.6	12.1
4	80.5	26.9	11.0	11.8
5	80.2	25.7	9.9	11.2
6	77.1	24.9	10.1	11.8
7	72.6	23.8	9.5	11.2
8	65.9	19.4	8.5	8.7
9	55.1	16.6	7.4	6.7
10	34.9	9.8	5.2	2.8
Total	68.8	24.4	10.8	100

Source: IMF staff estimates based on the 2011/12 Employment and Unemployment Survey.

Note: MGNREGA = Mahatma Gandhi National Rural Employment Guarantee Act.

A. Impact of Tax Reforms

Although decreasing tax subsidies for fuel products, alcohol, and tobacco is an efficient way of creating fiscal space, the resulting increase in consumer prices will have an adverse impact on household real incomes, including those of poor households.

The estimated impacts are based on data from the 2011/12 household survey. Therefore, for fuel products the domestic retail and international prices prevailing at the end of 2012 are used as the basis for simulating tax reforms aimed at eliminating fuel subsidies. This exercise involves increasing domestic prices to “reference” prices, defined as import prices plus distribution costs plus an element of taxation for revenue-raising purposes.⁸ Raising retail prices to reference prices in 2012 is equivalent to increasing petrol prices by Rs 5 per liter (an 8 percent increase), diesel by Rs 12 per liter (a 29 percent increase), and LPG by Rs 21 per liter (a 70 percent increase). Since kerosene sold on the market is priced higher than that sold

⁸ Indeed, since 2012, increases in administered retail fuel prices and decreases in international oil prices (during the second half of 2014) have substantially decreased fuel subsidies. The simulations in the paper are therefore intended to be illustrative of the impact of such reforms rather than to reflect the current situation in India. Currently, petrol and diesel prices are not subsidized, while kerosene and LPG prices are, although by less than in 2012. In addition, the tax component in petrol and diesel prices differs substantially from the optimal structure estimated by Parry and others (2014).

through the PDS, the required price increases differ, with PDS kerosene prices increasing by Rs 27 per liter (an increase of 181 percent) and market kerosene increasing by Rs 11 per liter (a 35 percent increase). Prices for alcohol and tobacco are both increased by 10 percent to reflect higher taxation.

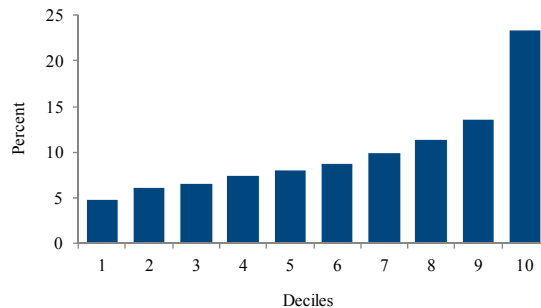
Box 1. Progressivity, Regressivity, and Targeting Effectiveness

The terms progressivity, regressivity, and targeting are used extensively in this paper to describe the distributional impact of taxes and transfers and their reform. These terms are defined as follows:

Progressivity and Regressivity: A transfer is progressively (regressively) distributed across households if, as a share of household income, it increases (decreases) with the level of household income. Similarly, a tax is progressively (regressively) distributed across households if, as a share of household income, it decreases (increases) with the level of household income.

This definition of progressivity essentially compares the distribution of benefits and taxes with the underlying distribution of household income. For example, transfers are progressive (regressive) if the share of lower-income groups in total transfers is greater (lower) than their share in national income. For this reason, whether a tax or transfer is progressively or regressively distributed will differ across countries. For India, therefore, the reference in the paper is taken as the distribution of income presented in Figure 1 below.

Figure 1. India: Share of Each Decile in National Household Consumption



Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey.

The term *targeting effectiveness* is intended to capture how effectively a transfer reaches the lowest income groups. For this reason, it is particularly relevant when evaluating social safety net programs that are intended to mainly benefit these groups. Targeting effectiveness is commonly evaluated by looking at the share of transfers that are received by lower-income groups (or, the corollary, the share “leaking” to higher-income groups). How well a transfer is targeted at lower-income groups are often gauged by looking at those groups’ share of total benefits relative to the share of these groups in the population (Coady, Grosh, and Hoddinott 2004). The use of the population share reference reflects the idea that a universal and uniform untargeted (or randomly targeted, so-called helicopter drop) transfer program would accrue to income groups in direct proportion to their share of the population.

The magnitude and distribution of these impacts are presented in Table 5. On average, fuel price increases result in a 3.5 percent decrease in household real incomes; this decline includes both the direct impact from higher prices for fuel consumed by households for cooking, lighting, and personal transport, and the indirect impacts from the pass-through of

higher diesel prices to the prices of goods and services that use diesel as an input for their production and distribution. The impact is slightly regressive, ranging from 3.9 percent for the lowest income decile to 3 percent for the top decile. However, the burden share is higher for higher deciles reflecting the underlying inequality of income; the top half of the income distribution bears about two-thirds of the total burden.

Table 5. Impact of Tax Reforms for Fuel, Alcohol, and Tobacco

Decile	I. Energy subsidy reform			II. Tobacco		
	Coverage (percent)	Impact (percent of HH consumption)	Burden share (percent)	Coverage (percent)	Impact (percent of HH consumption)	Burden share (percent)
1	100	3.93	5.4	69.8	0.13	6.5
2	100	3.59	6.4	70.2	0.13	8.2
3	100	3.50	6.7	65.6	0.13	8.6
4	100	3.51	7.7	65.0	0.13	10.0
5	100	3.50	8.3	61.9	0.12	10.1
6	100	3.53	9.2	59.3	0.13	11.0
7	100	3.54	10.4	55.6	0.12	11.1
8	100	3.57	12.1	50.4	0.10	11.7
9	100	3.52	14.0	43.8	0.09	12.1
10	100	3.02	19.9	29.5	0.06	10.7
Total	100	3.52	100	57.1	0.11	100

Decile	III. Alcohol			IV. Total		
	Coverage (percent)	Impact (percent of HH consumption)	Burden share (percent)	Coverage (percent)	Impact (percent of HH consumption)	Burden share (percent)
1	19.7	0.08	5.2	100	4.13	5.4
2	18.8	0.07	6.0	100	3.79	6.4
3	18.3	0.07	6.4	100	3.69	6.8
4	16.5	0.07	7.7	100	3.71	7.7
5	17.6	0.07	8.0	100	3.69	8.4
6	17.6	0.08	10.3	100	3.73	9.2
7	16.7	0.08	11.5	100	3.74	10.4
8	15.9	0.07	11.3	100	3.74	12.0
9	15.4	0.07	13.5	100	3.69	13.9
10	15.3	0.07	20.0	100	3.14	19.6
Total	17.2	0.07	100	100	3.71	100

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey.

Note: Reform 1 is an increase in fuel prices to their reference levels, and its impact includes both direct and indirect effects. The price of Public Distribution System (PDS) kerosene is increased by Rs 27/liter (price gap of 181 percent), the price of non-PDS kerosene is increased by Rs 11/liter (price gap of 35 percent), the price of LPG is increased by Rs 21/liter (price gap of 70 percent), the price of petrol is increased by Rs 5/liter (price gap of 8 percent), and the price for diesel is increased by Rs 12/liter (price gap of 29 percent). Reforms 2 and 3 increase tobacco and alcohol prices by 10 percent. Coverage refers to the percentage of households affected by the reform.

The impact of increases in alcohol and tobacco taxes by 10 percent is much smaller. For alcohol, the tax increase affects less than one-fifth of all households, and for tobacco it affects more than half of households. On average, these increases result in a less than 0.1 percent decrease in household real incomes from higher alcohol prices and a slightly

more than 0.1 percent decrease from higher tobacco prices. For alcohol, the distribution of this impact is approximately neutral across income groups, so that the distribution of the total burden approximately reflects the distribution of consumption, with the top half of the income distribution bearing about two-thirds of the total burden. For tobacco, the impact is regressively distributed, ranging from 0.13 for the lowest income decile to 0.06 for the top decile, and the top half of the income distribution bears about 56 percent of the total burden.

The combined impact of all tax increases results, on average, in a 3.7 percent decrease in household real incomes. This impact is slightly regressively distributed, ranging from 4.1 percent for the lowest income decile to 3.1 percent for the highest income decile. The distribution of the overall tax burden is also concentrated among higher-income groups, with the top half of the income distribution bearing approximately two-thirds of the total burden. The tax increases result in a slight increase in the consumption Gini coefficient, from 0.355 to 0.357, and the poverty rate from 26.3 percent to 29.9 percent.

B. Impact of Transfer Reforms

The impact of higher spending on transfer programs will depend on how these increases are designed. For food subsidies, the simulated reform involves a 20 percent increase in benefits for households holding AAY ration cards, and a 10 percent increase in benefits for both BPL and APL cardholders. For public works, the simulated reform involves increasing employment for all households that reported seeking work (whether they received it or not) to a minimum of 75 days per year.

Table 6 presents the impact of the increased spending on PDS food subsidies and the MGNREGA public works program, both separately and combined. The increase in food subsidies benefits nearly two-thirds of the population, with the share of households benefiting ranging from three-quarters for the lowest income decile to slightly more than one-third for the top income decile. The percentage increase in household incomes is also progressively distributed, with the increase ranging from 7.5 percent for the bottom income decile to less than 1 percent for the top decile. This progressivity also means that lower-income groups benefit most from the increased spending, with the bottom half of the income distribution receiving about two-thirds of the total increase in spending.

The increase in spending on the MGNREGA public works program benefits a much lower proportion of households, partly reflecting its rural focus. On average, about 7 percent of all households nationally benefit from increased benefits, ranging from 10 percent for the bottom income decile to 3 percent for the top decile. However, for those who do benefit, the impact on household incomes is much larger than is the impact of increased food subsidies, resulting, on average, in a nearly 23 percent increase in incomes for beneficiary households. In addition, the increase in benefits is progressively distributed, ranging from 37 percent for the bottom income decile to 9 percent for the top decile. As a result, the bottom half of the income distribution receives about two-thirds of the total increase in benefits.

Table 6. Impact of Transfer Reforms: PDS Food Subsidies and MGNREGA

Decile	PDS food program reform			MGNREGA program reform			Combined	
	coverage (percent)	Impact benefit (percent of HH consumption)	Impact burden share (percent)	coverage (percent)	Impact benefit (percent of HH consumption)	Impact benefit share (percent)	Impact benefit (percent of HH consumption)	Impact benefit share (percent)
1	74.5	7.5	17.7	10.2	37.1	14.0	5.3	17.8
2	73.4	4.7	14.1	9.2	27.1	12.3	3.2	13.6
3	76.0	3.8	12.4	8.3	23.7	12.1	2.7	12.4
4	70.2	3.2	10.2	9.4	23.4	12.3	2.1	10.9
5	69.1	2.8	10.6	7.8	21.0	11.5	1.9	10.7
6	62.5	2.4	8.7	7.8	20.3	11.4	1.5	9.4
7	61.6	2.1	8.2	7.2	18.6	10.6	1.3	8.8
8	56.8	1.8	8.1	5.8	16.2	7.8	1.0	7.7
9	49.1	1.3	6.1	4.5	13.1	5.7	0.6	5.6
10	38.2	0.7	3.8	3.1	9.1	2.4	0.2	3.1
Total	63.5	3.4	100	7.4	22.8	100	1.4	100

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey and the Employment Unemployment Survey.

Note: The reform consists of an increase in benefits for Antyodaya Anna Yojana cardholders of 20 percent, and for below poverty line and above poverty line cardholders of 10 percent. The MGNREGA reform involves (1) awarding employment to all those who sought it, and (2) increasing MGNREGA work days to 75 days per year (for those with fewer than 75 days). MGNREGA = Mahatma Gandhi National Rural Employment Guarantee Act; PDS = Public Distribution System.

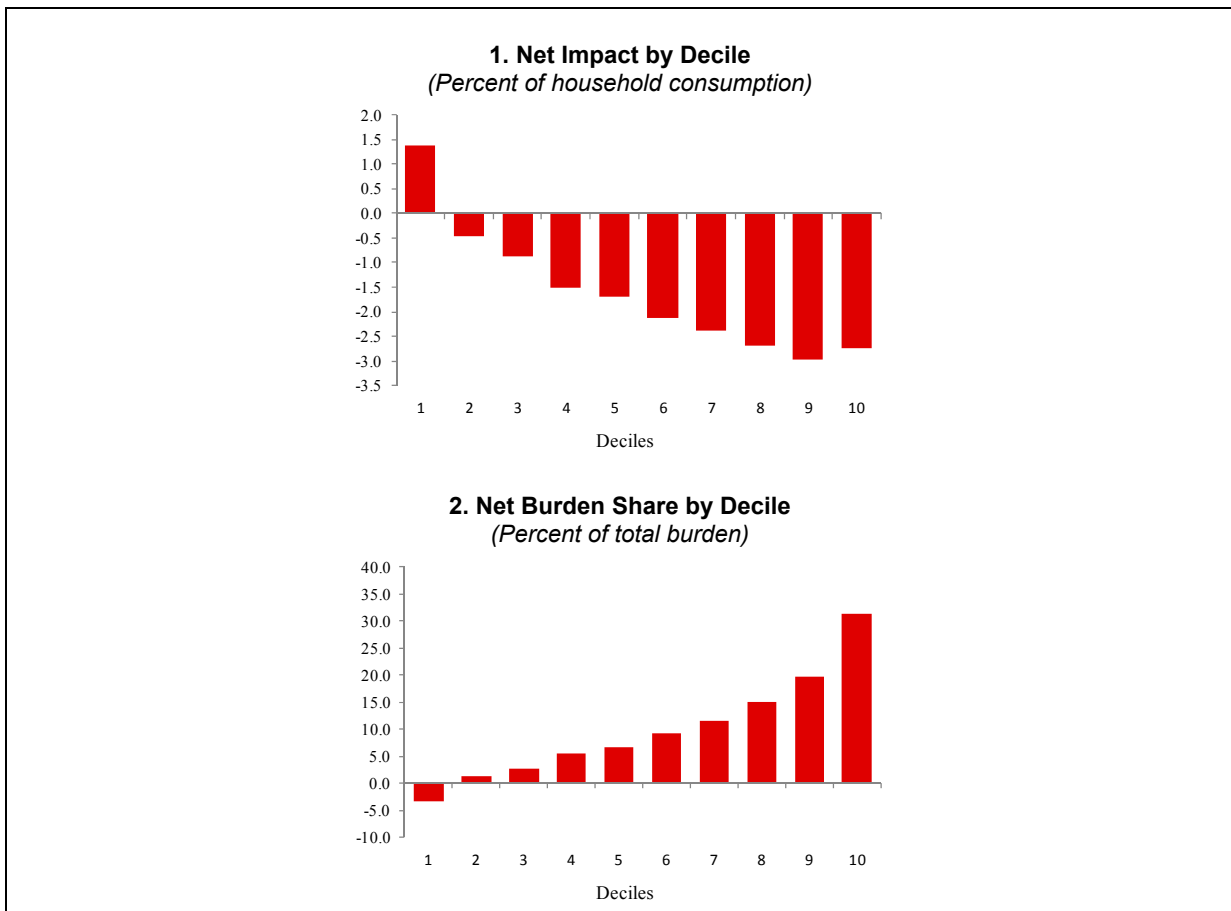
The combined impact of the increase in spending on food subsidies and public works is also very progressively distributed. On average, the increase in spending results in a 1.4 percent increase in income for beneficiary households. This increase is progressively distributed, ranging from an increase of 5.3 percent for the bottom income decile to 0.2 percent for the top income decile. This results in the bottom half of the income distribution receiving about two-thirds of the total increase in spending. The transfers also result in a significant decrease in the consumption Gini coefficient, from 0.355 to 0.316, and the poverty rate from 26.3 percent to 7.8 percent.

C. Combined Impact of Tax and Transfer Reforms

The simulated increase in sin taxes for energy, alcohol, and tobacco underscores the classical trade-off between improving the efficiency of the tax system, and equity and poverty objectives. Although increasing taxes on consumption goods with negative consumption externalities provides incentives to households to better internalize the negative social effects associated with this type of consumption, the resulting impact on household incomes is regressively distributed. However, the resulting increase in tax revenues helps finance higher spending on key social programs, which disproportionately benefit lower-income groups. The net impact will depend on the relative average impact and distributional impact of taxes and transfers as well as the share of increased revenues allocated to increased social spending.

Figure 4 summarizes the net combined impact of the simulated tax and transfer reforms and their distribution across household income groups. On average, the tax increases result in a 3.7 percent decrease in household incomes while the increase in transfers results in a 1.4 percent increase. The difference reflects the net fiscal savings from the tax and transfer reforms, equivalent to about 1.6 percent of GDP. On average, the net impact on households is a 2.3 percent decrease in income. However, this negative net impact is progressively distributed, with the percentage decrease in incomes being much higher for the top income deciles, which bear more than three-quarters of the total net burden. In fact, households in the bottom income decile are, on average, net gainers from the reforms. The reforms also decrease the consumption Gini from 0.355 to 0.317, and the poverty rate from 26.3 percent to 9.8 percent.

Figure 4. Net Impact of Combined Tax and Transfer Reforms



Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey and the Employment Unemployment Survey.

An unattractive feature of the simulated tax and transfer reforms is that they have a net negative impact on many poor households in the lower part of the household income distribution. This impact reflects not only the relative magnitude of the tax and transfer increases but also the inefficiency of transfer spending. Both of the transfer programs considered have substantial leakage of benefits to higher-income groups. Addressing these targeting inefficiencies can therefore help channel a greater proportion of program benefits to lower-income groups and better protect them from tax increases.

Table 7 shows how a more efficient transfer system can provide substantially more protection to lower-income groups. Under the simulated programs, eligibility for transfers is determined based on the commonly used approach of proxy means testing, which uses a statistical model that attaches weights to various household characteristics typically found to be highly correlated with poverty, and then calculates a score for each household reflecting its likelihood of being poor. Households are deemed eligible for cash transfers if they are among the 50 percent of households with the highest probability of being poor according to this score, and the cash transfer is set at a uniform level so as to cost exactly the same as the reform to the PDS program simulated above. A similar approach is applied to selecting rural beneficiaries of the MGNREGA, but the number of work days allowed is increased to 100 days, resulting in a slightly higher total expenditure.

The improved targeting of the transfer programs results in substantially greater protection for lower-income groups from the adverse impact of a tax increase. The more effective approach to targeting reallocates transfer program spending to lower-income groups and away from higher-income groups. This results in an increase in average household incomes in each of the bottom six income deciles, and losses for households in the top four deciles. More efficient targeting results in the bottom half of the income distribution now receiving roughly all transfers. It also results in the bottom four income deciles now being net beneficiaries from the tax and transfer reforms, while higher-income deciles are net losers.

In practice it may also be possible to improve transfer targeting even more by “tagging” benefits to demographic characteristics, such as family composition or number of family members. Under the second simulation presented in Table 7, a uniform transfer is given to all children under age of 16 years, starting with households with the highest probability of being poor according to their predicted score and incorporating more households until the budget is exhausted. This method substantially increases the progressivity of the transfers and the share of benefits going to lower-income groups. As a result, it also provides even greater protection to these households against tax increases.

Table 7. Impact of Reforms for Proxy Means Targeting and Cash Transfer Programs

Panel A: PMT with uniform household transfers				
Decile	Cash transfers and MGNREGA reform		All reforms combined	
	Impact benefit (percent of HH consumption)	Impact benefit share (percent)	Impact benefit (percent of HH consumption)	Impact benefit share (percent)
1	9.4	29.7	5.5	-13.8
2	9.3	36.6	5.6	-17.6
3	7.7	33.1	4.2	-14.1
4	6.8	33.0	3.2	-12.3
5	2.8	14.5	-0.8	3.4
6	1.3	7.6	-2.3	10.6
7	-0.6	-4.1	-4.3	22.0
8	-2.2	-16.5	-5.9	34.8
9	-2.1	-18.4	-5.7	39.6
10	-1.0	-15.5	-3.9	47.5
Total	1.5	100	-1.9	100

Panel B: PMT with child allowance				
Decile	Cash transfers and MGNREGA reform		All reforms combined	
	Impact benefit (percent of HH consumption)	Impact benefit share (percent)	Impact benefit (percent of HH consumption)	Impact benefit share (percent)
1	15.4	48.1	11.5	-29.0
2	10.3	40.7	6.7	-21.2
3	6.7	28.5	3.1	-10.7
4	6.1	29.2	2.5	-9.5
5	2.3	12.0	-1.3	5.4
6	0.5	3.0	-3.1	14.3
7	-1.1	-7.3	-4.8	24.7
8	-2.6	-18.9	-6.2	37.0
9	-2.2	-19.4	-5.8	40.7
10	-1.1	-15.9	-4.0	48.2
Total	1.5	100	-1.9	100

Source: IMF staff estimates based on the 2011/12 Indian National Sample Survey and the Employment Unemployment Survey.

Note: The program allocates the same amount of total benefits as under the reform program in Table 6, through cash transfers based on PMT eligibility (panel 1) as well as PMT eligibility and child allowance (panel 2). The MGNREGA reform involves (1) awarding employment to all those who sought it, and (2) increasing MGNREGA work days to 100 per year (for those with fewer than 100 days). Under the proxy means test, all households with predicted consumption equal to or below the 50th percentile cutoff are eligible for benefits. MGNREGA = Mahatma Gandhi National Rural Employment Guarantee Act; PMT = proxy means test.

V. CONCLUSIONS

A key challenge facing policymakers in India is determining how to achieve fiscal consolidation objectives without undermining growth and poverty-reduction efforts. This paper discusses how appropriate design of tax and transfer reforms can help achieve fiscal consolidation objectives while also creating fiscal space to finance higher growth-enhancing public investment and poverty-reducing social transfers. On the tax side, the analysis focuses on increasing consumption taxes on items that generate negative consumption externalities—fuel products, alcohol, and tobacco. On the spending side, the analysis focuses on increasing spending on two key social programs, the PDS subsidized ration program and the rural MGNREGA public works program.

The analysis clearly demonstrates the regressive impact of increasing consumption taxes. Although higher-income households bear a disproportionate share of the total additional tax burden, the impact on household income as a share of their total income is higher for the lowest-income groups. This outcome is especially true for fuel and tobacco consumption.

However, reallocating some of the fiscal resources generated by tax increases to the financing of higher social spending can significantly offset the regressive impact of higher taxes. The results demonstrate that expansion of the PDS and MGNREGA programs under existing design parameters transfers sufficient resources to lower-income households to make the net incidence of tax and transfer reforms progressive, reflecting the strong progressivity of transfers. However, even more substantial gains are possible if increased social spending can be accompanied by improved transfer targeting efficiency. Under the targeting reforms simulation, the efficiency gains are sufficient to render the lowest-income groups *net gainers* from net revenue-enhancing tax and transfer reforms.

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