

Policy Paper on: Poverty and Social Impact Assessment of Flexible Exchange Rate on Segments of the Nigerian Population

Abstract

The transition from oil revenue windfalls to shortfalls in Nigeria meant an inevitable end to general subsidy programmes that successive governments had pursued for decades. While all income groups will suffer welfare losses from subsidy withdrawals, the poor are likely to suffer larger than average relative welfare losses. There is a need to identify those who are likely to be hurt the most and estimate the magnitudes of the losses they will suffer. This study presents new empirical evidence on the sizes of the distributional effects of downward adjustment in the exchange rate of the Naira for the different income groups in the country, across rural and urban areas, and across the six geopolitical zones. In all cases, we found that downward adjustment in the exchange rate will make the poor poorer. A case is made for introducing intervention programmes to protect the poor from adverse welfare effects of economic policy shocks. We discuss motives and methods for doing so, drawing lessons from similar measures in Nigeria and other countries.

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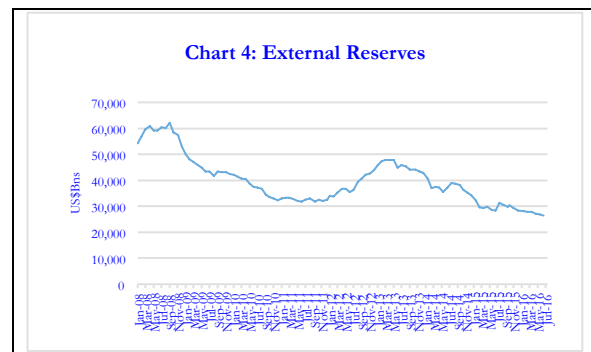
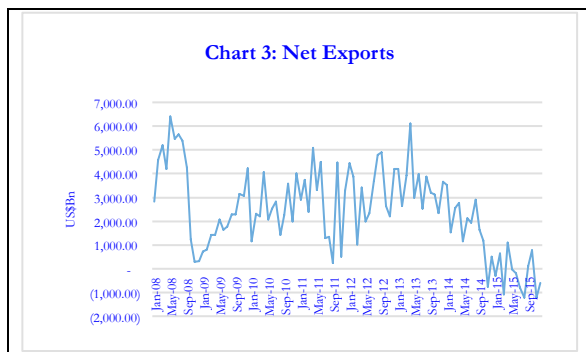
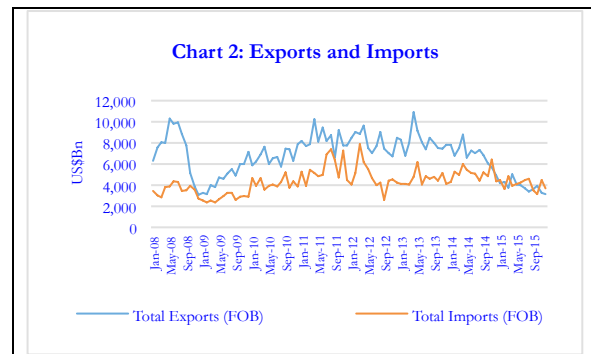
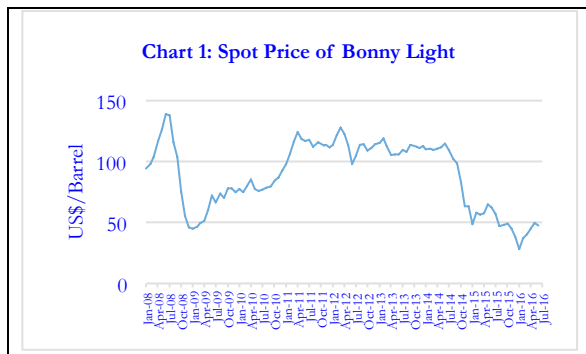
Poverty and Social Impact Assessment of Flexible Exchange Rate on Segments of the Nigerian Population

i. *Transiting from Revenue Windfalls to Shortfalls*

Nigeria had historically used commodity price windfalls to maintain a regime of general subsidies. Subsidies on the pump prices of petrol, electricity tariffs, and an overvalued exchange rate were the most common. Weak commodity prices in the two years since July 2014 and a bleak outlook for the near future clearly meant that the windfalls required to back the subsidy regimes are gone, revenue shortfalls are now a grim reality, general subsidies have become fiscally unsustainable.

Box 1. Oil Price Shock

After staying above US\$100 per barrel since January 2011, Nigeria's reference *oil price*, the spot price of a barrel of Bonny Light crude oil, dropped steeply from US\$114.6 in June 2014 to US\$48.81, recovered slightly over the next five months to US\$62.06 by June 2015, before sliding steeply over the next seven months to US\$28, the lowest since July 2003, and has recovered to about US\$50, standing at US\$49.84 in May 2016.



With oil and gas exports typically accounting for 92 percent of total export earnings in Nigeria, monthly export receipts have dropped from an average of US\$8 billion before July 2014 to less than US\$4 billion in the months after. With monthly import bills remaining slightly above US\$4 billion, surplus *net exports* have fallen from a monthly average of about US\$4 billion to deficits. Nigeria has faced a stark reality in which export receipts do not cover import commitment for the first time in one and a half decades. The Central Bank of Nigeria (CBN) had dipped into the nation's *external reserves* to make up for the shortfalls in export receipts over import commitments until reserves itself fell below US\$30 billion in February 2015, just above six months' cover for import bills, from about US\$40 billion in 2014, and the CBN could no longer meet the shortfalls.

Nigeria did suffer a similar collapse of oil price from US\$140 in June 2008 to about US\$45 by February 2009, but steady recovery from March 2009 meant that the contraction lasted only three quarters and Nigeria had a heap of external reserves that stood at US\$62 billion in June 2008 that came in handy to weather the storm. The current oil price collapse has lasted eight full quarters, reserves were much lower on its outbreak in July 2014; consequently, difficult adjustments have to be made by the Nigerian government.

ii. *Ending Unsustainable Subsidy Programmes*

Consequently, the government effected the following measures:

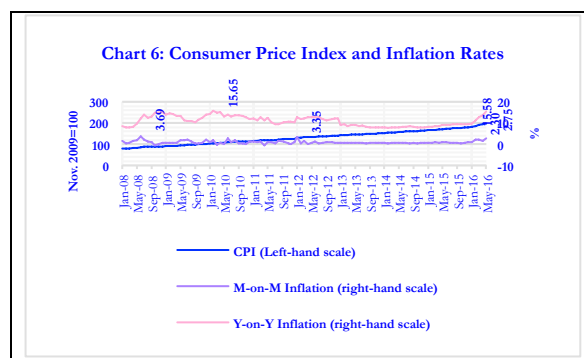
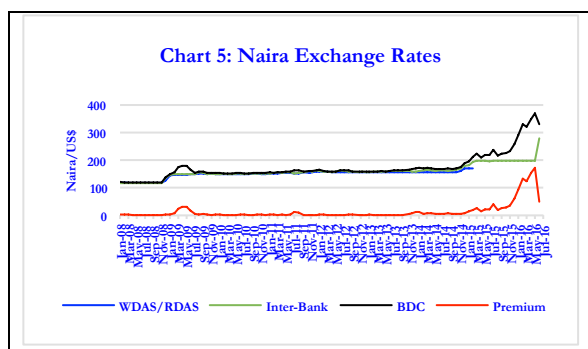
- 45 percent increase *electricity tariff* from February 1 2016
- 67.6 percent increase in the *pump price of petrol* on May 11 2016
- 40 percent *adjustment in the exchange rate* of the Naira on June 20 2016.

It is important to note that the above generalised subsidy removal measures came because the income required to maintain them are no longer available to the government, as such no fiscal savings will result from an end to the general subsidy programmes. Had the government ended the regressive subsidy programmes while the windfalls lasted, it would have been possible to use part of the resulting savings to fund policies that would enhance the welfare of the poor. Since downward adjustment in the exchange rate however enhances the Naira value of the proceeds of oil exports accruing mostly to the government, it is still possible to apply part of that Naira gains from oil income to protect the losses of the poor who will suffer more than average welfare losses from the impact of downward adjustment in the exchange rate.

Box 2. The Long Journey to Flexibility in the Exchange Rate of the Naira

The Naira exchange rate has come under pressure in the face of the dwindled supply from export earnings. The CBN closed its weekly auction window, known as the Wholesale/Retail Dutch Auction System WDAS/RDAS), in February 2015, leaving the Inter-Bank Market and the Bureaux De Change (BDC)¹ as the two official outlets through which foreign exchange can be traded. Both the inter-bank rate and the BDC rate depreciated in November 2014 and February 2015, but the Central subsequently held the interbank rate by fiat to bring a situation in which a large and widening premium emerged between the BDC rate and the inter-bank rate. Besides fixing the interbank rate by fiat, the CBN also came up with a prohibition list of 41 items whose imports cannot be funded with foreign exchange procured from the inter-bank market. This inadvertently added to the excess demand pressures on the autonomous BDCs and widened the parallel market premium.

¹ The BDC is also often referred to as the autonomous market by CBN officials or parallel market by the public. To the extent that BDCs are licenced by the CBN and received direct supply of forex from the CBN, until CBN directed them to source from the open market early 2016, it may not be right to refer to them as 'black market'. Although BDC transactions are less formal, mostly spontaneous, anonymous, includes street hawking, and largely undocumented.



The widening *parallel market premium* became a conspicuous indicator of the overvaluation of the inter-bank rate and precipitated pressures on the CBN to allow more flexibility in the determination of the inter-bank rate, as some potential suppliers of foreign exchange expressed worries about a situation in which they were being forced to sell foreign exchange at N198/US\$ at the interbank market when they a surplus only to have to buy at 370/US\$ at the BDCs when they have a shortfall. Since both banks and BDCs are licenced by the CBN, allowing such premium to persist between the two windows merely perpetuated market distorting arbitrage opportunities. The CBN eventually succumbed to reason and allowed market determination of the inter-bank rate from June 2016, bringing about a 40 percent downward adjustment in the value of the interbank rate, and a 10 percent upward adjustment in the value of the autonomous rate.

An interesting point is how best to capture the impact of flexibility in the exchange rate on consumer price inflation in Nigeria's *dual exchange rate regime*. Consumer price *inflation* figures reveal that adjustments in the autonomous rate got priced into consumer goods even when the interbank rate was fixed. Suggesting the that the parallel market premium, a measure of the spread between the two exchange rates, could be the vital variable for understanding the impact of flexibility in the exchange rate on consumer prices in a dual exchange rate regime.

iii. Vulnerability of the Poor²

According to Glewwe and Hall (1998), the literature on poverty and vulnerability focuses on the intersection, i.e., on groups that are already poor and more likely to experience larger than average declines in socio-economic status. Necessary adjustments had been delayed by concerns about vulnerability of the poor. But now that the adjustments have become inevitable and have indeed occurred, this study finds that the poor will indeed bear a bigger brunt of the adjustment than non-poor. Poverty headcount has increased immediately after the adjustment in the exchange rate. In terms of per capita expenditure, the percentage loss is larger for the poorer population, thus causing a slight increase in inequality. This holds true by expenditure groups, rural-urban divide, and geopolitical zones. (see also Ahmad (1991), Cravino and Levchenko (2016), Essama-Nssah (2005), Friedman. and Levinsohn (2002)), Glewwe and Hall (1998), and Habib, Narayan, Ivaschenko (2007), Olivieri, and Sanchez-Paramo, (2010) for similar findings for other countries).

iv. The Case for Protecting the Poor

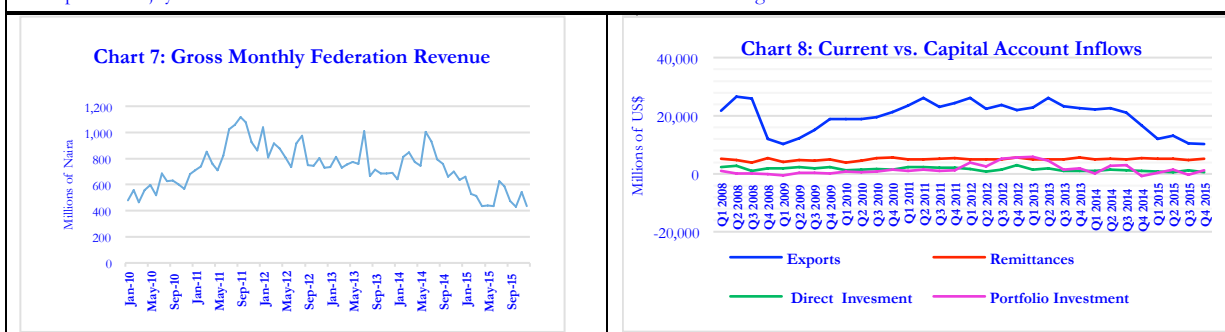
It is only fair for the government to compensate the poor for their greater than average welfare losses in the aftermath of adjustment in the exchange rate. Analysing the distributional impacts of economic reform is an ever more pressing need. Given the need for interventions to help those most adversely affected, it is necessary to identify those who have been hurt most and estimate the magnitude of the harm they have suffered. (Ahmad (1991), Casero and Seshan (2006), IMF (2016)).

Box 3. Impact of Exchange Rate Adjustment on the Proceeds of Foreign Resource Inflows

The bulk of the *US dollar proceeds from oil export* flow directly into the federation account, supplying 80 percent of total revenues in the Federation account in 2013, 75 percent in 2014, and 72 percent in 2015. Since oil export earnings are denominated in US dollars, it is a well-known fact that government revenue in the domestic currency will be boosted by movements in the inter-bank rate, but will be unaffected by the autonomous rate, since dollar receipts into the federation account are converted at the inter-bank rate. *US dollar proceeds from non-oil exports* mostly accrue into

² While this study focuses on the distributional impacts of devaluation and welfare, it should be borne in mind that removal of electricity and fuel subsidies, as well as the recession will also have independent distributional impacts that deserve policy responses.

private exporters' domiciliary accounts, which have remained accessible in US dollars, implying that, unlike the government, private oil and non-oil exporters enjoy Naira income boosts from the movements in the autonomous exchange rate.



Apart from oil export income that accrues to the government of the federation, *Migrants' remittances* or *diaspora funds* are the other significant and stable source of foreign resource inflow into Nigeria, and these accrue entirely to the private sector. Remittances have seen a stable inflow of about US\$5 billion per quarter, or US\$20 billion per year into the country over the last decade, regardless of what is happening to commodity prices or economic activity in Nigeria. Naira value of remittances are also boosted by downward adjustments in inter-bank or autonomous exchange rate prior to February 2015, when recipients could collect the remittances in in US dollars, leaving them the liberty of changing into Naira at the BDCs which almost always give higher Naira value than the inter-bank rate. Since February 2015 however, CBN directed that remittances are only paid in Naira, converted at the inter-bank rate. Thus private sector recipients of remittances now only get a boost in Naira value of their receipts when the inter-bank rate is devalued. The worrying fact is that two *current account items*, export revenue and diaspora remittances, are the only significant sources of foreign exchange supply for Nigeria. *Capital account inflows* into Nigeria, in the form of *direct investment* and *portfolio investment*, are very weak. In 2015, Nigeria's exports were US\$45.89 billion, while diaspora remittances were US\$20.41 billion, compared to foreign direct investment of US\$3.06 billion, and foreign portfolio investment of US\$2.54 billion. Such weakness in the capital account makes the oil price induced current account crisis more hurtful than it should have been in the presence of a stronger capital flows reality. Nigeria has the potential to attract and retain significant inflows of foreign direct investment into many of *its large network infrastructure*, including rail transportation, gas pipelines, and electricity transmission, as it had it has successfully done in telecommunications, but failure to abolish *government monopoly* in these sectors keeps shutting the foreign investment out.

v. *New Evidence on the Distributional Impacts of Downward adjustment in the exchange rate of the Naira*

a. Pass-through from exchange rate flexibility to consumer prices

1. *Imported Manufactured Goods*

Downward adjustment in the exchange rate leads to larger increases in prices of manufactured commodities, compared to agriculture produce. This implies that the absolute effect of downward adjustment in the exchange rate will be higher on middle and high income households, since they rely more on imported food and non-food items.

2. *Intermediate Goods*

Likewise, we find that the exchange rate pass through effect is primarily more pronounced through the intermediate product price channel. This implies that the transmission of an exchange rate adjustment is not through the final price channel but through the price of imported intermediate inputs. These price changes are expected to affect high-income households significantly more than low-income groups. This is because households that fall in the lower quintile tend to spend more on food compared with non-food products compared with high income households.

3. *Transportation and Energy Costs*

The price of transport and energy products increased significantly. This may be partly explained by the fact that downward adjustment in the exchange rate of the currency implies increases in the Naira prices of imported motor vehicles, equipment and machines amongst others. In addition, the 2006 social accounting matrix for Nigeria reveals that about 75% of refined petroleum products are imported and therefore, downward adjustment in the exchange rate of the naira will make these products more expensive.

4. *Fuel Subsidy Removal*

An important exogenous factor that may have contributed to the price change is the removal of petroleum subsidies which led to an increase in the price of petroleum products as well as price of other sectors that rely on the product as intermediates.

b. *Sizes of The Impact of Downward Adjustment in The Exchange Rate on Income and Spending*

1. *Impact of Flexibility in the Exchange Rate on Spending (Imports)*

The main channel through which downward adjustment in the exchange rate erodes welfare across income groups is the purchasing power losses inflicted by increases in consumer prices because of downward adjustment in the exchange rate. Upper income groups suffer bigger absolute losses than lower income groups because they spend more on non-food items that have more imported components than on food items with little lower imported components.

2. *Impact of flexibility in the Exchange Rate on Incomes (Non-Oil Exports, Remittances)*

Flexibility in the exchange rate however also enhances incomes of households who earn part of their incomes in foreign currency, providing opportunities to mitigate some of the purchasing power losses on the spending side. Non-oil export income earners and recipients of remittances enjoy a boost in the Naira values of their receipts after flexibility in the exchange rate. Upper income groups receive most of the non-oil export earnings and remittances, while middle income groups receive very little, and low income groups receive nothing. As such, upper income groups can mitigate a fraction of their purchasing power losses though the enhanced Naira value of the portions of their incomes denominated in foreign currency, while the lower income groups are unable to do so.

3. *Net Impacts of flexibility In the Exchange Rate*

While the net impact of flexibility in the exchange rate remains negative for all income groups, it is much less so for the upper income groups, who could mitigate a significant fraction of their welfare losses by increased Naira value of their foreign currency incomes, than it is for the lower income groups, who have little or no foreign currency incomes. However, it is interesting to note that the high estimates observed for the low-income households should be viewed with caution as the model only accounted for first order price effects and did not account for short run supply side responses. That is, it did not take into consideration the compensatory effect of higher income that may arise from contemporaneous sales of agriculture produce at higher prices locally and to neighbouring countries as anecdotal evidence suggests.

Distributional Impacts of Flexibility in the Exchange Rate

1. *Differential impacts on rich and poor*

While lower income groups will lose between 4 and 7 percent of their incomes in the aftermath of downward adjustment in the exchange rate, upper income groups will only lose about 2.5 percent.

2. *Rural-Urban differences*

While rural dwellers will lose between 4 and 6 percent of their incomes in the aftermath of flexibility in the exchange rate, urban dwellers will only lose about 3 percent. The incidence of poverty will thus increase the most in rural areas.

3. *Regional differences*

The incidence of poverty will increase the most in the North West and North-East of the country, which already have the highest poverty incidents in the country, while

the incidence of poverty will increase the least in the South West and the South-South, which already enjoy the lowest incidents of poverty in the country³.

vi. *General Social Transfers to Support the Poor*

Apart from the Nigerian government's hesitation to end subsidy regime, also well-known is their welfarist intentions to *improve the lot of Nigeria's poor* through social transfer programmes (through free feeding programmes for school children and cash transfers to unemployed graduates, 500,000 of which would be employed as schoolteachers across the country), despite growing doubts about the availability of the fiscal resources needed to fund such intentions.

Nigeria has two historical examples of social transfer schemes that were meant to enhance the welfare of the citizens, especially the *poor*:

- (a.) the Federal Government supplied 'Essential Commodities' in 1984, by rationing selected food items and toiletries at highly subsidised prices;
- (b.) The Federal Government has also implemented a National Poverty Eradication Programme (NAPEP) since 2001, training youths in vocational trades, supporting internship and micro-credit, creating employment, and helping VVF patients, although the beneficiaries of both schemes have included non-poor. It is unclear if the current government wants to continue with NAPEP or create a new agency.

Barrientos (2010) provide a discussion of general social protection policies, while Barrientos, Niño-Zarazúa and Maitrot (2010) provides a database of general social assistance across countries.

vii. *Specific Social Transfers to Protect the Poor*

Ironically, before the government could start implementing social transfer schemes to *improve the lot of the poor*, downward adjustment in the exchange rate and subsidy removal now mean that the poor have been made worse, and more people have been pushed below the poverty line. This raises an urgent need for immediate social transfers to *protect the poor from the losses inflicted by downward adjustment in the exchange rate*, perhaps by using some of the oil revenue gains from the downward adjustment in the exchange rate to fund such transfers. Nigeria also has two previous policy schemes that were meant to compensate the populace for welfare losses from downward adjustment in the exchange rate and/or subsidy removal, especially, the *new poor*:

- (a.) in 1989, SAP-Relief Package made cash transfers to junior government employees for only six months to cushion the adverse welfare effects of downward adjustment in the exchange rate and commercialization on the populace; and,
- (b.) From 1994, Petroleum Trust Fund (PTF) gave back part of the savings from 'appropriate pricing of petroleum products' to the populace through road projects and medical supplies. The beneficiaries of the PTF also included non-poor. PTF was scrapped shortly after the return to democratic rule in 1999, as it was largely perceived as duplicating the functions of the regular government ministries. (Ahmad (1991), Casero and Seshan (2006), Friedman and Levinsohn (2002), Habib, Narayan, Olivieri, and Sanchez-Paramo, (2010), Glewwe and Hall

³ Poverty is higher in the Northern regions because the initial poverty headcount in the north almost quadruples the values recorded in the southern regions.

(1998), IMF (2016) all analyse specific policy responses to the adverse distributive effects of economic shocks).

viii. Protecting the poor from adverse policy shocks

This section draws on McCord (2013), which provides very lucid discussion of the motives and measures for social protection in times of economic shocks and in tranquil times (see also OECD (2009), Ferreira, Prenzushi and Ravallion (2000)).

To mitigate the negative effects of income losses, targeted transfers of cash or food would be provided to specific sub-groups of the poor. The range of objectives that can be addressed through targeted compensations for income loss could be include a, b, or c below, or any combination of the three:

- a. *Social stabilisation*: consumption smoothing to ensure social cohesion
 1. a mechanism to address the needs of the poorest people
 2. a mechanism to compensate for increases in poverty because of shocks
 3. a temporary safety net to support those falling into poverty as the result of a shock
- b. *Economic stabilisation*: Protecting demand (automatic stabiliser)
 - a mechanism to protect aggregate demand to stimulate economic activity
- c. *Political stabilisation*: Defusing popular dissent
 - a mechanism to promote political stability by quelling latent social unrest while, potentially, promoting government legitimacy

This however provokes a tension in terms of ‘who is the most vulnerable?’, ‘whose vulnerability is most important’, and whether vulnerability should be measured in terms of absolute or relative deterioration. Programmes could also be designed to meet the needs of groups who are objectively ‘less vulnerable’ but subjectively more important in terms of government support, given their potential role as political ‘spoilers’ or agents of civil unrest, most notably urban youth.

Government must also ensure that fiscal adjustment protects the items of spending most important for the poor. Fiscal policies that protect spending on basic education and health can prevent cuts in services which the poor use, and protect their ability to build up human capital. In education, expenditures on primary schools, and on non-salary items, which are essential for quality, should be maintained; targeted subsidies to reduce school drop-out rates among the poor (for example, feeding programs or scholarships tied to attendance) should also be increased. In health, spending for activities with high externalities, such as vaccinations and vector control, as well as spending for health care provision at the lower levels of the health system, should be maintained. Beyond health and education, other public investments that affect the productivity of the poor most notably, investments in infrastructure, sanitation, and the provision of microfinance should also be protected ((Ferreira, Prenzushi, and Ravallion (2000)).

ix. Lessons from Other Countries

1. Indonesia⁴

Over the past decade, the Indonesian government has several times increased the price of fuel. At every increase, a range of compensation programs has targeted the poorer segments of the population to help them cope with the adverse effects. In the same decade, the government has introduced a number of poverty alleviation programs. While still far from perfect, the programs represent the building blocks of a comprehensive social welfare system. The Indonesian

⁴ Perdana (2014).

government's strategy to achieve its target collected Indonesia's poverty reduction programs into three clusters, based on the major group targeted by each one (TNP2K, 2011):

1. Cluster 1: *Programs targeting households*. This cluster consists of several social assistance programs: subsidized rice; a conditional cash transfer program; educational assistance for poor students; and subsidized health care.
2. Cluster 2: *Programs targeting communities*. Consists of several community-driven development programs.
3. Cluster 3: *Programs targeting micro, small- and medium-sized enterprise (MSME)*. The government is offering a guarantee scheme for bank credit.

Indonesia's experiences show strong two-way linkage between energy subsidies and social welfare policy reforms. To start with, energy subsidy reform—reducing subsidies and increasing domestic prices—has created the need to deliver compensation programs. The government is under pressure to show that price rises will not unfairly hurt the poor. In practice, the resulting welfare programs have created real change: the government has used fuel subsidy cuts and the associated mitigation policies as instruments to reduce inequality, ensuring a more progressive distribution of benefits concentrated on the poor.

2. Jordan⁵

Electricity tariff reform in Jordan has been implemented in a socially acceptable way. All households were exempted from the tariff increase implemented in mid-August 2013, and the increases in January 2014 and January 2015 affected only wealthier households. Access to finance for small and medium-sized enterprises and low-income individuals is being improved. Cash transfers were introduced in November 2012 to mitigate the social impact of the removal of general fuel subsidies. These transfers, which are paid when the oil prices exceed \$100 per barrel, amount to about US\$100 per person per year; they are capped at a maximum of six family members. Initially, all families with an annual income below JD 10,000 (US\$14,700) (70 percent of the population) were eligible for the transfers, but eligibility criteria were extended to include assets (land, car and real estate ownership), so as to better target the poor segments of the population.

3. Brazil⁶

Brazil experienced a sharp, but relatively short-lived recession. As part of an overall national stimulus package, the Brazilian government increased the value of cash benefits paid by 10% under the country's conditional cash transfer, the Bolsa Familia, a high profile programme reaching around 44 million low-income people. The programme received 1.5% from the Brazilian stimulus package. The explicit aim of the increase was to enable poor households to better cope with the additional hardship engendered by the crisis. Moreover, the eligibility criteria for the programme were relaxed. Eligibility for benefits was increased from a monthly income of US\$ 71 to US\$ 82. This resulted in the programme covering an additional 1.8 million families so that today 12.8 million families are now covered. According to a study by the International Policy Centre for Inclusive Growth (Soares, 2009), the transfer softened the impact of crisis in a number of ways, demonstrating how social security can fulfil its role as an economic and social buffer at times of crisis. These effects include: (a.) Generating reliable income flows, sustained household consumption levels and avoiding a decline in overall economic activity; (b.) Reducing negative impacts of the crisis on the nutritional intake of children; (c.) Maintaining school attendance and keeping children out of the workforce; and, (d.) Potentially reducing the risks of increased levels of informal employment. The existence of this important programme in Brazil prior to the crisis, and its subsequent expansion during the crisis, might help explain why Brazil

⁵ IMF (2016).

⁶ Box 2 pp 17 in McCord (2013).

is thought to have coped particularly well with the crisis. Clearly, having the institutional framework and capacity to ratchet up coverage and adequacy facilitates effective crisis responses when and where required.

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