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HOUSEHOLDS

GOOD PRACTICE NOTE 5

Assessing the readiness of Social Safety Nets to Mitigate the Impact of Reform

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This is the fifth in the series of 10 good practice notes under the Energy Sector Reform Assessment Framework (ESRAF), an initiative of the Energy Sector Management Assistance Program (ESMAP) of the World Bank. ESRAF proposes a guide to analyzing energy subsidies, the impacts of subsidies and their reforms, and the political context for reform in developing countries.

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ACRONYMS AND ABBREVIATIONS

ALMP	Active Labor Market Program
BISP	Benazir Income Support Programme
BLT	Bantuan Langsung Tunai (a temporary unconditional cash transfer program also known as Direct Cash Assistance, Indonesia)
BLSM	Bantuan Langsung Sementara Masyarakat (Temporary Cash Transfer Program, Indonesia)
BSM	a scholarship program (Indonesia)
CGE	Computable General Equilibrium (model)
DCM	Delivery Chain Mapping
ECA	Europe and Central Asia
ESMAP	Energy Sector Management Assistance Program
ESR	energy subsidy reform
GCC	Gulf Cooperation Council
GDP	gross domestic product
GoJ	Government of Jordan
Hrv	Ukrainian hryvnia
HUS	Housing Utility Subsidy program
I/O	input-output
ICT	Information and communication technology
IMF	International Monetary Fund
ISTD	Income Sales and Tax Department
IT	information technology
JD	Jordanian dinar
kWh	kilowatt-hour
LEAP	Livelihood Empowerment Against Poverty (cash transfer program, Ghana)

LPG	liquefied petroleum gas
MDA	ministry/department/agency
MENA	Middle East and North Africa
MNO	mobile network operator
MoSS	Ministry of Social Solidarity
NAF	National Aid Fund (Jordan)
NGO	nongovernmental organization
NUR	National Unified Registry
OECD	Organisation for Economic Co-operation
₱	Philippine peso
PKH	a conditional cash transfer program (Indonesia)
PMT	proxy means test
PNAFN	Programme National d'Aide aux Familles Nécessiteuses (National Program of Assistance to Needy Families)
PSP	payment service provider
RASKIN	Rice for the Poor Program (Indonesia)
Rp	Indonesia rupiah
SPL	social protection and labor
SSN	social safety net
SURE	Subsidy Reinvestment and Empowerment
SWF	Social Welfare Fund
TSA	treasury single account
UDB	Unified Database
US$	U.S. dollar
Y	Chinese yuan

1. INTRODUCTION

This note provides guidance to policy makers who are looking to utilize Social Safety Nets (SSNs) to mitigate the welfare impacts of energy subsidy reforms (ESRs) on the poor (see box 1). The good practice note explains (a) why SSNs are an effective tool in the context of ESR, and (b) different options for rapid scale-up or implementation of SSNs. It introduces a three-stage analytical approach that includes (a) assessing the welfare losses caused by ESR; (b) taking stock of existing SSN and near-SSNs, and modeling expansion options; and (c) assessing the readiness of the existing or planned SSNs for providing protection against the negative consequences of the price shock.

The scope of this good practice note is confined to cases where ESRs lead to higher prices paid by energy consumers. As Good Practice Note 1 outlines, ESRs do not necessarily lead to higher prices, and could even decrease prices actually paid, such as when producer subsidies in the form of price support paid for by consumers are eliminated, or when consumer price subsidies lead to illegal diversion and out-smuggling, acute fuel shortages, and prices that are even higher than official prices on the black markets. The latter is particularly important: consumers may be paying much higher prices before the reform, having to develop coping mechanisms to deal with energy shortages. ESRs may improve the quality of energy delivery service, reducing energy shortages and thereby improving the welfare of energy consumers. On the whole, this note does not discuss such potential benefits of ESRs. Rather, it focuses on cases where ESRs introduce a shock to the economy in the form of higher energy prices, similar to an oil price shock or currency devaluation. As such, the analysis presented here can be used in tackling responses to almost all other shocks—food price shocks, extreme weather events, financial crises, droughts ending in crop failures—that have serious adverse effects on the poor and vulnerable.

In this context, the note has been prepared for social protection specialists and government officials responsible for social sectors portfolio. It provides an overview and guidance on the use of tools—principles, methods, and practices—in the analysis of social protection issues relevant to ESR. The note has a narrow focus, specifically looking at SSNs as measures that can support the poor during times of ESR.

Countries around the world operate SPL programs and policies to help buffer individuals from shocks, equip them to improve their livelihoods, and create opportunities to build a better life for themselves and their families. SPL programs cover a wide array of benefits and services, usually under the three main pillars of social safety nets, social insurance and pensions, and labor market programs and services.[1] SPL programs evolve in complexity over time—and the mix of instruments greatly depends on the country context and "starting point." Some countries operate only a few programs, such as a single cash transfer, a contributory pension for formal-sector workers, and a handful of services, often with limited coverage. Other countries offer a myriad of SPL benefits and services. The critical consideration for the safety nets as instruments to mitigate negative consequences of price changes on welfare is their ability to cover all the poor and vulnerable

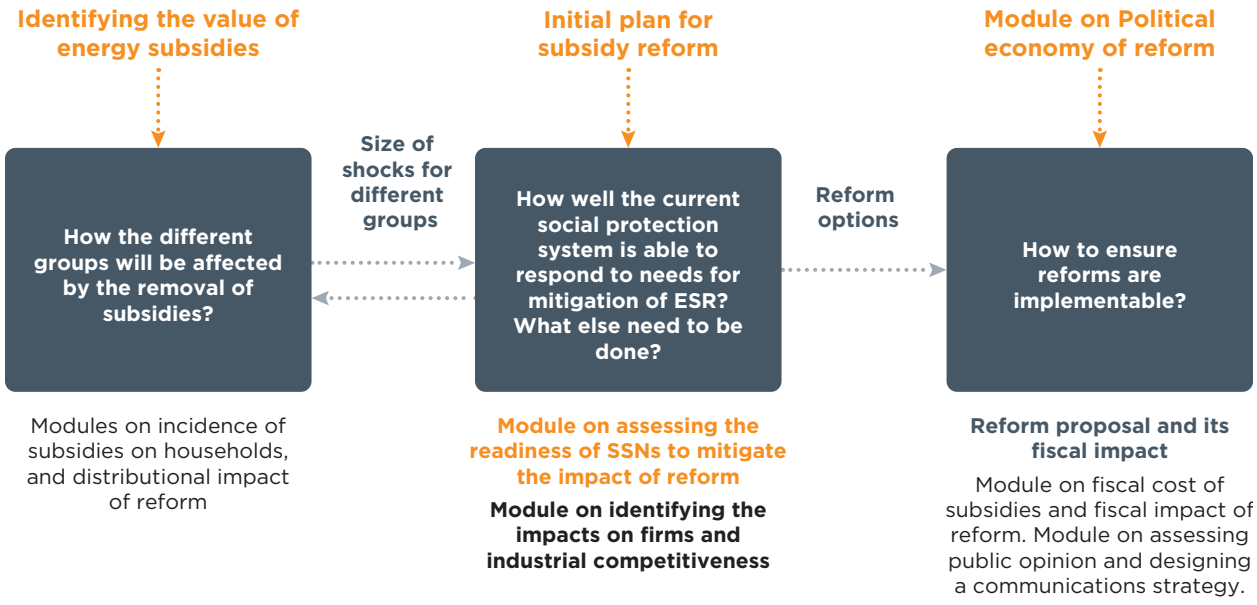
and flexibly provide increased volume of support when needed.

BOX 1: DEFINITION OF SOCIAL SAFETY NETS

Social safety nets (SSNs) are measures designed to provide regular and predictable support to poor and vulnerable people. A distinctive feature of social safety nets is that they are noncontributory, that is, beneficiaries do not have to pay or contribute financially to receive the benefits. That makes them flexible enough to be able to cover all in need of support, scale-up, and scale-down. SSNs do not account for all the mechanisms governments may use in responding to subsidy reform that aim to mitigate the negative impact on welfare, which may include measures in contributory social protection programs (such as indexation of pensions) or broader social policy measures (such as public investment in infrastructure, health, or education).

In addition to discussing scenario analysis and the identification of relevant SPL interventions based on system and country contexts, this note discusses technical elements of expanding SSNs in the context of ESR (for example, delivery chain processes, institutional and administrative capacity, and governance issues). The note discusses the technical feasibility of mitigating the negative impacts of reforms, but does not cover political economy considerations or communication strategies to explain reforms (each covered in a different ESRAF note). This note directs readers to the most relevant resources, including a logical framework to apply the most relevant questions at various stages in design and implementation of the mitigation measures during the ESR process. The framework uses as an input a full-fledged analysis of the fiscal burden and incidence of energy subsidies on households, developed in Good Practice Notes 2 and 3. The links with other components of ESRAF framework steps are presented in figure 1.

FIGURE 1: Overview of the Links between Assessing the Readiness of SSN and Other ESRAF Good Practice Notes



2. WHY FOCUS ON SSN READINESS FOR ENERGY SUBSIDY REFORM?

Social safety nets are noncontributory transfer programs that are targeted to the poor or those vulnerable to poverty and shocks. They may alternatively be referred to as social assistance or social welfare programs in some countries. These programs include income support through participation in public works programs, cash transfers to poor or vulnerable households, fee waivers for usage of essential health and education services, in-kind transfers such as school feeding, and even targeted subsidies for specific goods (most often food) deemed essential to poor or vulnerable households. Most countries spend on the order of 1–2% of GDP on the whole panoply of safety net programs that form part of the social protection system (excluding subsidies), individual flagship targeted programs cost up to 0.5% of GDP.[2] Importantly, targeted energy subsidies, for example, in the form of vouchers (giving the right to buy a bottle of liquefied petroleum gas [LPG] at subsidized price), or lifeline tariffs (providing electricity at a reduced price for those consuming less than "social minima") are also considered a form of social safety nets. However, strong evidence shows that the cost-effectiveness and targeting performance of such schemes are inferior to direct cash transfers to the poor (Gentilini 2016; Lakner and Ruggeri Laderchi 2016), and hence they are often called "quasi" (or near-) SSNs. In addition to often being costly and distortive (effectively prescribing the quantity of energy products to be used by the poor), they fail to respond to the needs of poor households and provide very specific forms of assistance that fail to address the poverty deficit of poor families (which cash transfers can do—see Bastagli and others 2016).

Social safety nets (SSNs) play an important role in social policy in general, and are pertinent to the situation of coping with shocks. Most price shocks are unexpected, meaning that the only way governments can prepare for them is through long-term risk management strategies and building a robust SPL system. However, the price shocks caused by ESR—unlike most other price shocks—are an example of an "engineered shock" and can therefore be dealt with or prefaced with predictable policy actions to help mitigate the negative consequences on vulnerable populations. In other words, what makes ESRs different is that they can be prepared for.

SSNs have many benefits that make them more effective and efficient at supporting poor and vulnerable populations than other mechanisms. SSNs can redistribute income to the poorest and most vulnerable, with an immediate impact on both poverty and inequality. They can enable households to make better investments in their future, allowing households to take up investment opportunities that they would otherwise miss—both in the human capital of their children and in their livelihoods. In addition, SSNs can help households manage risk. At a minimum, safety net programs help households facing hard times avoid irreversible losses, allowing them to maintain the household and business assets. Finally, safety nets allow governments to make choices that support efficiency and growth. Short-term transfer programs can alleviate the losses of those segments of the

population that will be negatively affected by the reforms and prevent those segments from opposing and stalling these reforms. An adequate permanent social assistance system can fulfill whatever redistributive goals the society has, freeing other sectors from this role and letting them concentrate on efficient provision of services.

Governments often use energy subsidies as a tool to lower the cost of living for poor households and shielding households from price fluctuations. However, energy subsidies are a very blunt and inefficient instrument. They can be regressive,[3] unpredictable on state budgets, prone to leakages, and difficult to target.[4] They can have distortionary effects on economic incentives. Therefore, a shift in government expenditures from energy subsidies to direct support to the poor should result in an improvement in public welfare. Such reforms use SSNs to protect the poor from the consequences of energy price increases for the following reasons:

- The poor already suffer from unacceptable levels of deprivation (absolute poverty is defined as having consumption below socially accepted minimum); increased prices will further impoverish them and increase likelihood of irreversible choices that would undermine their prospects for escaping poverty.
- Price increases will make some of the near-poor fall into poverty, often resulting in irreversible losses that can have long-term consequences.
- Participation in social safety nets increases economic inclusion and is likely to produce a boost to the economy that may mitigate against the short-term negative effects of reform on economic growth.
- Reform is likely to generate social tensions and increase the negative perceptions of Government policies. Allocating resources to progressive, welfare enhancing social safety nets can mitigate against these perceptions of social injustice.

The relative importance of protecting the "existing" poor versus the "new" or near-poor depends on the size of the shock associated with ESR and the role of energy in the consumption of the near-poor. Depending on the country, the use and degree of subsidization prior the reform may result in different pathways of effects on the economy and households. These pathways, as discussed in Good Practice Note 3, may be direct and indirect. Direct effects stem from paying higher prices for energy products after the ESR. Depending on the form of energy, its consumption may be largely inelastic with respect to prices, at least in the short term. By continuing to use the energy, households may need to shift their resources from other essential needs to cover increased cost of energy. Direct welfare losses can also come from the decision to use less of a more expensive energy product (price elasticity different from zero). Indirect effects come from energy prices affecting all stages of production of all other goods and services consumed, resulting in the increased price levels of goods and services consuming the subsidized energy (see Good Practice Note 3 for discussion).

Even though typically, the better-off households spend less on energy as a share of their income than the poor, the volume consumed is greater, and hence they capture a much larger share of total price subsidies flowing to households than the poor. The poor, even though typically capturing a smaller share of total subsidy, often spend a larger

proportion of their total expenditures on energy than the better off, making them more vulnerable to energy price increases. Even when they do not spend much on commercial energy—for example, if they are not connected to electricity and consume little commercial fuel, as in some low- and lower-middle-income countries (especially rural, or peri-urban or informal settlements)—they may be affected much more strongly by the impacts of increasing energy process on inflation and overall price levels (indirect effects). Such inflationary effects are particularly painful for the poor, and may lead to an acute drop in living standard. If poor households are reliant on electricity or district heating—as are many urban poor in Europe and Central Asia (ECA) or the Middle East and North Africa (MENA)—they could be directly impacted by ESR. Both quantitative and qualitative analysis can help understand patterns of energy use and how different categories of the poor may be impacted (see Good Practice Note 3 on the quantitative analysis and Good Practice Note 4 on the use of qualitative approaches).

Governments looking for ways to reduce the fiscal burden of subsidies without harming low-income households can do so while protecting the poor by utilizing effective social safety net programs. By doing so, and focusing on the poor and near-poor, governments can achieve significant savings. However, it is important to recognize that the potential savings from the ESRs by cutting the subsidy to the better off may not be available to be spend on education, health, and other budget purposes. Moreover, some of the countries with the largest energy subsidies are major oil producers (MENA is a case in point), where the recent oil price collapses (since end-2014) have wiped out the large potential savings from ESRs. Finally, some form of assistance for other groups affected by ESR (intensive users of some energy—such as in the transport sector) or the middle class, even though they will not become poor following the ESR, may become politically necessary. These mechanisms may take many different forms, and will be reducing the potential fiscal savings. While providing support to other social groups and sectors may be required to ensure the success of the reform program, this should not come at the expense of the poor. Fiscal savings should not be taken as the main criterion determining reform strategy. Ultimately, the objective of ESRs is not to balance the budget, but rather to ensure better economic prospects, greater economic efficiency, and more equitable distribution. Therefore, even though broad compensation packages may be part of feasible reform strategy to ensure their success, adequately supporting the poor is an important requirement in ESR to achieve their ultimate objectives. Without any accompanying or mitigating measures aimed specifically at the poor and vulnerable, ESR will lead to an increase in the poverty deficit for those who are already poor, and will make some near-poor household fall into poverty.

Therefore, a "package of reform" for ESR can be rather complex and costly in the short term, but it will enhance society's welfare in the long term. No matter how the reform is structured and financed, it is important to ensure that support to the poor is adequate: all or most of the near-poor and poor must be covered by mitigation measures that provide sufficient support. Excluding some of the poor from these schemes would be unjust and would reduce public support to the reform. From this point of view, exclusion errors (those eligible for assistance that are not receiving any support) are way more harmful than inclusion errors (providing support to those who are not poor or vulnerable). The need to

stay within fiscal constraints while ensuring complete coverage of the poor imposes strict requirement on the design of the SSN measures that accompany ESR.

The task to protect the poor against energy price increases, which can result from a subsidy removal, is no different from the objective of protecting the poor against any economic shock, especially other price shocks. Safety nets are not only needed in times of ESR, they are needed permanently, since economies will always remain exposed to shocks and fluctuations. For this reason, most countries in the world already have SSN programs in place, and typically continually reform them to improve coverage, adequacy, and efficiency. ESRs provide governments with the opportunity to enhance their SSNs and make them more adaptive and flexible.

The question that most policy makers face, then, is how to use existing social protection programs to respond to ESR specific shocks, without undermining the long-term objectives of building a coherent and sustainable SSN system. The specific questions for a coherent SSN response are the following (covered in ESRAF notes):

1 | How to ensure that there are adequate resources allocated to the SSN to compensate the poor from the losses triggered by the ESR? This requires accurate assessment of the welfare consequences of price changes associated with ESR (covered in Good Practice Notes 2 and 3).

2 | What programs and mechanisms should be used to transfer the resources to the poor, and what form should this take? How to assess the readiness of different parts of the SSN system to transfer these resources to those in need, and how to include those not currently served by the SSN system? (These questions are covered in this note).

3 | How to provide timely benefits that avoid drastic changes to the living conditions for the poor? This requires accurate sequencing of reforms, forecasts for changes in prices, assessment of agility of social safety nets, and the ability to constantly monitor the situation and to make rapid adjustments. (These questions are partly covered in this note and partly in other ESRAF notes.)

It is important to note that not all reforms in the past have used these simple rules. While the need to protect the poor from the shock of subsidy removal (and from energy price volatility) is well known, often subsidies are removed without a mechanism to support the poor being put in place: an IMF report on early experiences in ESRs states that in only nine of the 28 cases analyzed were social safety nets used to mitigate negative impacts of the reforms, and in an additional

Good Practice Note 2 helps provide guidance on how much fiscal space governments have to finance the transition period during ESR. The note helps identify the room governments have for higher fiscal deficits and public debt needed to fund an ESR program while maintaining fiscal sustainability. When expanding or introducing SSN measures, governments should get a clear sense of both the short-term and long-term costs of the chosen SSN intervention and ensure the fiscal space is available for these programs.

eight cases, near-cash transfers or retargeting of subsidies to the poor was implemented (Clements and others 2013). This was closely correlated with lack of capacity of existing safety nets to provide adequate response. The lack of capacity was also evident in a global response to the food and energy crisis of 2008–10 that revealed the weaknesses of social safety nets, especially in the poorest countries. A poll of IMF country desk officers with responses for 146 countries in the context of the global food and energy crisis showed that 84 countries had reduced food taxes and 29 had increased food subsidies (IMF 2012). Thirty-seven had decreased energy taxes and 29 had increased energy subsidies. In contrast, only 39 countries had expanded targeted safety nets. This tilt toward broad tax reduction and subsidy measures was unfortunate, since those measures are often regressive, distortive, costly, and difficult to change in the future.

There is a global shift toward wider use of SSNs to respond to shocks and alleviate poverty. Realizing the inefficiency of response to shocks in the 2008–10 crisis, many countries have invested in expanding their SSNs. For example, in common with many other African nations, Senegal had experienced sharply increasing international prices for both energy and imported food starting in 2008. In response, the government has extended general price subsidies on critical staples, such as rice, wheat, and milk, and on fuel and electricity. These policies were expensive, rising from 0.5% of GDP to 3–4% of GDP by 2010. A good deal of these public expenditures benefits non-poor people. In comparison, the IMF has estimated that a comprehensive conditional cash transfer program would have cost Senegal around 1% of GDP (IEG 2011). In subsequent years, the government with support from the World Bank has launched a major cash transfer program, which was expanded by 2016 to cover most of the extreme poor (World Bank 2017). Similar efforts were taking place in other countries in Sub-Saharan Africa, South Asia, and East Asia (World Bank 2017).

New rounds of ESRs can be supported better by new SSNs. In addition, there is a greater political buy-in to use social protection measures as part of successful reform strategies. Recent stock-taking of policy advice in ESR (Feltenstein 2017) has found that in 7 out of 11 recent representative reform cases, policy commitments by authorities to reform the energy subsidies was accompanied by expansion of targeted social safety nets as part of the mitigation package (most important cases are Bangladesh, Egypt, Indonesia, and Jordan). The share of IMF advice to reform subsidies including concrete recommendation with social protection measures increase after 2013 to reach over 60% of all Article IV recommendations to undertake ESR. Strategies relied primarily on scaling up existing cash transfer programs or rapid launch of new temporary programs.

3. OPTIONS FOR UTILIZING SOCIAL SAFETY NETS DURING ENERGY SUBSIDY REFORM

What limits the utilization of the modern social safety net instruments in energy subsidy reforms? The main reasons for the low utilization of cash social safety net instruments are (a) insufficient capacity to cover all poor and vulnerable by the existing cash-based safety nets through benefit top ups or scale up of enrollment, and (b) difficulties with administering the launch of new safety nets amid ESR measures. Because of the institutional inertia and need for robust delivery mechanisms of any SSN program, the adjustment and expansion of SSNs cannot be done overnight, even when there is the fiscal space to do so. Hence, the design of mitigation measures should always start with the assessment of available SSNs, and then move to the feasibility of launching new measures.

In the face of inadequacy of existing cash-based SSNs other mechanisms are often used to mitigate negative effects on the poor. Among them are targeted energy subsidies (such as targeted lifeline tariffs; see box 2). In many countries, the poor have constraints in affording what is deemed as a "socially acceptable" minimum supply of energy resources. To improve access to and affordability of energy, near-SSN measures (vouchers or subsidies) are used. Lifeline pricing—which can be used for electricity, natural gas, and district heating—might be effective if the poor are connected to the electricity network and have individual metering systems. In these cases, using volume-differentiated tariffs limiting subsidies only to those whose consumption is below the lifeline block size can be a way to support the affordability of socially acceptable minima of energy consumption to the poor, although the risk of facing a much larger bill as a result of exceeding the limit by even 1 kWh can be problematic if there is a large difference in unit prices from the first block to the next. Further, there are inefficiencies associated with such cross-subsidies (introducing multiple pricing for the same service leads to distortions), poor targeting (low electricity consumption is not a perfect predictor of poverty) and therefore lifeline rates represent second-best options (see Tesliuc and others 2014). Targeting is even more problematic with liquid fuels, which are all too easy to divert to ineligible beneficiaries. As a result, there are many cases of failed "targeted" liquid fuel subsidies, and few successful examples.

BOX 2: POVERTY, ELECTRICITY LIFELINES, AND AFFORDABILITY OF ELECTRICITY

In many developing countries, cross-subsidies like increasing block tariffs or lifeline tariffs are used to target energy poverty. However, the use of these measures to support the poor can be problematic.

First, increasing block tariffs, where households that consume larger amounts pay more are not well targeted by design. There is only a poor correlation between electricity consumption and poverty, and some groups among the poor in some seasons may need to use more electricity (such as for heating in many ECA countries). To cover the underpayment by the lower-volume consumers the collections from medium and large consumers (industries in the latter case) are used to cross-subsidize. From the economic efficiency this is inefficient, as unit costs of supplying to small consumers are higher than to the high-volume consumers.

Lifeline tariffs (or telescopic tariffs) are measures where governments provide or subsidize electricity at a reduced price for those consuming less than *social minima* or a certain amount of electricity per month and/or are considered poor. If the selection of the target group to lifeline is based on objective criteria, such tariffs can be targeted as well as the cash transfers. But the question arises when it is combined with the consumption of the social minimum as a targeting criterion. Then it tends to suffer from large exclusion errors, since many of the poor tend to consume more than such minima. If it is simply paying for a given quantity and everything above is priced with regular tariff, this design flaw disappears, but there is still both the effect on distorting the incentives (to report consumption below the minimum) and political pressure to increase the lifeline limit. Often lifeline tariffs are introduced on top of already subsidized prices, even further distorting the tarification and incentives.

There are several challenges. One is resisting the political pressure to increase the lifeline block size. Another is reliance on rising block tariffs rather than volume-differentiated tariffs. The former benefit all consumers, the rich and the poor alike, whereas the latter benefit only those consuming little. Yet another is that effective implementation of lifeline rates depends critically on individually and accurately metering each customer. For example, in 2012 in Serbia average electricity tariffs to households were below cost recovery levels by about 50%. In addition, households consuming less than 350 kWh per months were benefiting from 35% discount on already low tariff. In Pakistan, in 2015 the tariff structure was based on "slabs" of monthly household consumption (1–100 kilowatt hours (kWh), 101–200 kWh, and so on), with the unit cost of electricity increasing from one slab to the next. A highly concessional "lifeline tariff" is provided to households that use less than 50 kWh per month, leading to significant corruption, meter tampering, and so forth (Walker and others 2016).

In much of the developing world, lifeline tariffs would not be an adequate response to concerns about energy affordability. In many cases, this is because connecting a building to the grid for the first time can be costly, and extending the grid to a new location certainly is. In many countries, the initial connection cost can be several times the average household income and much more for the poor. Unaffordable connection fees lead to multiple connections to a single meter, making several poor households appear as one rich household to the utility and depriving them of the benefits of lifeline rates.

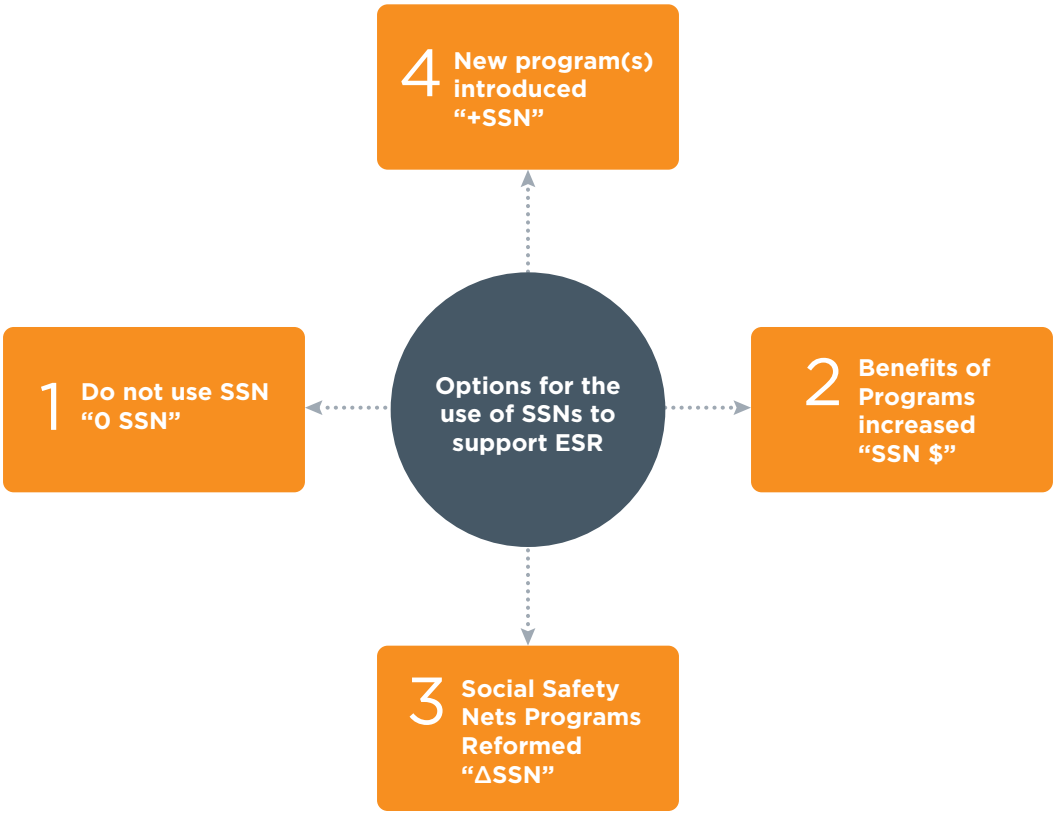
A few countries have taken more indirect ways of alleviating hardship among poor households of higher energy prices. In Vietnam, for example, poor households are entitled to free health insurance cards, exemptions of education fees, and access to subsidized credit, among others. During the Food Energy and Financial crisis, the eligibility threshold for these subsidies was raised by 50% to increase the coverage of these programs in the face of price rises. The Philippines increased the coverage of its subsidized health insurance targeted to the poor at the time it was implementing energy subsidy reform.

Four possible approaches can be used when compensating the poor for welfare losses resulting from higher prices, including those induced by ESR. Figure 2 highlights the available options. In many cases, a combination of these approaches is used.

OPTION 1 does not involve introducing new cash transfers or expanding the coverage or generosity of existing SSNs in ESR reform process.[5] This option could be used if policy makers deem that the reform processes has insignificant welfare impact. Such approach seems to dominate in countries that do not have at-scale SSNs or sufficient capacity to launch the new or expand existing SSNs at the time of the reform or in countries where the incremental increases in energy prices were not too large and were not significantly affecting the poor (several rounds of removing subsidies on gasoline in Morocco[5] and Tunisia). In the case of an adaptive SPL system, the assumption is that the relevant SSN programs should have the financing and the delivery mechanisms to absorb additional entrants and additional cost to the existing beneficiaries through indexation of benefits (such as in Germany, the United Kingdom, France, and a number of other OECD countries).

OPTION 2 would increase the benefit level in selected existing SSN programs. This is the preferred, most direct and effective option if—and only if—the programs already cover the majority of the poor and have the capacity to absorb a reasonable number of the new poor. This option is particularly relevant in countries where there are existing programs with high coverage, but low benefit levels (for example, at the time of writing, Azerbaijan, Egypt, the

FIGURE 2: Possible Approaches for Social Safety Nets during Subsidy Reform



Philippines, and Russia). It was used during several rounds of energy reform in Romania from 1997 to 2007 by increasing the heating benefit in line with the increased price of energy.[7] If the assessment in Step 3 highlights that existing SSN programs perform well and coverage is high, this can be a viable option.

OPTION 3 would expand the coverage of an existing program to cover a sufficient share of the poor and vulnerable. Well-functioning programs can be expanded through geographic expansion or additional outreach. This often requires changing the rules or reform existing programs (such as improved targeting, eligibility checks, or oversight). The difficulty in using this option is that the additional needs of the poor who are already covered by the program have also been addressed while expanding it, which poses a heavy demand on administrative capacity. The experience shows that such expansion and increase in adequacy of benefits can occur very fast, for example, the programs in Tanzania, Senegal, and Indonesia have expanded from covering 5–10% of the poor to more than 50% of the poor in a space of 2–4 years. The ESR in the Dominican Republic is an example. It used a pre-existing CCT program and massively expanded it to mitigate the impact of electricity and LPG subsidy reform on the poor.[8] In other countries (such as Jordan and Tunisia), the expansion of existing targeted SSNs (PNAFN [National Program of Assistance to Needy Families] and NAF, respectively) to support earlier rounds of ESRs was considered infeasible.[9]

Under **OPTION 4**, governments introduce a new program that has to expand very rapidly to cover the poor and vulnerable. This is often the most difficult option, but at times the only viable strategy. International experience suggests that SSN programs can be introduced relatively quickly. The classical example of using such option is the 2005–08 subsidy reform in Indonesia,[10] the 2013 LPG subsidy reform in India[11] or, more recently, Jordan's temporary compensation as part of the 2012[12] and 2018 reform efforts. Administrative reform that introduced a new program (HUS), which dramatically expanded its coverage, was used in the recent ESR efforts in Ukraine.[13]

Figure 3 shows a categorization of the four potential SSN approaches by energy subsidy reform episodes (see annex A for the list of references for these episodes). Based on a stock-taking of subsidy reform episodes, we see that governments seldom increased the benefit level for current beneficiaries. This points to the fact that many SSNs are not considered dynamic or "adaptive" in responding to the planned economic shocks. Furthermore, it may point to issues related to coordination of SSNs to subsidy reform measures. In countries where major subsidy reforms are undertaken, we note that a new program is introduced or a significant alternation in SSN programs is employed. For new programs, we see both temporary schemes (for example, Indonesia, Iran, and Jordan) and new SSN programs introduced. One encouraging observation is that in a number of countries, we see that countries have implemented partial subsidy reform, but future SSN measures are planned to ready country systems for future subsidy reforms (for example, Algeria, Morocco, and Tunisia).

FIGURE 3: Countries' SSN Options to Respond to Energy Subsidy Reform (by year)

(1) SSNs not used / no new SSN mitigation measure	(2) Benefit level increased
Algeria (2016) Bolivia (2010–reversed) China (2010) Kenya (2000–08) Mexico (2005)[a] Morocco (2012–15) Peru (2011) Tunisia (2012–13) Turkey (2005)[a] Uganda (2012) Yemen (2011–12)	Indonesia (2008)[b] Jordan (2008)
(3) New SSN Program introduced	**(4) SSNs significantly program altered (such as eligibility, benefit level, and regional or categorical coverage)**
Armenia (1995–99) Brazil (2002) Egypt (2014) India (2012) Indonesia (2005)[b] Iran (2010) Jordan (2012–discontinued)[b] Nigeria (2012) Pakistan (2009–10)	Ghana (2013) Indonesia (2013)[b,c] Indonesia (2014)[b] Indonesia (2016–present) Ukraine (2016) Yemen (2010)

a. In these countries, government authorities relied on existing SSN programs to support the poor and vulnerable from the impacts of reform.

b. In these countries, government authorities are using just-in-time temporary cash transfer programs.

c. In response to reforms Indonesia in 2014, the government relied primarily on disbursements through the temporary cash transfer program BLSM. However, reforms also included an expansion of the existing conditional cash transfer, the Hopeful Family Program (Program Keluarga Harapan, or PKH), rice subsidies, and education subsidies.

Sources: See annex A for a description of each country case and list of references.

The following case studies—not all of which necessarily concern responses to ESRs—provide a brief overview of some of these approaches:

- **Countries that choose not to implement new SSNs:**
  - A large part of **Turkey's** energy subsidy reform process did not rely on providing support to households. ESR reforms coincided with a period of economic growth and improving standards of living, helping reassure the public that reforms were moving the country in the right direction. The Turkish government provided a tax exemption for public transportation, allowing public transport companies owned and managed by municipalities, villages, or special provincial administrations

to be exempted from value added tax and excise tax. In addition, a tax rebate was introduced by the Ministry of Agriculture in 2007 to help farmers grow specific crops. The amounts of aid for these farmers was calculated based on the area of the land used in growing specified crops, and paid according to a schedule defined by the cabinet. Finally, Turkey already had a functioning SPL system (SRMP) that was already effective in reaching the poor. The system included a rapid relief component to reach vulnerable groups through existing channels in times of price shocks. Given the existing strength of the system, no new SSN measures needed to be implemented.

- **Saudi Arabia** is an example of a resource-rich country burdened with high subsidies to water, electricity, and gasoline. The country relies heavily on water desalination plants because of severe water scarcity—which in turn makes water extremely expensive to deliver to consumers. In 2014–15, the share of water and energy expenditures for an average family remained three times greater than it was for the richest families. In 2015, Saudi Arabia moved forward with subsidy reform of water with little support to poor households.
- **Morocco** and **Tunisia** around 2012–14 made some adjustments to gasoline prices to reduce the degree of subsidization without additional support to households and focused on communicating the need for reform and its equity aspects.

- **Countries that choose to expand existing SSN measures:**
  - In the **Philippines**, the flagship Pantawid Pamilyang Pilipino Program (4P) was expanded and was used to provide support to vulnerable households in poorer parts of the country. In times of significant price shocks the 4P program has been utilized as an effective temporary measure to support vulnerable populations, such as in 2008 when in the wake of the global financial crisis, the government temporarily expanded the program's eligibility criteria.
  - **Egypt** increased the generosity of its existing food subsidies scheme in addition to the introduction of a newly targeted elderly benefit and conditional cash transfer program (discussed below). The policy increased the benefit amount of food subsidies provided in the form of food ration cards. More than two-thirds of households in Egypt benefited from the ration cards program.
  - In **Indonesia**, to protect the poor households from the 2008 subsidy reforms, the government also expanded three existing social protection programs: the conditional cash transfer program (PKH), scholarship program (BSM), and the Rice for the Poor Program (RASKIN).

- **Countries that reformed SSN to achieve the scale up during ESR:**
  - **Ukraine** provides an excellent case study on how countries can use momentum from energy subsidy reforms to expand social safety nets. In April 2016, the government passed a resolution that set residential and industrial gas prices at the same "import parity" level, thereby eliminating subsidies for gas. In addition, in July 2016 tariffs for

hot water and central heating were nearly doubled, and electricity prices are also on a stepwise increase. The decisions were initiated to reduce the budget deficit and meet requirements set by the IMF. The government used the reforms as justification to prepare SSNs prior to energy prices increasing to mitigate the impact on poor and vulnerable households. This is especially pertinent to the reform of gas subsidies because the price of heating and hot water in Ukraine is determined by the price of gas. The government increased spending on the Housing Utility Subsidy program (HUS)—which provides social support for utilities payments for low-income households, and for the energy privileges program—which provides similar assistance, but targeted to specific categories of the population—to Hrv 24.4 billion in 2015, and Hrv 40.3 billion in 2016 to diminish the impact of the gas price increase. Every household was provided with an application form to apply for HUS. During the winter of 2015–16, 36% of households participated in the program. To improve targeting, a central monitoring system of the characteristics of households participating in both programs has been initiated to track benefits and consumption levels across the income distribution. Other mitigation measures were also enacted to offset the transition to market-level gas prices. The Cabinet of Ministers increased the minimum wage by 6% in May 2016 and by 10% in December 2016. The cabinet also eliminated a tax on pensions lower than Hrv 10,700 (US$431).

- In **Yemen**, the government strengthened the existing Social Welfare Fund (SWF) to support the poor households and mitigate the impact of the subsidy reforms in 2010. Learning from the 2005 reform efforts, where expanding social assistance took almost three years to be approved and implemented, in the 2010 reform, the government managed to increase coverage of the existing cash transfer by 50%.
- In **Ghana**, the government introduced several programs to mitigate the impact of the energy subsidy reforms on the poor households. In 2013, the government raised the price of kerosene by 15% and LPG by 50%, and showed great intent in substantially reducing the large subsidies for electricity. The reform's impacts were partly mitigated by a 17% rise in the minimum wage and an expansion of the cash transfer program (Livelihood Empowerment Against Poverty, or LEAP) from 100,000 to 150,000 households.

- **Countries that launched new SSN programs to cover the losses of the poor:**
  - **Armenia** introduced a Poverty Family Benefit (a means-tested cash transfer program) during its electricity sector reforms in 1995–98, in addition to abolishing the lifeline tariff and introducing an entirely new tariff structure. While not initially intended to support the households against price hikes, the program helped the beneficiaries maintain their real consumption in the face of higher electricity bills, and spurred energy efficiency and higher collection rates. Additionally, and with the direct intent of supporting the poor households, the government offered two one-off cash transfers to low-income households

(beneficiaries of the existing cash transfer program). By setting in place dual meters (allowing households to benefit from low tariffs during hours of off-peak loads to energy grid) for 5,000 low-income households, the government managed to further soften the impact of the price hikes; in turn, this helped facilitate public acceptance of the reform.

- In **Egypt** the Ministry of Social Solidarity (MoSS) was mandated to establish and implement a new cash transfer program in 2014—Takaful and Karama ("Solidarity and Dignity")—with an emphasis on building an effective targeting and efficient operational systems, reaching newly identified 1.5 million households to be enrolled in the new program. The program, which is envisioned to replace the old Sadat Social Pensions program, will expand in waves targeting poor and vulnerable households using proxy means test (PMT) criteria. The program rollout is in waves governing the poorest governorates in the country and expanding as the program business process are strengthened.
- **Indonesia** in 2005 and 2006 introduced a temporary (two-year) unconditional cash transfer in conjunction with the reforms. *Subsidi Langsung Tunai* was targeted to the poorest 35% of the population (well above the 16% poverty line), to protect the poor and near-poor to minimize political unrest (Beaton and Lontoh 2010). The reform package also included increased financing of education, health and rural infrastructure programs for the poor.
- **Jordan** introduced the Fuel Subsidy Cash Compensation Scheme, which was administered by the Income Sales and Tax Department (ISTD). The scheme covered nearly 80% of the population in its initial stage in late 2012. The unconditional cash transfer was not associated with any of the existing social safety nets programs in the country and ran independently based on administrative and reported information provided through on-demand applications from interested households.

- **SSN measures were combined with other non-SSN measures to cover population groups beyond the poor (that is, transport subsidies, Active Labor Market Programs [ALMPs]):**
  - The **Philippines** wanted to reduce their subsidy program following price shocks. Alongside the expansion of its flagship 4P (Pantawid Pamilyang Pilipino Program) safety net program, the Philippine government, with the Department of Energy as the lead implementing agency, introduced the temporary Public Transport Program (Pantawid Pasada). This was a targeted relief program aimed at the public transport sector, which consisted mainly of jeepneys (large colorful buses) and tricycles, that cushioned the impact of high energy prices, given the cascading effect transportation has on other vulnerable sectors of society. This was especially important to jeepney operators, since fares are regulated by the government, and due to a lack of automated pricing mechanism to adjust the fares to changes in fuel prices, any fuel price increase would have had to be absorbed by the jeepney drivers themselves in the interim period between official fare adjustments. The

budget for the program was ₱450 million (approximately US$10.4 million). The government issued debit and smart cards to distribute support to approximately 1 million tricycles, as well as other vulnerable groups, such as farmers and fisherman. The key findings of the Philippine experience are that the program was well received by many sectors (transport, politicians, and local government) because it emphasizes the need for jeepney drivers to operate legally and the need to be registered to receive subsidies. Only jeepney drivers that were legitimate franchise holders with valid and current registrations were allowed to participate in the program.

- Both the governments of **Ghana** and **Indonesia** extended support to middle-class families as part of ESR packages. Ghana eliminated fees for state-run primary and secondary schools, set a price ceiling on public transport fares, and invested in electrification. In Indonesia, regional block grants for education were introduced. Both countries increased funding for health care in poor areas.

4. HOW TO DETERMINE SSN EXPANSION

Choosing between the four options presented in figure 2 is driven by a three-stage analysis:

STAGE 1: Welfare analysis of losses caused by ESR.

STAGE 2: Stock-taking of functioning SSN and near-SSNs, and modeling expansion options.

STAGE 3: Assessing the existing delivery systems for scale-up.

The rest of this note is structured around these three stages. However, stages 2 and 3 are the primary focus of this note and will be covered in the greatest detail. The remaining stages are covered in other notes within the ESRAF framework. Stage 1 is covered in Good Practice Note 3.

STAGE 1: WELFARE ANALYSIS OF LOSSES CAUSED BY ESR

Higher energy prices imply real income losses due to the higher prices for energy products *directly* consumed by households (gasoline, kerosene, diesel, LPG, electricity, and district heating), but also *indirect* losses caused by higher prices of other goods that use energy products as intermediate goods in the production process. Assessing the welfare loss caused by ESR, as well as the distributional impact, is a vital first step in understanding what type and level of SSN expansion needs to take place. As explained in Good Practice Note 3, estimates of the total effect can be made by combining information from an input-output matrix with household budget data. These indirect effects, though harder to quantify than direct effects, can be significant. For example, Coady, Famini, and Sears (2015) estimate that indirect effects would account for about 55% of the potential impact of the rise in fossil fuel prices, with significant differences by region depending on the energy intensity of household consumption.[14] In addition, other indirect effects can be identified, including increased exposure to fuel price volatility and

the health and environmental impacts linked to a shift back to biomass.[15]

The degree of subsidization prior the reform is a rule of thumb to approximately establish the effects on the poor. For countries with high level of subsidies (5–10% of GDP and above, such as in Egypt in 2005, Venezuela, and Gulf Cooperation Council [GCC] countries) removal of subsidies may trigger very significant price increases to households (multiple times, with large indirect effects) and increase poverty dramatically if not accompanied by mitigation measures (and imposes huge demands on the ability of social protection to cover the poor). In most cases where subsidies represent around 1–2% of GDP removal of subsidies often results in increasing poverty, but the size of welfare losses is much smaller (for example, 2–5 percentage points in countries as diverse as Ecuador, Madagascar, Pakistan, and Serbia) and more manageable through either scaling up existing programs or using non-SSN mitigation measures.

In order to be more specific and precise about the estimated cost economic modeling, using both household and economy-wide data is needed. Broadly speaking, one can distinguish three types of analyses: (a) general equilibrium analyses, incorporating both the direct and the indirect welfare effects of the reforms (Computable General Equilibrium [CGE] models); (b) limited general equilibrium, incorporating only a subset of the indirect effects; and (c) partial equilibrium approaches focusing only on the direct effect of reforms on prices and household real incomes. These effects are commonly considered the **short-term impact of reforms** prior to household and producer responses. Household responses, such as switching consumption away from price increased goods or toward subsidized goods, tend to decrease adverse welfare impacts and increase beneficial welfare impacts. However, they require time for the household to adjust, either through efficiency programs (insulation, higher efficiency stove, or heaters) or switching to alternative fuel type equipment. First-order, short-term effects are thus often interpreted as an upper bound on longer-term adverse impacts.

Often as a byproduct of expended modeling one also get the overall inflationary impact of the reform (for energy sources were secondary effects are important). A number of tools are discussed in Good Practice Note 3 that we don't discuss in this note. Tools like SUBSIM can utilize household survey data to create output that consists of disaggregated direct and indirect effect at household level. In cases without household survey providing disaggregated data by quintiles, the key poverty indicators can be used to have an initial estimation of the magnitude of welfare loss. The tools and methods discussed here are further highlighted in Good Practice Note 3.

STAGE 2: STOCK-TAKING OF EXISTING SSN AND NEAR-SSNS, AND MODELING EXPANSION OPTIONS

The second stage in developing an appropriate response to mitigate the impact of SSNs is to assess the existing social protection system and its coverage of the poor. The first step in this process is to gain a holistic view of the entire social protection and labor system currently in place. In a well-designed social protection system, special measures discussed here on tailoring social protection response to specific shock of subsidy removal are redundant. Adequate indexation mechanisms should be sufficient to protect households from any price shocks and increases in the cost of living associated

with ESR, while employment policy measures will help to adjust to labor demand changes. Such adaptive social protection systems are needed to respond to any shock—from natural disasters to economic fluctuations. If there is a system that adequately covers the poor, and there are mechanisms for indexation built into its key programs, no additional actions are needed, and the analysis should shift to understanding the fiscal cost and sequencing of reforms. Many Organisation for Economic Co-operation (OECD) countries that encountered oil price shocks in 1980s and 2000s relied on pre-existing mechanisms to mitigate the negative consequences of price shocks, while passing it on their economies.

In most developing countries, however, a comprehensive SPL system is not yet in place. As a result, the focus of analysis should shift to existing noncontributory SSN programs. Unlike social insurance, for example, these programs are targeted to the poor, and have by their objective sufficient flexibility to serve as an instrument for protecting the poor and redistributing resources in their favor. Very often, targeted cash-based SSNs may not have sufficient coverage of the poor, but there might be other programs that do cover the poor. Such programs, such as social pensions or social services, need to be closely examined at the next stage (scalability assessment) to see to what extent they can be beefed up to provide support to the poor.

Household surveys can be used to assess the impact of SSNs on different welfare quintiles, especially the poor and near-poor. For this analysis to be most effective, a household survey with consumption levels of subsidized goods combined with data collected on individual SSNs, social insurance, and labor market programs is an ideal source. Transfers from social safety nets should be reported in monetary values (as opposed to a participation dummy) to compare the received transfers with the impact of removing subsidies on welfare and poverty. If only participation dummies are available, administrative data are needed to impute the values in the survey.

Alternative methods to assess the impact of existing SSNs exist if a country does not have a household survey with detailed data on SSNs (which is frequently the case). These include (a) utilizing information from administrative data on a country's SSN programs and (b) make imputations in the household survey by introducing new variables using information on the program eligibility conditions, distribution by areas or groups. When relying on detailed administrative data by program (on the number of beneficiaries and levels of payment), assumptions need to be made about targeting (such as what share of benefits goes to poor vs. non-poor, by quintile and region). In this case, it is important to ascertain that the information on welfare losses in the subsidy reform is available for the same groups or levels of disaggregation.

Social safety net performance is measured by a number of key parameters. These parameters include spending/budget, number of beneficiaries, coverage, benefit/beneficiary incidence, benefit size/adequacy, and poverty/inequality impact. Coverage indicates the absolute number of program beneficiaries or percentage of the population or a given population group. Coverage is very important because it indicates the size of the program in both absolute and relative terms. Household survey data reveal how various population groups (for example, poor versus non-poor) are covered by the same program. Benefit level indicates the amount of the benefit, while benefit adequacy is a measure of the relative benefit level. The main

purpose of estimating benefit adequacy is to get some idea to what extent the benefit size is "small" or "large" in comparison to a need or benchmark (for example, poverty line, minimum subsistence level, minimum wage). Fragmented or small benefits fall short of achieving desired developmental effects. Coverage, in combination with benefit size/adequacy, is determining the program impact or its ability to reduce poverty or mitigate the losses for the poor (see box 3 for more examples).

Once the performance of existing SSNs has been measured, steps can be taken to model the various expansion scenarios. Tools such as ADePT and SUBSIM can be used to model the impact of a rapid scale-up of existing programs, or even the implementation of an entirely new program. These programs can simulate the impact on welfare after the ESR with modified SSNs (increased benefits, marginal expansion, or introduction of new program), impacts of increased coverage or new program applied to targeted households. The following four scenarios can be modeled:

1 | *Expanding coverage using existing eligibility requirements:* Apply the existing benefit level to all households under existing eligibility requirements. In many countries, due to limited fiscal space or other limitations, not all those who meet eligibility requirements are enrolled. This would simulate full enrollment.

2 | *Expanding coverage by expanding the eligibility requirements:* Apply the existing benefit level to households meeting new target criteria or simulating full coverage using existing criteria.

3 | *Increasing the benefit level:* Multiply each benefit by the increase in benefit level at the household level. Various generosity levels can be modeled.

4 | *Introducing a new SSN:* Assign benefit to targeted households using observable characteristics. Various generosity levels can be modeled.

Modeling the impact of these four options at various generosity levels will allow policy makers to conduct a cost-benefit analysis. The analysis of various mitigation scenarios needs to produce an estimate of the costs associated with accompanying reforms, and to identify groups that are excluded from the existing SSNs or modeled on expanded SSNs. Often the assumption is made that the targeting procedure will identify the poor with 100% accuracy. Such programs do not exist in the world (Honorati, Gentilini, and Yemtsov 2015), and assumptions should be made that are more realistic, mirroring targeting performance of existing programs. Once such realistic approach is taken, one can also identify what are the household characteristics of those bearing any residual welfare loss of ESR, that is, falling through the cracks of the existing and proposed measures (to consider complementary additional SSN measures). Simultaneously, various eligibility criteria—categorical, geographical, means-test, or proxy means-test—can be simulated to test which will produce a stronger targeting performance in allocating a fixed budget and hence which will have the greatest impact. Examples of such detailed analysis for various countries can be found in Atamanov, Jellema, and Serajuddin (2015), Cuesta and others (2015), Ersado, Levin, and Sayed and others (2012), Laderchi (multiple years, see Good Practice Note 3 for references), Verme and El-Massnaoui (2015), and Walker and others (2016).

BOX 3: STOCK-TAKING SOCIAL SAFETY NETS IN JORDAN

In Jordan's ESR reforms in in 2012/13, the Government of Jordan (GoJ) undertook a stock-taking exercise to assess if existing SSNs in the country would be the best mechanism for compensating poor and vulnerable families from the impact of reform efforts. After a thorough review of the existing programs, the GoJ decided that the coverage and performance of existing SSNs did not meet the needs for rapid expansion.

Instead, the GoJ decided to introduce a new **temporary large cash transfer program**, which was sequenced with the energy price increases. The Energy Subsidy Cash Compensation Scheme was dispatched to households earning less than JD 10,000 (US$14,000) a year, and covering about two-thirds of Jordanian households. Jordan's tax authority (known as the Income Sales and Tax Department) developed a database in the context of establishing a temporary cash compensation scheme for a fuel subsidy covering almost 80 percent of the households in the country. This allowed consolidation of data from various public sources in a short time span in 2013. That system was the precursor for a more comprehensive information system of the National Unified Registry (NUR) that would allow information exchange and consolidation of data on clients of social programs in Jordan. Payments for the program were made automatically through the government payroll for public sector employees and pensioners, social security subscribers, and National Aid Fund beneficiaries. In the case of Jordan, the compensation scheme was overall a success. However, with the precipitous drop in fuel prices in 2014, the government made the decision not to continue with the fuel subsidy compensation program due to the falling fuel prices US$100/barrel.

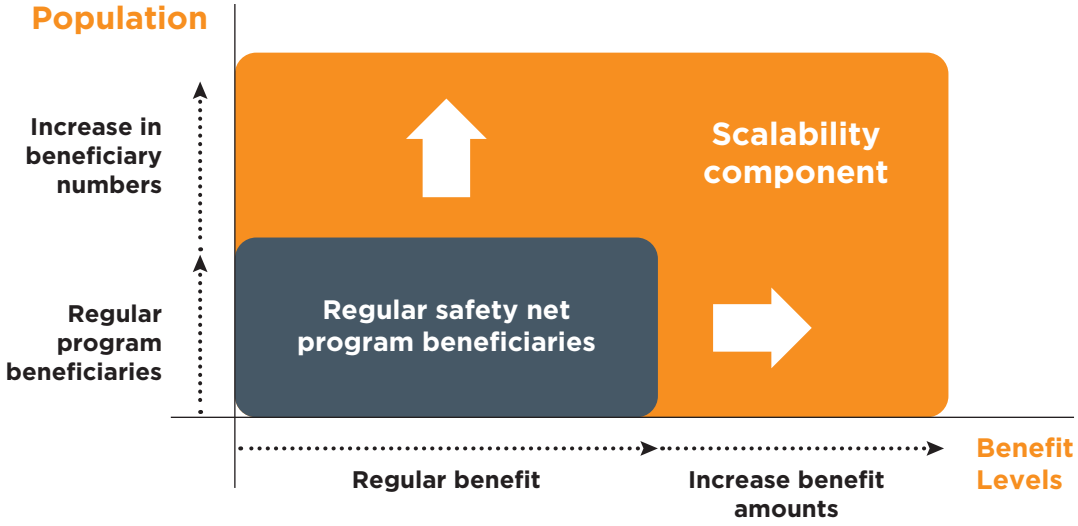
STAGE 3: ASSESSING THE EXISTING DELIVERY SYSTEMS FOR SCALE-UP

Stage 3, the focus of this note, aims to provide policy makers and practitioners with guidance and best practices in assessing the delivery system within a given country's existing SSN system. As already highlighted, scaling up of existing programs can involve increasing coverage or benefit levels, or both (figure 4). Coverage may be extended to reach individuals or families that had not previously been included, but which may need additional support because of being vulnerable to associated ESR. Benefit levels can also be "topped up," either temporarily or permanently, as part of the compensatory mechanisms for accompanying subsidy reforms. This section will primarily focus on scaling up of *coverage*, since this requires significantly more capacity in a country's delivery systems than increasing the benefit generosity level toward existing beneficiaries.

The Delivery Systems Framework is organized around five key inter-related components or "building blocks" illustrated in figure 5. Assessing the capacity of each these building blocks is vital in understanding if the existing SSN program can be utilized for rapid scale-up, needs significant improvement or should be replaced. The five building blocks are as follows:

1 | **The delivery chain.** Most SSNs pass through common implementation phases along the delivery chain, including (a) assessing potential eligibility, via outreach; intake and registration; and assessment of needs and conditions to determine potential eligibility; (b) making decisions on who has a right to be enrolled in the program (which take into account both potential eligibility and other factors, such as fiscal space) and the benefits or service package; and (c) carrying out the implementation cycle of transactions (payments or service provision) and active case management

FIGURE 4: How to Scale Up Coverage or Benefit Levels



(including counseling, conditionalities monitoring, and accompanying measures). Governance processes, such as grievance redress, oversight and controls, and monitoring, also operate along that delivery chain and are covered in some detail in the discussion of governance aspects and citizen interface.

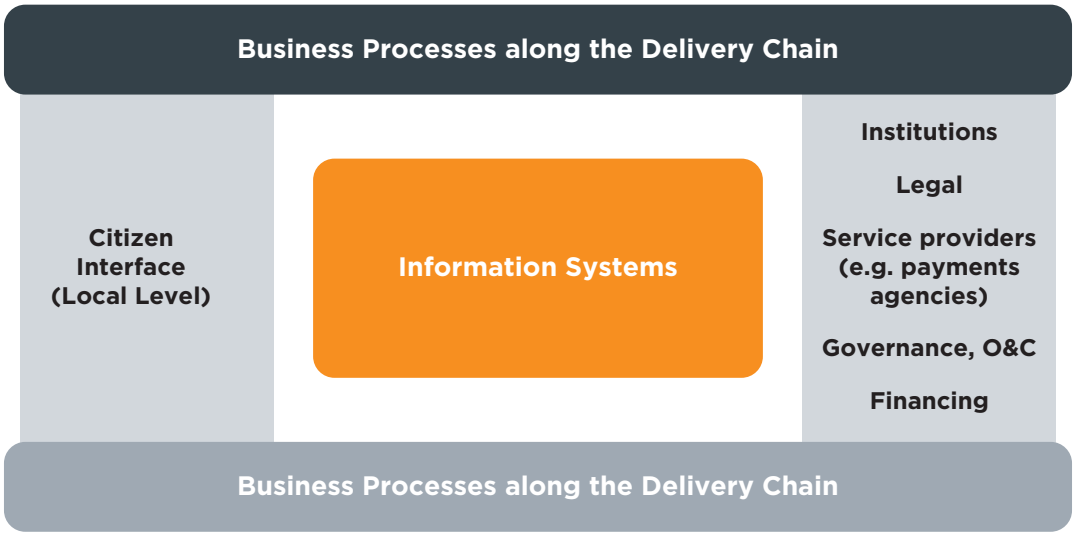
2 | **Institutions and governance.** Another core element of delivery systems includes the program-specific and broader institutions, governance, and financing environment. Institutional aspects include central agencies, horizontal and vertical coordination, and partnerships with service providers (such as payments agents and nongovernmental organizations (NGOs). Governance aspects include legal foundations, oversight and controls, monitoring and evaluation, financial management, citizen engagement, and information policies. Communications cut across institutions and the client management system.

3 | **Information systems platform.** Information systems operate like an "invisible engine" that serves as an intermediary between citizens on the one hand and institutions on the other hand, interacting all along that delivery chain. They are also used for monitoring, reporting, and data analytics. Information systems for social programs increasingly link to other systems for cross-checks and data exchange (interoperability).

4 | **Citizen interface.** "Citizen Interface" is the access point that potential or current beneficiaries have to SSN programs in the different phases of program access and delivery, as well as for queries, grievances, and user feedback.

5 | **Performance monitoring, evaluation, learning, and adaptation** represent another important aspect of delivery systems, such that both SSN programs and their implementation are regularly monitored and evaluated, with feedback loops to improve overall performance. Performance should be monitored for *program* outcome indicators, as well as for *systems* inputs and outputs and how they determine inclusion (coverage, equity, accessibility),

FIGURE 5: Key Building Blocks of the Delivery Systems Framework for SSN Programs



Source: World Bank SPL Delivery Systems Global Solutions Group.

efficiency (for citizens, service providers, and governments), effectiveness, and transparency.

To assess the capacity of a country's delivery system, and its ability to support a rapid expansion, the core building blocks need to be assessed. A gap analysis of the strengths and weaknesses of existing systems, and prioritization and sequencing of actions and investments for filling gaps along the way can be a great tool to do so. Attention should be paid to strengths, as well as gaps in capacity, since the performance of any system is determined by its "weakest links." This "gap analysis" can also benefit from the experiences and lessons learned from a range of typologies and trajectories of delivery systems for SSN programs in other countries. The following sections will go through each of the building blocks in the delivery chain. The recent and still developing application of the gap analysis are the assessment of scalability of CCT programs in Indonesia and Nigeria. Annex B provides an assessment tool containing key questions that can be utilized in the assessment of a country's delivery system.

1. Assessing the Delivery Chain

Although the design of SSNs can vary, most programs pass through a similar implementation phase along the delivery chain. These include *(a)* ***Assessing*** potential eligibility, which involves the functions of *outreach, intake and registration* (or updating of information if person/family is already in program), and *assessing needs and conditions;* (b) ***Deciding*** whether an applicant will be *enrolled, determining the levels of benefits,* and *notifying applicants of these decisions;* and (c) ***implementing*** the program by carrying out *payments* and *service transactions* and *case management.*

Delivery Chain Mapping (DCM) is an important tool in assessing the robustness of the delivery chain that involves identifying "who does what" and "when" for core business processes supporting the functions of the main implementation phases. The following

section highlights the key aspects of the delivery chain that need to be mapped while providing some guiding questions to conduct this analysis.

Outreach **involves interactions to inform people about social programs, build awareness, and encourage potential beneficiaries to apply.** Outreach can also involve two-way communication to inform program design better by gathering inputs, views, and feedback from people and other stakeholders.

"Active Outreach" is often used to proactively reach vulnerable groups that may otherwise be uninformed about social programs or their rights.

Intake and registration **involves the process of collecting information to register potential beneficiaries (applicants) for consideration for potential inclusion in SSN programs.** Such information can include personal and household identifying information (including unique national identification); socioeconomic information; and other information on needs and conditions. This information can be gathered in many ways, including self-reporting by citizens via the "front office" or via data exchange with other administrative information systems in the "back office" (interoperability). Even with interoperability, all SSN programs require some sort of "application form" to allow citizens to signal that they are in need of assistance. In most countries, intake and registration is decentralized to some "local representative," which could take many forms, such as (a) at local office, service window, or kiosk; (b) via mobile teams; (c) via social workers and frontline staff or enumerators; and (d) via digital service windows. These local representatives (or offices) can be managed by central agencies (for example, staff or contractors hired by the central agency) or by local governments.

Assessment of needs and conditions **involves systematic processes and methodologies for determining the needs of applicants (potential beneficiaries) using various eligibility criteria and screening tools for the purposes of determining potential eligibility for programs.** In many countries, this assessment is typically automated in Social Registry Information Systems using software applications, since it involves managing large quantities of information on individuals, households, and socioeconomic status. In other countries, communities themselves determine potential eligibility based on "community-based targeting methods" and protocols.

Enrollment decisions **constitute a distinct phase along the delivery chain—and should not be confused with determining eligibility.** Enrollment decisions depend on many factors. These are not limited to the assessment of socioeconomic needs and conditions to determine potential eligibility from data from the social registry (or from community-based targeting). Other factors also come into play, such as fiscal space for coverage in the SSN program (that is, someone may "qualify," but may not be able to enroll due to limited slots); geographic focus; and additional factors besides socioeconomic status, such as certification of disability or prioritization based on identified losses from subsidy reforms. Moreover, it is important to clarify the institutional roles for enrollment decisions, which may be under the legal jurisdiction of the central agency managing the SSN program or by local governments.

Establishing payroll **encompasses the administrative activities undertaken to produce a payroll list on a periodic basis,**

thereby verifying and officially certifying beneficiaries and the individual payments they will receive. The payments administration module of an information system that supports program management establishes payroll based on data from enrollment (with links to conditionalities monitoring when applicable). The information system may be linked to national social registry and national ID system systems. Payroll information includes data on all individuals entitled to receive a payment—for example, unique ID number and/or national ID number, name, location, entitlement amount, and account. The central agency, such as the Ministry of Social Affairs verifies the (monthly, bimonthly, or quarterly) payroll according to protocols and officially certifies the data to ensure the quality and accuracy of the data. These cross-checks can be conducted through interoperability with the social registry and a national ID system that links to other administrative information systems across government, such as property, vehicle, and civil registries.

Managing payments **involves the process of sending payroll transactions and payment instructions on a periodic basis to Treasury, which schedules payment instructions and sets up funds flow to a payment service provider for the distribution of funds.** The payment instruction file is sent to the national Treasury, which reviews the transaction, enters the payment request and releases or schedules the payment according to the provision of budget and subject to the availability of funds. In many countries, the Treasury operates a treasury single account (TSA) that directly controls all transactions and makes payments on behalf of the spending agency to the payment service provider. In some countries, the Treasury may either transfer budget resources allocated to a specific government agency to accounts held at a bank, and the government agencies then instruct the bank to transfer funds to specific beneficiaries, or the Treasury maintains central control of the cash and sweeps idle balances from accounts held at commercial banks, consolidating the government's cash position at the end of each day.

Distributing payments to beneficiaries **encompasses the activities undertaken by a payment service provider (PSP) and the PSP's agents to provide manual or digital payments to authenticated beneficiaries. Payments distribution may be manual or digital.** In a manual approach, funds are transferred electronically to PSP agent accounts at the implementing level, and the PSP notifies beneficiaries that their payments have been mobilized for delivery. For example, a national post office may deliver cash payments directly to beneficiaries at the local level. In cases where the distribution points are limited or beneficiaries reside in remote areas, program staff may need to withdraw cash from bank accounts and transport the cash to beneficiaries at local payment points. Clearly, oversight, controls, and reconciliation functions are crucial. In digital approaches, funds are electronically transferred to bank or non-bank accounts, where the beneficiaries may withdraw the funds as cash or use them to digitally pay for groceries or other items at established retail outlets. In both cases, the PSP will need to authenticate the identity of the beneficiary, which could be carried out via a payment gateway that provides interoperability with the national ID or biometric system. Distributing payments is the likely phase that would be most affected by scaling up, since capacity for the payments system to reach large numbers of new additional beneficiaries will be tested. The ISPA Good Practice Note for Payments (Pulver 2016) provides a thorough assessment tool for assessing payments.

2. Institutions and Governance

The second key building block is the institutional and governance arrangements to deliver benefits and services. *Institutional aspects* include central agencies, horizontal and vertical coordination, and partnerships with service providers (such as payments agents and NGOs). The *legal framework* covers the use and governance of laws, and provides a foundation for the implementation of policies and programs undertaken to achieve strategic plans and outcomes. Governance aspects include legal framework, oversight and controls, monitoring and evaluation, citizen engagement, and information policies. *Communications* cut across institutions and the citizen interface.

There is no single blueprint for these arrangements, however, that needs to be tailored to local realities, capacities, and structures. In some countries, SSN programs are largely centralized, with the central agency also managing local functions via deconcentrated local offices or through a service delivery agency. In other cases, the central government works in partnership with local governments and other service providers, with a clear division of responsibilities.

Scaling up an existing SSN program, expanding its geographic scope and coverage of beneficiaries, requires additional people, resources, and information. While the program may have been operating—to varying degrees of effectiveness—at the existing scale, scaling up will most likely require covering more beneficiaries (possibly also across a larger geographical area), ensuring additional financial resources (either because of an expansion in number of beneficiaries, increases in benefit amounts, or a combination of both) and/or obtaining additional information. The institutional arrangements that have been supporting the program may, or may not, be well prepared or suited to deal with the required changes.

Assessing whether the existing institutional arrangements and capacity allow for rapid scale-up of existing SSN programs is a two-step process. The first step requires assessing the *status quo* of existing institutional structures, roles, and responsibilities related to the policy definition and implementation levels of the social safety net program being considered and—most importantly—how these formal and informal institutions work in practice. Once an understanding of the status quo has been obtained, based on an assessment of existing constraints, it is possible to s*peculate on the "elasticity"* (or ability to adjust key institutions to the scale of programs they are governing), contemplating how the expansion will impact each of them and what additional measures would need to be taken to ensure smooth implementation.

Assessing the status quo involves assessing two primary aspects of the institutional terrain: (a) who is responsible for the definition of social protection policy, and with the existing legal foundation and organizational form of the social protection "sector" (policy-making function); and (b) what are the systems in place to deliver programs and services (the delivery function) to the public.

Understanding who is responsible for social protection policy is a vital first step in assessing the status quo. Different countries utilize a variety of institutional arrangements to support the definition and coordination of social policy. In some instances, there may be one central ministry/department/agency (MDA) with mandate for policy making, delivery, and interinstitutional coordination.

This is the case, for example, of the strong central MDAs in Brazil, Indonesia, Peru, and the Philippines, but also of more recent MDAs still in the process of consolidating capacity, such as in Guatemala. Alternatively, social protection policymaking may not have a dedicated body, but rather be the responsibility of a national multisectoral planning agency, such as in Nepal and Pakistan. In most cases, the reality lies in between these two, with multiple ministries or agencies assigned to separate (although often overlapping) policy mandates and program portfolios, sometimes aided by interinstitutional coordination bodies.

Understanding the policy-making body's formal (de jure) responsibilities is not enough. Its actual (de facto) capacity, level of technical capability, and financial and political clout are what makes the difference in practice. It will be important to qualitatively assess the existing level of cohesiveness of the government (such as the cabinet), as well as the relative power, influence, and clout of the ministry or agency formally in charge of coordination.

Understanding the arrangements and systems in place to deliver programs and services (the delivery function) to the public, and what the roles of central and local levels are in service delivery is also important. Many social protection programs require shifting some degree of program implementation responsibility to local governments, to nongovernmental public service providers, or to the private sector. In practice, central government typically lead in policy-setting and financing, since safety nets are often not a high priority in social spending for subnational governments compared to, for example, health and education. On the other hand, local governments are frequently called upon to fulfill specific functions during implementation, instrumental to make the most of their proximity to individual households, which can improve outreach, beneficiary identification, and enrollment.

Assessing the resources—monetary, information and systems, capacity—are currently available is the second step in assessing the status quo. For example, if the program is already suffering from funding shortages, it is safe to assume the expansion will also face adequacy of funding issues. If budget flows are unpredictable in nature, making it hard to meet obligations toward current beneficiaries in a consistent way, it is likely that the same issues would affect the program after the expansion.

Understanding the availability of information and data is also critical. If the current program design relied on data collected some years ago, or only covers geographic areas or the target population groups that are currently served, but not the future target areas and groups, then those same data may not be the most appropriate source of information to determine details of expansion. If data are already available, an institutional question is relatively simple: does the agency responsible for using the data to implement the program expansion have access to the data and technical capability to make use of them? If not, it is necessary to understand the institutional arrangement for additional data collection. Does the program rely on a strong social registry? How regularly is this information updated, and who is responsible? The mechanism used for data collection, and its frequency will constrain choices available.

Assessing the existing human resources capacity, the current workload and distribution of tasks, ratio of field staff to beneficiaries and to central level staff, and the use of technology is critical in the case of determining the

possibility—and sustainability—of a safety net expansion. This should be done at the central and local (for example, citizen interface) levels, as well as for service providers if these are used (for example, as payment agents in the case of cash transfers).

Speculating on elasticity is the second step in the institutional analysis. It is vital to understand the impact of a rapid expansion of SSNs (more people, money, and data) on identified constraints. This will help identify the most appropriate course of action and assess the likelihood that the expansion can be sustained. In the short term, it might be possible to identify mitigating measures for each of the key constraints identified. In the long term, it might be possible to also influence these constraints by investing in capacity building and infrastructure. However, the speed and scope of this will also be conditioned by their initial level and by the prevailing institutional constraints.

The main issues to focus on during the assessment will be driven by context, and speculating on the institutional elasticity of the systems in place should be done on a case-by-case basis. In the process, it is useful to identify and signal clearly (to stakeholders and decision makers) which constraints will be beyond the control of implementing agency. Doing so early in the process will help to build consensus around the chosen strategy, while allowing for an adequate—and timely—assessment of risks.

3. Assessing Information Systems

Information systems are one of the fundamental building blocks of a delivery system, and are crucial for supporting the scaling-up of a program. They support key business processes all along the delivery chain, and they serve as a bridge to intermediate between citizens on the one hand and institutions on the other. For program expansion, information systems with the appropriate functionality and capacity must be in place for "getting people in" and for "managing the program and supporting payments administration." These information systems interface with broader digital governance environment.

Four basic architectural elements of Social Information Systems must be in place: (a) information and data; (b) software applications; (c) database management; and (d) information and communication technology (ICT) infrastructure. While the detailed architecture for these information systems varies, information systems that support social protection programs include each of these elements.

Information is the core input and output of these systems. For getting people in, the main "inputs" to the social registry information system include various types of information needed to determine potential eligibility for social programs. The primary "outputs" of social registries are data that have been transformed into standardized formats or aggregations that permit assessment of needs and conditions against program eligibility criteria (such as means-tested incomes and proxy means scores). Countries adopt a variety of methods for collecting or curating the information needed to carry out registration and eligibility determination functions. Some rely on information provided by citizens directly (self-reported information), and some draw on information from other administrative information systems via interoperability. For managing programs and supporting payments administration, the main "inputs" include data on eligible individuals and families, that is, beneficiaries, as well as their national ID

and accounts (bank or non-bank). The main outputs are payroll and payment transfer instructions to payment service providers and to beneficiaries.

Respecting the principles of personal data protection is becoming a critical aspect of the design of these systems. The rise of the Internet and rapid changes in technology have accentuated the virtual aspect of privacy. Various categories of personal information may be regarded as sensitive or critical to personal security or social relations, and thus considered private. When setting up administrative information systems that store and manage personal data, such as social registries and beneficiary and payments administration, it is important to ensure that the privacy of those individuals and families is protected.

Software Applications support key functions of information management to transform and use the data. For getting people in, front office software applications should in place to support the interface with citizens and frontline workers who may operate the application to assist citizens. There must also be back office software application components to supports program and institutional administrators to transform and manage the data for eligibility assessment, data management, and other functions. For managing programs and making payments, back office software applications must be in place for managing information on beneficiaries, and for supporting payment gateways. Payment gateways are critical to providing interoperability with relevant administrative information systems, such as the national ID or biometric systems for cross-checks and authentication of data on individuals and families, as well as to hook up to a range of payment service providers to provide greater choice and convenience to beneficiaries on payment modalities.

The architecture for database management varies significantly across countries, and there is no one single model to follow. Information systems are developed over time using different database management systems (DBMS), and may be owned by different parts of an organization. As a result, data is frequently fragmented across several hardware, software, organizational, and geographic boundaries. Several kinds of architectural models are possible for distributing databases to improve performance of database services, such as a centralized database management system or a virtual or federated model.

ICT infrastructure refers to composite hardware, software, network resources, and services required for the existence, operation, and management of an organization's information technology (IT) environment. It can be as simple as setting up IT equipment (servers, network, storage, power supply, and cooling), in a room onsite, or as complex as commissioning a data center in a warehouse-style building. Several governments[16] are moving toward a shared data center approach to manage the time and cost of procurement, investment, and operations, and to achieve economies of scale for government. Some governments opt for a cloud-based (infrastructure-as-a-service)[17] approach to minimize procurement, investment, and operations costs, and to take advantage of potentially unlimited computing power, although this approach also entails risks.

4. Assessing and Prioritizing Citizen Interface of the Delivery Chain

Another key building block for Delivery Systems is the "Citizen Interface," which is

the point in which citizens (for example, applicants and beneficiaries) interact with the system (or program) all along the Delivery Chain. The key phases for citizen interface include (a) outreach, intake and registration; (b) enrollment decisions and notifications; (c) payments transactions; and (c) case management, grievances, appeals, and queries.

In many instances, the core constraint to scaling up SSN programs is the lack of an adequate network of access points for citizen interface along the delivery chain. Citizen interface is sometimes overlooked in relation to the emphasis given to information systems and broader aspects of institutions, financing, and governance. Citizen interface goes beyond the discussion of central-local institutional roles and gets into the specific systems for supporting these access and service delivery points, as well as user experience. That neglect is controversial because ultimately the goal of SSN programs is to deliver assistance to the right people at the right times in a dynamic and effective manner. When a country is considering *scaling up* an SSN program to cover additional beneficiaries, frontline systems need to be in place to reach citizens first for intake and registration, then for distributing payments, in addition to managing grievances and appeals.

Structurally, citizen interface can take many forms. Intake and registration can be carried out in various modalities, such as (a) at a local office, service window, or kiosk; (b) via mobile teams; (c) via social workers, community agents, and frontline staff or enumerators; and (d) via digital service windows. They can be managed by central agencies (such as staff or contractors hired by the central agency) or by local governments. Grievances and appeals are often handled through various channels, such as social workers directly (mobile or at local offices), hotlines and call centers, and digital systems. Local offices can be managed by local governments or by central agencies (with staff or contractors). Payments distribution is another important "touchpoint" for citizen interface, and the modalities depend on the payment methods used. Manual payments are usually managed by program staff or post offices. Electronic payments rely on the management of payments technology, which is usually outsourced to a third-party payment service provider (PSP,) such as a bank, a mobile network operator (MNO) or mobile money operator, or a payment aggregator.

5. CONCLUSION

International experience shows that many countries introduce SSN programs during subsidy reform in hopes of seeing SSNs as a panacea for the political economy challenges and welfare implications of the proposed reform. However, when ESR is retroactively used to as a trigger to implement SSNs, little planning is possible. Instead, planning to utilize SSNs to compensate the poor for the impact of ESRs, and making the preparations to do so, should predate ESR going into effect.

This note illustrates the need for policy makers to first ascertain whether SSNs are needed, given the proposed subsidy reform. Second, if the expansion of the SSN is deemed necessary, it must fit into the fiscal space available. Third, introduction of the new large-scale program (or expansion of an existing one) must be administratively feasible, thereby abiding by the principles of good program design, including outreach, in-take, and registration, assessment of conditions and needs, enrollment, payments while ensuring that institutions and robust information systems are there to support the expansion of the SSNs. Finally, work on SSNs to support ESRs provides options for policy makers to increase citizen engagement and improve the delivery of the existing programs.

ANNEX A: SUBSIDY REFORM AND PRIMARY MITIGATION MEASURES IN SELECT COUNTRIES

Country and year	SSN mitigation measure	Source
Algeria 2016	The government of Algeria did not implement any new mitigation measures in response to the 2016 round of reforms given the relatively small increase in energy prices that were involved, and the immediate impact on poverty of the increase in energy prices prescribed in the 2016 budget law was deemed to be minimal. However, the government is working with the WB to introduce a targeted cash transfer system to protect the most vulnerable households from the negative impacts of much-needed future reforms.	Jewell 2016 and IMF 2016
Armenia 1995–99	Energy subsidy reforms in Armenia were accompanied with an overhaul of the existing SSN system. The launch of the cash transfer program, the **Poverty Family Benefit** program, was introduced and, unlike previous SSN programs, was means-tested.	IMF 2013
Brazil 2002	After the withdrawal of LPG subsidies in 2001, the government introduced a new conditional cash transfers program, the Bolsa Escola in 2001. The government also introduced a new LPG subsidy in 2002 to assist low-income families in purchasing LPG through a gas voucher. Eligibility was based on a means test. Both targeted programs were consolidated under a new national flagship conditional cash transfer program, the **Bolsa Familia**, in 2003.	IMF 2013
China 2010	In 2010 the government implemented electricity price reforms. Poor and vulnerable households (with an annual disposable income of less than Y 5,000 in urban areas and almost no regular income in rural areas) were supported by receiving 10–15 kWh of free electricity volume per month as a common service.	Zhang and Qin 2015
Egypt 2014	The Ministry of Social Solidarity (MoSS) was mandated to establish and implement two new cash transfer programs—**Takaful and Karama ("Solidarity and Dignity")**—with an emphasis on building effective targeting and efficient operational systems.	Feltenstein 2017 World Bank 2015
Ghana 2013	In 2013, the Government of Ghana introduced substantial fuel and electricity subsidy reforms, including raising the price of kerosene by 15% and LPG by 50%. To mitigate the impact on the poor, the government expanded the cash transfer program (**Ghanaian Livelihood Empowerment Against Poverty Program or LEAP**) from 100,000 to 150,000 households.	Davis and others 2016
India 2012	In 2012 India brought the price of LPG sold to domestic consumers up to the market level. The government developed a cash transfer, known as the **PAHAL–Direct Benefits Transfer for LPG** (DBTL) scheme, to about 165 million listed beneficiaries. The program was thoroughly revised in 2015. India's LPG subsidy is not targeted. It is available to all households, with the rich being asked to give up the subsidy voluntarily.	Jain, Agrawal, and Ganesan 2016
Indonesia 2005	In 2005, the Government of Indonesia implemented significant fuel subsidy reforms in response to the global rise in oil prices that began in 2004. To mitigate the impact on poor and vulnerable households, the government introduced the **Bantuan Langsung Tunai (BLT)** program—a temporary unconditional cash transfer program also known as Direct Cash Assistance. In total, four payments were made to poor households over the span of one year worth around US$30 each. In total, around 19.6 million households—more than a third of the households in Indonesia—received support.	World Bank 2012
Indonesia 2008	Following a further round of fuel subsidy reforms 2008, the Government of Indonesia implemented another round of compensation measures. The largest measure consisted of two payments through the **BLT** unconditional cash transfer system at a reported cost of US$1.52 billion, reaching 19 million households. Additional mitigation measures included subsidized rice, loans for small businesses, and educational support for the families of lower-ranking civil servants and the military.	Beaton and Lonotoh 2010.

Country and year	SSN mitigation measure	Source
Indonesia 2013	In 2013 the Government of Indonesia implemented large-scale petroleum reforms combined with a Rp 29.1 trillion package of compensation mechanisms targeted at low-income households. The unconditional cash transfer previously known as BLT was renamed the **Temporary Cash Transfer Program (Bantuan Langsung Sementara Masyarakat, or BLSM)**. The BLSM provided households with Rp 150,000 (US$15) per month for 4 months. The program was renamed to highlight the temporary nature of the policy, since it attracted criticism in previous years for being short-term and not seeking to promote a long-term exit strategy from poverty. The 2013 BLSM transfers were targeted using the new Unified Database (UDB), a targeting registry developed in 2012.	Inchauste and Victor 2017
Indonesia 2014	In 2014, shortly after the election, the Government of Indonesia launched significant fuel-price hikes. Shortly after the price hikes, the government began a new round of **BLSM** payments. In total, monthly BLSM payments were made to the poor over 6 months.	Inchauste and Victor 2017 World Bank 2016
Jordan 2008	Compensatory expenditure measures were taken to protect vulnerable groups: (a) cash assistance to the poor in the private sector; (b) an increase in assistance provided by the National Aid Fund (NAF); and (c) financial support targeted at small-scale farmers.	Inchauste and Victor 2017
Jordan 2012	To mitigate the social impact of the subsidy removal, a cash transfer was introduced for families with an annual income below JD 10,000 (US$14,100) (who amounted to 70% of the population), based on self-reported income levels. These transfers consisted of JD 70 per person per year (for a maximum six people per household), amounting to about 6% of the income of the poorest decile. Public sector employees and pensioners, social security subscribers, and NAF beneficiaries received disbursements automatically through the government payroll. The program was discontinued.	Araar and others 2013 Inchauste and Victor 2017
Mexico 2017	Although the government implemented significant energy subsidy reforms in 2017, Mexico already had a well-targeted social protection system (**Progresa/Oportunidades/Prospera**) that updated cash transfers annually in line with inflation. As a result, authorities did not develop any new compensatory measures in response to reforms.	Feltenstein 2017
Morocco 2012–15	In response to the gradual increase in fuel prices, the government of Morocco continued to strengthen its existing social safety net system, including the accuracy of their targeting.	Sdralevich and others 2014
Nigeria 2012	The primary compensatory mechanism introduced as part of Nigeria's energy subsidy reforms was the Subsidy Reinvestment and Empowerment (SURE) Program that included a cash transfer program (**SURE-P MCH**).	Feltenstein 2017
Pakistan 2009–10	Coinciding with Pakistan's 2009–10 energy subsidy reform, the **Benazir Income Support Programme (BISP)** was developed to provide compensation to economically stressed segments of the population dealing with the spiraling prices of the essential commodities caused by subsidy reforms. The BISP provided support to the poor and vulnerable through monthly cash transfers to eligible households.	IMF 2017
Peru 2011	Mitigating measures were not implemented, since reforms did not reduce subsidies for products most heavily consumed by the poor.	IMF 2013
Turkey 2005	No new SSN measures were implemented, since government authorities relied on existing SSN programs to support the poor and vulnerable during reforms.	IMF 2013
Tunisia 2012–13	In response to ESR, the Government of Tunisia introduced an additional lifeline electricity tariff for households consuming less than 100 kWh per month. In addition, the government introduced a new social housing program for vulnerable families.	Sdralevich and others 2014
Uganda 2012	In response to the 2012 power tariff reform, the government developed a lifeline tariff for low-income consumers, consuming up to 15 kWh a month.	IMF 2013

Country and year	SSN mitigation measure	Source
Yemen 2010	Impacts of the 2010 reform were almost simultaneously mitigated by a 50% expansion in the coverage of the **Social Welfare Fund** cash transfer scheme.	IMF 2013 Sdralevich and others 2014
Yemen 2011–12	There were no new mitigating measures introduced in response to the 2011–12 reforms, but the government did consider a further increase in the **Social Welfare Fund** coverage or the size of existing transfers.	IMF 2013

ANNEX B: ASSESSMENT TOOL FOR ASSESSING EXISTING DELIVERY SYSTEMS FOR SCALE-UP

1.ASSESSING THE DELIVERY CHAIN

1.1. Outreach

1 | To what extent are special efforts made to reach out to vulnerable groups and communities?

2 | Are there ethnic and language differences within a country that should be taken into account in developing the outreach strategy?

3 | Which agency or local government level is responsible for defining the outreach strategy?

4 | To what extent are various communications, media, and social media channels used to inform the population about social protection programs and the means to register?

5 | Are communities involved in any process of the outreach? Which processes?

6 | Do citizens know their rights, and responsibilities regarding social protection? Is it standard process to inform citizens of various aspects of their rights and responsibilities, such as the following?

a. That registering for social protection programs does not guarantee enrollment in the social programs or awarding of benefits;

b. How the intake and registration process works and what information or documentation will be required of them;

c. How their information will be used and how they can access their information or query the system; and

d. How and when they need to update their information.

7 | What kind of supervision and monitoring procedures are in place for evaluating the quality of the communication and outreach?

1.2. Intake and Registration

1 | Which agency or local government level is responsible for intake and registration processes?

2 | What are the specific steps for conducting intake and registration, and who is responsible for carrying out—and supervising—each step?

3 | What application form would be used to support the expansion of the SSN program? Would this application allow for access to a single program or multiple programs? What form of ID and other types of documentation are required?

4 | What are the points of contact for citizens to file application forms? Where are interviews carried out? Are home visits required (for all applicants or some subset)?

5 | Are these points of contact available throughout the country—or at least among target populations for the expansion?

6 | Is access to registration open and continuous, whereby people can register at any time (usually through a digital service window for citizens)? Is there a specific open enrollment period? Or is it open throughout the year? Or is it open until user program slots (budget) are filled up?

7 | In the case of en masse registration waves, are households in locations-not-surveyed allowed to apply for inclusion in the social registry?

8 | Do households that are already included in the program need to update their information?

9 | Do applicants sign statements certifying veracity of information provided? Do they sign or otherwise endorse consent forms for use of their information?

1.3. Assessment of Needs and Conditions

1 | What are the main steps in determining potential eligibility for social assistance programs?

2 | Is the process automated within the social registry (via software applications)?

3 | Is the process for determining potential eligibility written up in any manual or guide? (Or the automated rules for calculating scores or aggregates?)

1.4. Enrollment decisions

1 | What factors influence enrollment decisions?

2 | What are the eligibility criteria based on socioeconomic status (assessment of needs and conditions)?

3 | What other factors are considered? How do these relate to (a) definition of program objectives and the target population; (b) subsidy reforms (as compensatory measure); (c) geographic location; (d) other indicators of vulnerability (how measured, certified); and (e) fiscal space (and any implications for rationing of excess demand)?

4 | Are these criteria and the process for taking enrollment decisions written up in any manual or guide?

5 | Which institution (and responsible person) takes these enrollment decisions?

6 | How are these decisions documented for tracking, monitoring, auditing, and potential appeals?

1.5. Establishing payroll

1 | Which agencies are responsible for establishing, verifying, and certifying payroll?

2 | What information system (or module within a system) supports payments administration? Does it link to other administrative information systems, such as national ID or biometrics?

3 | Which agency is responsible for managing the information system module for payments?

4 | What information is needed to accompany and verify payroll?

5 | What are the steps for establishing payroll? How long do these steps take?

1.6 Managing payments

1 | Are payments managed through a treasury single account? If not, how are transfers of budget resources and cash managed?

2 | Particularly with regard to scaling up to cover remote and underserved areas, how are payment transfers to the local or subnational payment service providers or payment points managed through the treasury single account?

1.7 Distributing payments to beneficiaries

1 | Which agencies are responsible for overseeing payments distribution and implementing payment transactions to beneficiaries?

2 | How will beneficiaries receive their cash transfers? Manually? Digitally? In what specific form?

3 | What are the steps for payments distribution?

4 | What are the procedures for authenticating identification for payments? What information tools support this?

5 | What is the schedule of payments? Monthly, bimonthly, quarterly? In the scenario of scaling up, would this payments schedule be maintained for all existing and new beneficiaries?

6 | How are beneficiaries authenticated at the payment point?

7 | What are the steps for payments reconciliation? Who carries this out?

8 | What are the auditing procedures?

9 | In the scenario for scaling up, what are the capacity gaps to support expansion in coverage? Do potential new beneficiaries have access to the payments distribution system?

2. ASSESSING INSTITUTIONS AND GOVERNANCE

2.1 Assessing the Status Quo

1 | Which ministries/departments/agencies are involved in social protection policymaking?

2 | Which, if any, has the formal authority and responsibility to lead SP policymaking and coordinate other agencies/programs?

3 | What is the institutional clout or power of the ministry or department that would be in charge of the expansion?

4 | Can the program exert enough power over needed actors?

5 | What are the implementation arrangements and roles of central vs. local levels? How concentrated or distributed the various core roles in program implementation among institutional actors?

6 | What are the political costs of relationship with local government?

7 | Are service providers (such as payment agents) involved?

8 | What is the existing grievance mechanism?

9 | Who is responsible for its administration and follow-up?

10 | Are budget allocations adequate or is the program suffering from funding shortages?

11 | How predictable is the funding (annual budget allocations) and flow of funds (during execution)?

12 | What information was used to design the existing program?

13 | Who is responsible for collecting it?

14 | What is the speed or frequency of data collection?

15 | What is the existing human resources capacity (at the central and local level)?

16 | What is the ratio of field staff to beneficiaries, of central staff to field staff, of central staff to beneficiaries?

17 | Are there incentive schemes in place (for example, to local governments or actors involved in delivery)?

18 | What is the capacity to recruit and supervise (including regulatory hurdles)?

19 | Is current workload appropriate for size?

20 | Is there any suboptimal IT use?

2.2 Speculating on Elasticity

1 | Are there misalignments of vision or expectations at the cabinet or bureaucratic level that can affect speed or coherence of reform?

2 | At bureaucratic level, what is the planning process? Where does the ministry/sector sit?

3 | What are additional coordination and implementation costs involved in mobilizing more bureaucracy?

4 | What are competing demands for fiscal resources given the broader political context?

5 | Can we guarantee predictability of annual allocations and fund flows during budget execution?

6 | If money is not a constraint, are there other bottlenecks?

7 | If subnational governments play significant roles in program implementation, does the decision-making process adequately take their views into account (without being captured by them)?

8 | Can new incentives be provided?

9 | What are additional coordination and implementation costs involved in mobilizing more bureaucracy?

10 | Will the expansion require additional financial burden by subnational governments, and if so, are they generally in a position to shoulder these additional burdens?

11 | Does the existing implementation model facilitate or constrain the choice of a particular expansion (for example, if the province plays a central role, expanding into additional municipalities in that province may be more feasible than going into a whole new province)?

12 | If local governments are involved, are there disparities in capacity that would be highlighted? Political costs? If local governments are not involved, what other institutional arrangements should be created?

13 | Can additional service delivery staff be hired (including regulatory constraints)?

14 | If service delivery agents are involved, can the contracting arrangement be easily modified to support the expansion? Will new or additional agents be required?

15 | Does the expansion involve changes in program design and tools (for example, targeting and expansion to urban areas)? Do we have enough information?

16 | Can we collect it rapidly? Who is responsible?

17 | Can existing technology and information systems support an expansion?

3. ASSESSING INFORMATION SYSTEMS

3.1 Information

1 | What types of information are stored?

2 | What type of modalities are used for collecting information?

3 | To what extent are there defined protocols for data validation and data verification for the social registry, and are these protocols accessible to the appropriate stakeholders?

4 | Are there protocols to validate (through cross-check and logic) and verify the correctness of data sourced from other administrative information systems?

5 | What are the protocols when self-reported information conflicts with information existing in the social registry or other information systems?

6 | What are the protocols for personal data protection?

a. Is there a documented information security policy and a policy for confidentiality of personal information (privacy)?

b. Is there a set of standards for data access, data use/disposal, and data confidentiality?

3.2 Software Applications

1 | Are there front-office software applications for citizens and social workers, facilitators, and mobile teams?

2 | Are there back-office software applications for administrators in central and subnational government agencies?

3 | What kinds of functionalities are available through the front-office software application?

4 | What kinds of functionalities are available through the back-office software application?

5 | How will these software applications be designed, developed, operated, and maintained?

6 | Is there a modular approach to software applications development and management?

7 | Will the software applications be built in-house or outsourced?

8 | Are there user guides for operating the application?

9 | Is training required and how will users be trained to operate the application?

10 | Is there an open source policy for applications development?

11 | How will technical capacity be built to ensure sustained support for the systems?

3.3 Database Management

1 | Who "owns" or "hosts" the database (custodian)?

2 | Which database technology platform is used to house the data?

3 | What is the current database size?

4 | Who manages the database?

5 | Is there an access control policy for the database?

6 | Is there a data management manual to establish data processing and data service protocols, particularly ensure data integrity and confidentiality?

7 | Does a data dictionary exist with information (or metadata) about data?

8 | How does the system generate reports and analytics?

9 | What are the modalities for data sharing with other institutions and information systems?

a. Does the dataset include a unique ID (or set of identifiers) for applicants and potential beneficiaries that can be utilized for interoperability and data sharing between agencies?

b. Are there biometrics to identify applicants and to prevent duplication?

c. Are APIs used for data sharing between agencies?

d. Are there any feedback loops for data flows between the various components of the system?

3.4 ICT Infrastructure

1 | Describe the ICT infrastructure that supports the system. Is the infrastructure housed in-house (in a central place) or at a data center?

2 | Is the data center owned by the agency or by a vendor?

3 | Does the data center serve only the agency or is it a shared data center for some or whole of government?

4 | Is there a system Integrity and risk management framework?

5 | Are hardware resources sufficient or aging (based on a periodic review)?

6 | Is access to servers and network devices restricted, controlled and monitored? Are they protected from the elements (sun/sand/water/fire)? Are they in a climate-controlled environment?

7 | Are disaster recovery systems in place? In case of disaster, are there standard operation procedures in place? Have these procedures been tested?

8 | Are there connections to redundant power supplies, and arrangements for power interruptions?

9 | What kind of network strategy is used?

10 | What are the technology platforms upon which the information systems are based?

4. ASSESSING AND PRIORITIZING CITIZEN INTERFACE OF THE DELIVERY CHAIN

1 | What are the existing modalities for interfacing with citizens for each of these functions and processes along the delivery chain?

a. Modalities: social workers, mobile teams, community focal points, local offices, call centers or hotlines, digital interface, payments.

b. How permanent are these points of contact? How frequent? Static? Dynamic?

c. What is the geographic spread of the network for citizen interface? Does it reach all regions (districts, municipalities) of the country?

2 | What are the legal and institutional arrangements for citizen interface?

a. Who is responsible for managing citizen interface for the various stages of the delivery chain (for example, intake and registration, payments, and grievances)?

b. What about human resource management and supervision?

c. Who finances the administrative costs of citizen interface for the various implementation phases?

3 | What are the service standards for citizen interface?

a. Accessibility.

b. Simplicity.

c. Service standards and culture.

d. Communications.

e. Private cost implications for citizens to interface with the system: time, costs, visits.

f. What is the user experience of applicants and beneficiaries along the delivery chain? What is the applicant or beneficiary journey throughout the process? (Use of beneficiary journey mapping tools can be useful.)

4 | What are the additional resources needed for citizen interface when a program scales up?

a. What is the current caseload of frontline staff—and how might this change with scaling up? Are the "job descriptions" (roles, terms of reference, means of evaluation) for human resources on the front lines clear? How do they link to core functions along the delivery chain?

b. What are the human and material resource implications for scaling up? What would be the contractual arrangements for adding human resources (staff, contractors)? What is the capacity to recruit and supervise additional human resources (including regulatory hurdles)?

c. Can existing systems and infrastructure be leveraged to support the expansion? (for example, via local government offices, citizen service centers, or other programs?)

d. If the program is to multiply in size (with coverage expanding, say, by a factor of 5), does this automatically imply expanding resource inputs by that same factor (5)—or can efficiencies be found through simplification, economies of scale, careful implementation planning to mobilize resources across regions, or by leveraging existing offices and infrastructure?

REFERENCES

Jain, Abhishek, Shalu Agrawal, and Karthik Ganesan. 2016. DBTL *Performance Evaluation: Insights from the World's Largest Subsidy Benefit Transfer Scheme*. Manitoba, Canada: International Institute for Sustainable Development.

Araar, A., E. Le Borgne, U. Serajuddin, and P. Verme. 2013. *An Assessment of the Jordan 2012 Petroleum Subsidies Reform and Cash Compensation Program*. Report 79837. Washington, DC: World Bank.

Atamanov, Aziz, Jon Robbert Jellema, and Umar Serajuddin. 2015. *Energy Subsidies Reform in Jordan: Welfare Implications of Different Scenarios*. Washington, DC: World Bank.

Bastagli, Francesca, Jessica Hagen-Zanker, Luke Harman, Valentina Barca, Georgina Sturge, and Tanja Schmidt, with Luca Pellerano. 2016. *Cash Transfers: What Does the Evidence Say? A Rigorous Review of Programme Impact and of the Role of Design and Implementation Features*. London: ODI.

Beaton, C., and L. Lontoh. 2010. *Lessons Learned from Indonesia's Attempts to Reform Fossil-Fuel Subsidies.* Report of the Global Studies Initiative of the International Institute for Sustainable Development, Geneva and Winnipeg.

Clements, Benedict, David Coady, Stefania Fabrizio, Sanjeev Gupta, Trevor Alleyne, and Carlo Sdralevich. 2013. *Energy Subsidy Reform: Lessons and Implications*. Washington, DC: International Monetary Fund.

Coady, David, Valentina Famini, Louis Sears. 2015. *The Unequal Benefits of Fuel Subsidies Revisited: Evidence for Developing Countries.* Fiscal Affairs Department, Working Paper WP/15/250. Washington, DC: International Monetary Fund. http://www.imf.org/external/pubs/ft/wp/2015/wp15250.pdf

Cuesta Leiva, Jose Antonio, Abdelrahmen El Lahga, and Gabriel Lara Ibarra. 2015. *The Socioeconomic Impacts of Energy Reform in Tunisia: A Simulation Approach.* Policy Research Working Paper WPS 7312. Washington, DC: World Bank.

Cuesta Leiva, Jose Antonio, Gabriel Lara Ibarra, Abdoul Gadiry Barry, Laura Maria Maratou-Kolias, Abdel Rahman El-Laga, Jose Antonio Cuesta Leiva. 2016. *Tunisia—Poverty Assessment.* Washington, DC: World Bank.

Davis, Benjamin, Sudhanshu Handa, Nicola Hypher, Natalia Winder Rossi, Paul Winters, and Jennifer Yablonski (eds.). 2016. *From Evidence to Action: The Story of Cash Transfers and Impact Evaluation in Sub-Saharan Africa.* FAO, UNICEF: Oxford University Press.

Egyptian Ministry of Finance. *Egypt State General Budget for the Fiscal Year 2014/15.*

Egyptian Ministry of Petroleum. July 2014. *Egypt Energy Price Schedule.*

Ersado, Lire, Victoria Levin, Haneen Sayed. 2012. *A Note on the National Aid Fund: Categorical Targeting vs. Poverty-Based Targeting.* Washington, DC: World Bank.

Feltenstein, Andrew. 2017. *Subsidy Reforms and Implications for Social Protection: An Analysis of IMF Advice on Food and Fuel Subsidies*. IEO Background Paper BP/17-01/02. Washington, DC: Independent Evaluation Office of the International Monetary Fund.

GSI (Global Subsidies Initiative). 2012. *Phasing Out Inefficient Fossil-Fuel Subsidies to Reduce Waste and Limit CO Emissions While Protecting the Poor.* Geneva: Global Subsidies Initiative of the International Institute for Sustainable Development.

Gentilini, Ugo. 2016. *The Other Side of the Coin: The Comparative Evidence of Cash and In-Kind Transfers in Humanitarian Situations*. Washington, DC: World Bank.

Honorati, Maddalena, Ugo Gentilini, and Ruslan G. Yemtsov. 2015. *The State of Social Safety Nets 2015.* Washington, DC: World Bank. http://documents.worldbank.org/curated/en/415491467994645020/The-state-of-social-safety-nets-2015

IEG (Independent Evaluation Group). 2011. "Social Safety Nets: An Evaluation of World Bank Support 2000–2010." Washington, DC: World Bank.

IMF 2016. *Algeria: Selected Issues.* IMF Country Report 16/128. Washington, DC: International Monetary Fund.

IMF. 2008. Jordan: *2008 Article IV Consultation—Staff Report; and Public Information Notice on the Executive Board Discussion.* Country Report 08/290. Washington, DC: International Monetary Fund.

IMF. 2012. "Fiscal Monitor Update January 2012." Fiscal Affairs Department. Washington, DC: IMF.

IMF. 2013. *Case Studies on Energy Subsidy Reform: Lessons and Implications*. Washington DC: IMF.

IMF. 2016. *Jordan: Request for an Extended Arrangement under the Extended Fund Facility—Staff Report*. IMF Country Report 16/295. Washington, DC: International Monetary Fund.

IMF. 2016. *Tunisia: Request for an Extended Arrangement under the Extended Fund Facility—Staff Report*. IMF Country Report 16/138. Washington, DC: International Monetary Fund.

IMF. 2017. *Arab Republic of Egypt: Request for Extended Arrangement under the Extended Fund Facility—Staff Report*. IMF Country Report 17/17. Washington, DC: International Monetary Fund.

IMF. 2017. *Pakistan: Selected Issues.* IMF Country Report 17/213. Washington, DC: International Monetary Fund.

Inchauste, Gabriela, and David Victor (eds.). 2017. *The Political Economy of Energy Subsidy Reform.* Washington, DC: World Bank.

Jain, Abhishek, Shalu Agrawal, and Karthik Ganesan. 2016. *DBTL Performance Evaluation: Insights from the World's Largest Subsidy Benefit Transfer Scheme.* Manitoba, Canada: International Institute for Sustainable Development.

Jewell, Andrew. 2016. *The Need for Subsidy Reform in Algeria.* Washington, DC: International Monetary Fund.

Karippacheril, Tina George, Soonhee Kim, Robert Beschel, and Changyong Choi. 2016. *Bringing Government into the 21st Century: The Korean Digital Governance Experience.* Washington, DC: World Bank.

Lakner, C., and C. Ruggeri Laderchi. 2016. *Pulling Apart? The Growth of the Super-Rich in East Asia and Pacific and Its Implications for Inclusive Growth.* Washington, DC: World Bank.

Levin, Victoria, Matteo Morgandi, Joana C. G. Silva. 2012. *Inclusion and Resilience: The Way Forward for Social Safety Nets in the Middle East and North Africa—Overview.* MENA Development Report. Washington, DC: World Bank.

Pulver, Caroline. 2016. Social Protection *Payments Delivery Mechanism*. Inter Agency Social Protection Assessments (ISPA) Payments Working Group. Inter Agency Social Protection Assessments Partnership. Washington, DC: World Bank.

Sdralevich, Carlo, Randa Sab, Younes Zouhar, and Giorgia Albertin. 2014. *Subsidy Reform in the Middle East and North Africa: Recent Progress and Challenges Ahead.* Washington, DC: International Monetary Fund.

Tesliuc, Emil, Lucian Pop, Margaret Grosh, and Ruslan Yemtsov. 2014. *Income Support for the Poorest: A Review of Experience in Eastern Europe and Central Asia.* HDN Directions in Development 2014. Washington, DC: World Bank.

Vagliasindi, Maria. 2013. *Implementing Energy Subsidy Reforms: Evidence from Developing Countries.* Washington, DC: World Bank.

Verme, Paolo, and Khalid El-Massnaoui. 2015. *An Evaluation of the 2014 Subsidy Reforms in Morocco and a Simulation of Further Reforms.* Policy Research Working Paper WPS 7224, Impact Evaluation series. Washington, DC: World Bank.

Verme, Paolo, Khalid El-Massnaoui, Abdelkrim Araar. 2014. *Reforming Subsidies in Morocco.* Economic Premise 134. Washington, DC: World Bank.

Walker, Thomas, Ezgi Canpolat, Farah Khalid Khan, and Adea Kryeziu. 2016. Residential Electricity Subsidies in Pakistan. Targeting, Welfare Impacts, and Options for Reform. Washington, DC: World Bank.

World Bank. 1997. "Project Appraisal Document for Romania: Social Protection Adjustment Loan." Report 7114-RO. Washington, DC: World Bank.

World Bank. 2010. Egypt, *Arab Republic of—Food Subsidies: Benefit Incidence and Leakages.* Washington, DC: World Bank.

World Bank. 2012. *Targeting Poor and Vulnerable Households in Indonesia*. Public Expenditure Review, Report 67217. Washington, DC: World Bank.

World Bank 2013. "Vers une meilleure equite: les subventions energetiques, le ciblage, et la protection sociale en Tunisie." Policy note. Washington DC: World Bank.

World Bank. 2014. "Project Appraisal Document for Ukraine: Social Safety Nets Modernization Project (P128344)." Report 84672-UA. Washington, DC: World Bank.

World Bank. 2015. *US$400 Million Program to Support 1.5 Million Poor Egyptian Families through Enhanced Social Safety Nets.* Press Release, Washington, DC: World Bank. April.

World Bank. 2016. *Indonesia Economic Quarterly: Resilience Through Reforms*. Washington, DC: World Bank.

World Bank. 2017. *Closing the Gap: The State of Social Safety Nets 2017.* Washington, DC: World Bank. http://documents.worldbank.org/curated/en/811281494500586712/Closing-the-gap-the-state-of-social-safety-nets-2017

World Bank database. ASPIRE: The Atlas of Social Protection Indicators of Resilience and Equity. Washington, DC. http://datatopics.worldbank.org/aspire/

Zhang, Shawn, and Xuqing Qin. 2015. *Lessons Learned from China's Residential Tiered Electricity Pricing Reform.* Research Report. Winnipeg, Manitoba: International Institute for Sustainable Development.

ENDNOTES

1 *Benefits* can be in cash or in kind. Examples include cash transfers (conditional or unconditional), public works, in-work benefits, unemployment benefits, sickness and injury, disability benefits, care-giver allowances, social pensions, contributory pensions, food stamps, housing vouchers or subsidies, utility benefits or subsidies, transport subsidies, birth-child-family allowances, maternity benefits, nutrition supplements, scholarships, and school feeding. *Services* include social services (such as intermediation, counseling, psycho-social support services, parenting and family services, child protective services, child care services, and services for at-risk youth), labor services (such as ALMP/activation services, training, and skills development), financial and productive inclusion services, and social and long-term care services for the elderly and disabled.

2 The overview of spending on SSN across countries is provided in World Bank (2017). Updated information can be found in the World Bank database, ASPIRE: The Atlas of Social Protection Indicators of Resilience and Equity.

3 Some forms of energy subsidies can be less regressive that others—such as subsidized LPG bottles that is used for cooking tends to have rather flat distribution, when all households use similar amounts or even progressive (when richer households use other forms of energy, such as electricity or gas connections).

4 Some forms of energy subsidy can be targeted—such as electricity bills can be subsidized for the poor, or subsidized LPG can be distributed to the poor using vouchers. However, targeting of network energy requires individually and accurately metering each customer in addition to resisting the political pressure to increase the lifeline block size, while any dual price regimes for liquid fuels creates incentives for smuggling and corruption.

5 Policy makers may instead opt for different quasi-monetary modalities related to targeting subsidies to selected groups (such as the introduction of lifeline tariffs or compensation to transport services providers to the reduce costs of operations after general increases in the price of gasoline).

6 Verme, El-Massnaoui, and Araar 2014.

7 World Bank 1997.

8 See Inchauste and Victor 2017.

9 See Araar and others 2013 and World Bank 2013.

10 Beaton and Lontoh 2010.

11 Jain, Agrawal, and Ganesan 2016.

12 See Araar and others 2013.

13 World Bank 2014.

14 Note that analysis using an input-output table, which has fixed coefficients and does not allow for substitution, including CGE modeling based on a social accounting matrix, is likely to significantly overstate the magnitude of indirect effects. As recognized by Coady, Famini, and Sears (2015), such estimates should therefore be considered short-term effects or upper bounds of the long-term effects. Note that a CGE model does not have to be based on an I/O table, although most are.

15 Recent evidence on the shift from fuels to biomass has been provided, for example, by the recent policy pilots in India, involving switching from in-kind to cash benefits for LPG and kerosene. Because of the specific design of those measures, household facing poor banking facilities and other barriers to accessing the benefit dramatically reduced their consumption of LPG moving to “dirty“ fuels (GSI 2012).

16 The Republic of Korea built a Government Integrated Data Center in 2005 for the entire government with more than 20,000 pieces of hardware equipment and a 30% reduction in data center costs. (Karippacheril and others 2016).

17 Parts of the U.S. government use cloud-based Amazon Web services as infrastructure as a service.

Energy Subsidy Reform Assessment Framework

LIST OF GOOD PRACTICE NOTES

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