Costing social protection: defining targets and scope for SSN programs

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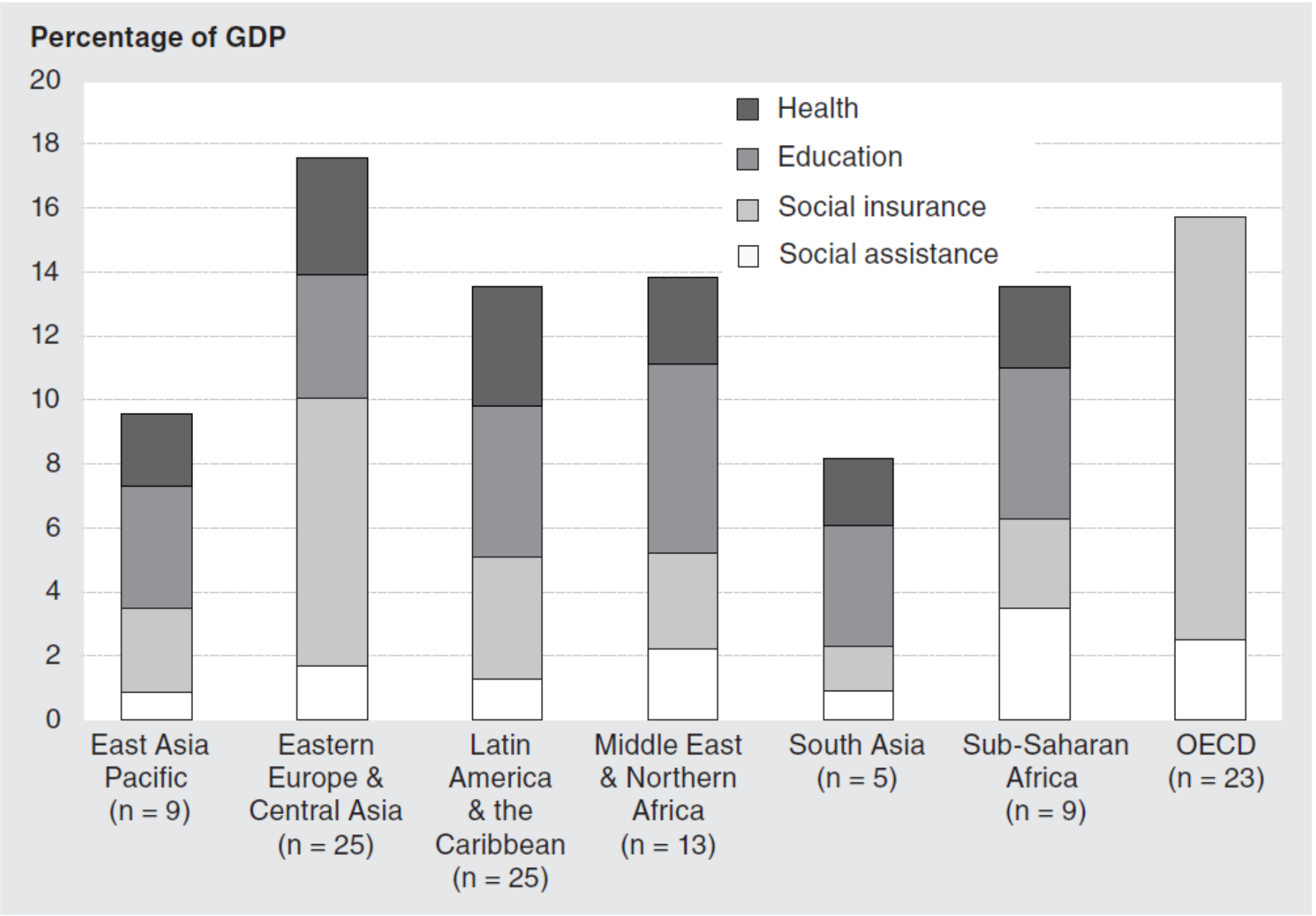
Target: design a good safety nets

- Appropriate: respond to particular needs
- Adequate: cover the right population, and provide the adequate benefit
- Cost-effective: run efficiently with the minimum resource to carry out program functions.
- Incentive compatible: do not generate negative incentives
- Sustainable: pursued in a balanced manner

International experience: Cost of safety nets (Weigand and Grosh, 2008)

- 0-2% of GDP in developing countries
- 2-4% of GDP in industrial countries
- Average spending tends to be higher in middle-income countries
- Average spending 1.9% of GDP and median 1.4% of GDP
- (+) Correlated with GDP, and (-) correlated with inequality

FIGURE 3.4 **Social Assistance, Social Insurance, and Social Sector Spending by Region, Selected Years**



SOURCES: Weigand and Grosh 2008; OECD 2004b.

Decomposing Costs

- How sustainable, what is the program budget weight on government budget or expenditure..??
- What are the unit costs of the intervention, to transfer $1 to the beneficiary.
- How much of poverty or vulnerability of addressed by the program?

- Total cost=F(set-up, running, transfers)
- Set-up cost
  - Elements: Infrastructure, System Development, Procedures, Investment…
- Running cost (administrative costs)
  - Elements: Salaries, training, payment fees, material, operating costs…
- Transfers cost
  - Parameters: population of interest, benefit level, duration, expected impact, efficiency and effectiveness

Set-up costs

- Fixed cost
- Evaluate administrative and institutional capacity
- Invest in institutional capacity and in infrastructure needed for implementing the program
  - Training, Computers, vehicles, software,…
- Information and communication strategies

Running costs (administrative)

- Variable cost
- Objective 1: understand program efficiency
- Objective 2: maximize transfer value reaching beneficiary at the lowest administrative cost
- What to include: all cost related to receiving and processing applications, dealing with appeals, processing payments, verification of conditionalities, undertaking monitoring activities, exercise oversight of the program, staff salary, utility bills, lease, gas….

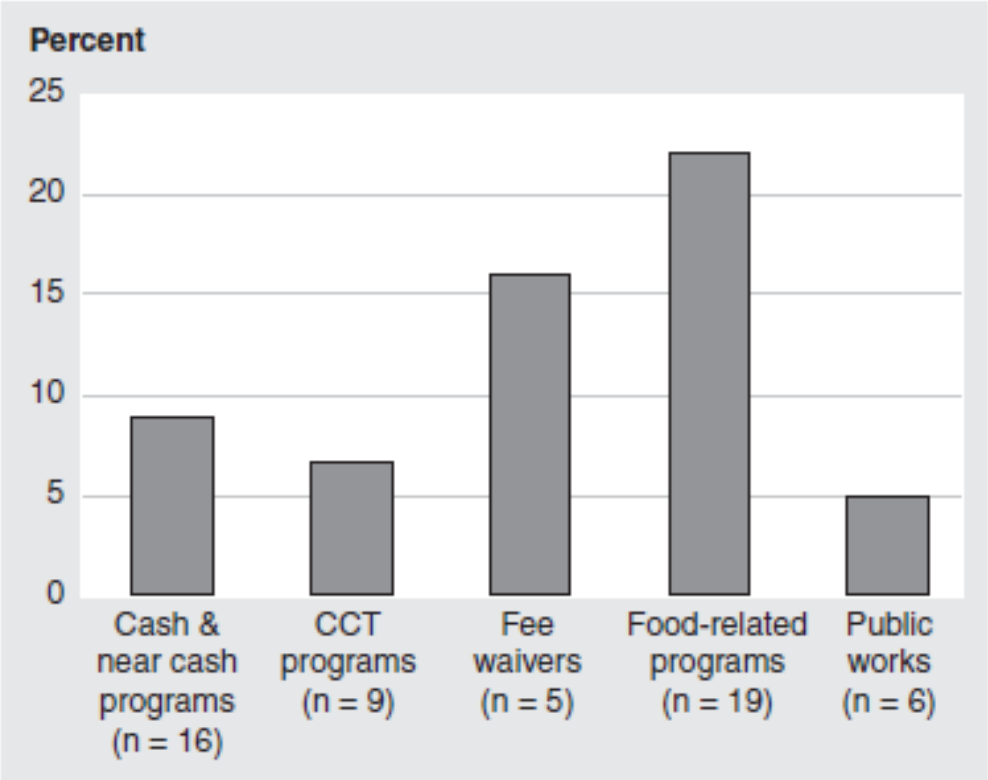
Transfer costs

- Benefit level: determine the adequacy of the transfer in helping program beneficiaries to fulfill their basic needs or program objective.
  - size of the transfer relative to the household welfare, or relative to poverty lines..
- Population of interest: determine the size of the target group: poor, vulnerable, elderly, children…

Adequate funds for running costs

- Share = running cost / (running costs + transfer costs)

FIGURE 9.2 **Share of Administrative Costs in Program Budget, Median Value by Type of Program, Selected Programs and Years**



Initial cost

- When starting a program, initial A_cost=F(set-up, running) that includes overall management, strength of information systems, oversight, monitoring and evaluation, payment delivery, buying assets, identifying beneficiaries … are inevitably higher (as a share of total budget).

- Reason: investments are needed to develop and implement the required infra-structure to run the program and to build the capacity of those involved in the program execution.

- But, fixed costs and few variable costs are diluted over time since large up-front expenditures for systems (purchase of equipment, design of systems, definitions of procedures, and the like) yield benefits for multiple years, coupled with a gradual rollout of the program with successively larger numbers of clients served by those systems.

Table 1: Overall administrative cost: Annual and Average – PROGRESA, Mexico and PRAF, Honduras

	MEXICO PROGRESA		(thousand pesos Mx$)				
		Number of Beneficiaries (in millions)	Transfers (a)	Other costs (b)	Total Cost (c)	% [b/c]	Cost-Transfer Ratio [b/a]
Year	August-December 1997	0.3	265,619.8	288,058.2	553,678.0	52%	1.084
	Dec-98	1.6	2,927,151.0	653,438.9	3,580,589.9	18%	0.223
	Dec-99	2.3	6,527,703.5	539,337.4	7,067,040.9	8%	0.083
	Dec-00	2.5	8,478,476.2	459,745.6	8,938,221.8	5%	0.054
	Total 1997-2000	2.5	18,198,950.5	1,940,580.1	20,139,530.6	10%	0.107
Source: Coady (2000)							
	HONDURAS PRAF		(thousand dollars)				
			Transfers (a)	Other costs (b)	Total Cost (c)	% [b/c]	Cost-Transfer Ratio [b/a]
Year	1999-2000		2,589.0	2,965.0	5,554.0	53%	1.145
	Dec-01		5,469.0	1,669.0	7,138.0	23%	0.305
	Dec-02		5,102.0	1,930.0	7,032.0	27%	0.378
	Total 1999-2000		13,160.0	6,564.0	19,724.0	33%	0.499
Source: Caldes et al (2006)							

Table 2: Running cost of Progresa, Mexico

			(thousand pesos Mx$)				
		Transfers (a)	Set-up cost (b)	Running cost (c)	Evaluation (d)	% of Running costs [c/(a+c)]	Cost-Transfer Ratio [c/a]
Year	Dec-97	265,619.8	28,375.0	223,664.6	36,018.6	46%	0.842
	Dec-98	2,927,151.0	44,649.0	471,574.3	137,215.6	14%	0.161
	Dec-99	6,527,703.5	39,057.0	396,667.0	103,613.4	6%	0.061
	Dec-00	8,478,476.2	14,866.0	304,416.6	140,463.0	3%	0.036
	Total 1997-2000	18,198,950.5	126,947.0	1,396,322.5	417,310.6	7%	0.077
Source: Coady (2000)							

Estimation cost

- Benefit-size and poverty impacts
  - must simulations
    - If keeping it at macro-data: simulations are limited
    - If using micro-data: simulations are endless…
    - We must combine both
- Set-up and running cost
  - Must prepare cost-tabs

Benefit size and poverty impacts

- Macro-Level Simulation: use macrodata to do quick simulations about cost and potential size of transfers

Known Data of the country			
(1) Population	22,202,142	Persons	
(2) Poverty line	64.32	Montlhy $PPP values	
(3) Poverty headcount	10.0%	of population	
(4) Poverty gap	3.0%		
(5) Average poverty gap of the poor as a share of the poverty line	29.9%	of the poverty line	
(6) % of non poor selected for the program	3%	of non poor	
(7) % of poor not selected for the program	25%	of poor	
(8) Administrative costs (15% du budget total)	102,499,544	Montlhy $$$ cost	
(9) Targeting cost (fixed cost per person)	5	One time cost	
(10) Number of poor	2,218,942	Persons	
(11) Annual Budget needed to cover gap	512,497,722	CU	*This amount is obtained by multiplying the number of poor people (1 times 3) and the average poverty gap of the poor population (2 times 4).

Scenario	#1	#2a	#2b
	No Leakage		With Leakage and Undercoverage
	Uniform benefit	Perfectly targeted	Not perfectly targeted
Program budget			
Program caseload			
Administrative cost			
Registration cost			
Net Budget: without costs			
Benefit level			
Annual average poverty gap of the poor			
Estimated size of the transfer relative to the current gap			

Scenario	#1	#2a	#2b
	No Leakage		With Leakage and Undercoverage
	Uniform benefit	Perfectly targeted	Not perfectly targeted
Program budget	512,497,722	512,497,722	512,497,722
Program caseload	22,202,142	2,218,942	2,263,703
Administrative cost	102,499,544	102,499,544	102,499,544
Registration cost	22,202,142	11,094,710	11,318,513
Net Budget: without costs	387,796,035	398,903,467	398,679,665
Benefit level	17	180	176
Annual average poverty gap of the poor	231	231	231
Estimated size of the transfer relative to the current gap	8%	78%	76%

Benefit size and poverty impacts

- Micro-data simulations: use household survey data to estimate impact of the program on different outcomes as poverty, inequality and behavior.
- Arithmetic or Complex simulations
- Require computation skills and analytical software as SPSS and STATA

Table 2: Maximizing Actual Estimated RDO Budget subject to Severity of Poverty Reduction and/or Enrollment rate

Source: ECV 2003; Author's Calculation.

Note 1: Collective conditionality: conditional transfers are considered only if only all children in a given household enroll. Individual conditionality: conditional transfers are considered if at least one child in a given household enrolls

Note 2: (i) This variable transfer is applied if household has either only children aged 6-11 year-olds or only children 12-17 year-olds. (ii) These two variable transfers are applied only if only the household have at least one child in each age group.

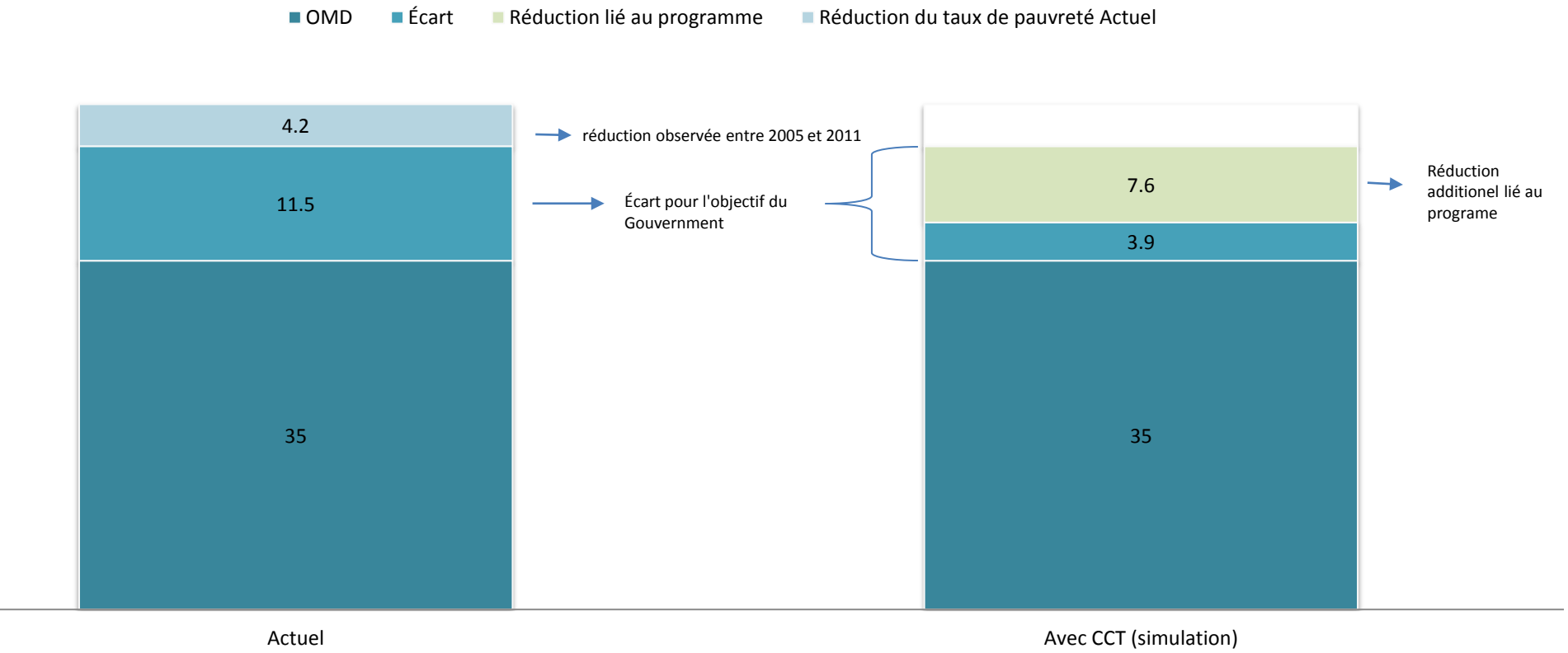
	Transfer partition				Headcount Ratio Change	Poverty Gap Change	Severity of poverty Change	Enrolment rate Change	Cost in Millions as % of GDP	Take-Up Rate
	Fix	Variable								
	θ_1	Total V (i)	Children [6,11] θ_2 (ii)	Children [12,17] θ_3 (ii)						
Actual RdO	0	35	17.5	17.5	-3.3%	-10.1%	-13.5%	7.9%	0.17%	70.2%
Collective conditionality										
Subject to Severity of Poverty	25.0	10.0	2.0	8.0	-4.0%	-13.1%	-19.0%	3.8%	0.20%	94.9%
Subject to Enrollment Rate	0.0	35.0	17.5	17.5	-3.3%	-10.1%	-13.5%	7.9%	0.17%	70.2%
Subject to Severity of Poverty & Enrollmente Rate	20.0	15.0	3.0	12.0	-4.0%	-12.5%	-17.8%	5.0%	0.20%	94.9%
Individual conditionality										
Subject to Severity of Poverty	25.0	10.0	0.0	10.0	-3.6%	-12.8%	-18.8%	4.5%	0.20%	94.9%
Subject to Enrollment Rate	0.0	35.0	17.5	17.5	-3.9%	-12.9%	-18.2%	14.3%	0.20%	92.6%
Subject to Severity of Poverty & Enrollmente Rate	10.0	25.0	10.0	15.0	-3.8%	-13.1%	-18.7%	11.9%	0.20%	94.9%

Table 1: Transfer Size in Respect to Poverty Lines and Household Consumption

Transfer amount - monthly (FCFA)	Fixed transfer amount - monthly (FCFA)	Variable transfer amount - monthly (FCFA))	% Average transfer size relative to food poverty line	% Average transfer size relative to poverty line	% of the transfer in respect to the average food consumption
12,000	10,000	2,000	16.2	11.0	20.8
14,500	12,500	2,000	19.6	13.3	25.1
15,000	10,000	5,000	20.2	13.8	26.0
17,000	15,000	2,000	22.9	15.6	29.5
17,500	12,500	5,000	23.6	16.1	30.4
19,500	17,500	2,000	26.3	17.9	33.8
20,000	15,000	5,000	27.0	18.4	34.7
22,000	20,000	2,000	29.7	20.2	38.2
22,500	17,500	5,000	30.3	20.7	39.0
25,000	20,000	5,000	33.7	23.0	43.4

	Transfer Amount (monthly FCFA)	Annual Cost of Program (US$ million)	percent of GDP	Food poverty Line			ΔGini	Households out of deep poverty	Persons out of deep poverty
				ΔFGT(0)	ΔFGT(1)	ΔFGT(2)			
Pilot zone									
Perfect targeting for the poorest (55,705 households)	12,000	18.6	0.13%	-2.8%	-1.0%	-0.4%	-1.6%	37.4%	32.8%
	14,500	22	0.18%	-3.1%	-1.1%	-0.4%	-2.0%	42.0%	37.0%
	15 000	26	0.15%	-3.7%	-1.2%	-0.5%	-2.3%	47.6%	44.0%
	17,000	25.4	0.20%	-3.6%	-1.2%	-0.5%	-2.2%	47.7%	42.6%
	17,500	29.4	0.18%	-4.1%	-1.4%	-0.5%	-2.7%	52.5%	48.2%
	19,500	28.8	0.23%	-3.9%	-1.3%	-0.5%	-2.5%	51.1%	46.4%
	20,000	32.8	0.20%	-4.4%	-1.4%	-0.6%	-2.8%	55.8%	51.8%
	22,000	32.2	0.25%	-4.2%	-1.4%	-0.6%	-2.7%	53.7%	49.8%
	22,500	36.2	0.22%	-4.6%	-1.5%	-0.6%	-3.2%	58.2%	54.2%
	25,000	39.6	0.28%	-4.7%	-1.5%	-0.6%	-3.3%	60.4%	56.4%
All the country									
Perfect targeting for all poorest (180,415 households)	12,000	61.8	0.43%	-7.6%	-3.4%	-1.9%	-8.0%	33.8%	30.0%
	14,500	73.2	0.61%	-8.9%	-3.8%	-1.9%	-6.9%	39.3%	34.9%
	15,000	87.2	0.51%	-10.6%	-4.4%	-1.1%	-8.5%	44.9%	41.4%
	17,000	84.4	0.57%	-10.1%	-4.2%	-2.1%	-8.0%	44.3%	39.6%
	17,500	81.6	0.59%	-9.9%	-4.1%	-2.3%	-7.7%	43.2%	38.8%
	19,500	95.6	0.76%	-11.2%	-4.5%	-2.3%	-9.1%	48.8%	44.1%
	20,000	109.6	0.66%	-12.7%	0.3%	-2.4%	-10.1%	54.2%	50.1%
	22,000	107	0.84%	-12.1%	-4.8%	-2.3%	-9.7%	52.2%	47.7%
	22,500	121	0.74%	-13.4%	-5.3%	-2.5%	-11.0%	56.8%	52.7%
	25,000	132.2	0.92%	-14.3%	-5.5%	-2.6%	-11.8%	60.3%	56.2%

Exemple: Impact d'un programme de transferts monétaires ciblée sur la pauvreté: 2005-2015



Set-up and running cost

- A. Biens
  - 1. Développement d'un système informatique /a
  - 2. Motorcycles
  - 3. PDAs/Laptops for Operators
  - 4. Cell phones
- Subtotal
- B. Services de Consultants
  - 1. Evaluation de l'Impact
  - 2. Evaluation pour Revue à mi-parcours
  - 3. Audit Technique Composante 2
  - 4. Audit Technique du Système de Paiements /b
  - 5. Opérateurs
  - 6. Préparation des travaux publics /c
  - 7. Préparation de formation au manuel de procédures
  - 8. Design du méchanisme de ciblage
- Subtotal
- C. Formation
  - 1. Revue à mi-parcours
  - 2. Manuel de Procédures pour Opérateurs et ONGs
  - 3. International Training
  - 4. Visibilité et communication
- Subtotal

Program

- A. Biens
  - 1. Cartes d'Inscription /a
- B. Services de Consultants
  - 1. Consultants Nationaux
    - a. Campagnes de Sensibilisation /b
    - b. Collection de Données et Procédures d'Inscription /c
  - Subtotal
- D. Coûts de fonctionnement

- A. Biens
  - 1. Equippement
    - a. Ordinateurs (Desktops)
      - UGT
      - Antennes /a
    - Subtotal
    - b. Ordinateurs Portables
      - UGT
      - Antennes
    - Subtotal
    - c. Imprimantes
      - UGT
      - Antennes
    - Subtotal
    - d. Photocopieuses
      - UGT
      - Antennes
    - e. Datashow
    - f. Licenses anti-virus
    - g. Software
    - h. Climatiseurs
    - Subtotal
    - i. Téléphones portables
    - j. Générateurs
      - UGT
      - Antennes
    - Subtotal
    - k. Appareils photo
    - l. Lecteur de smart cards
    - m. Réfrégirateurs
    - n. Tompro
  - Subtotal

Figure 2:PSSN Running Cost, changing composition years 1-5 (TANZANIA)

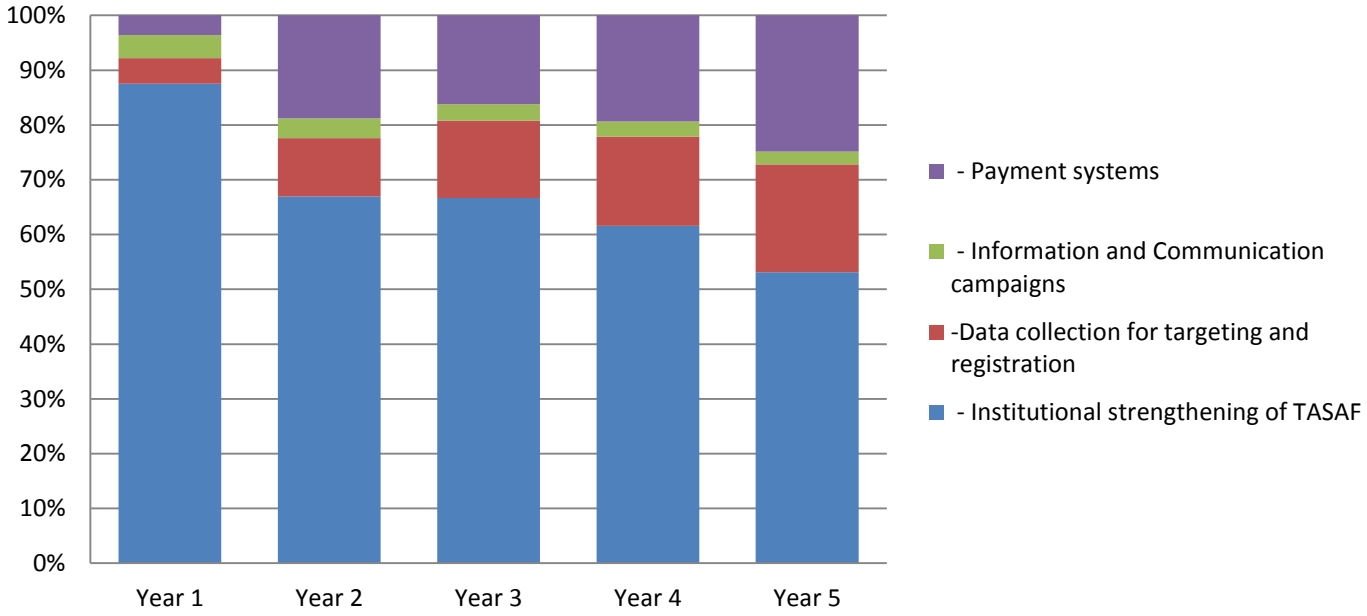


Figure 4: PSSN Transfer and Running Cost, years 1-5

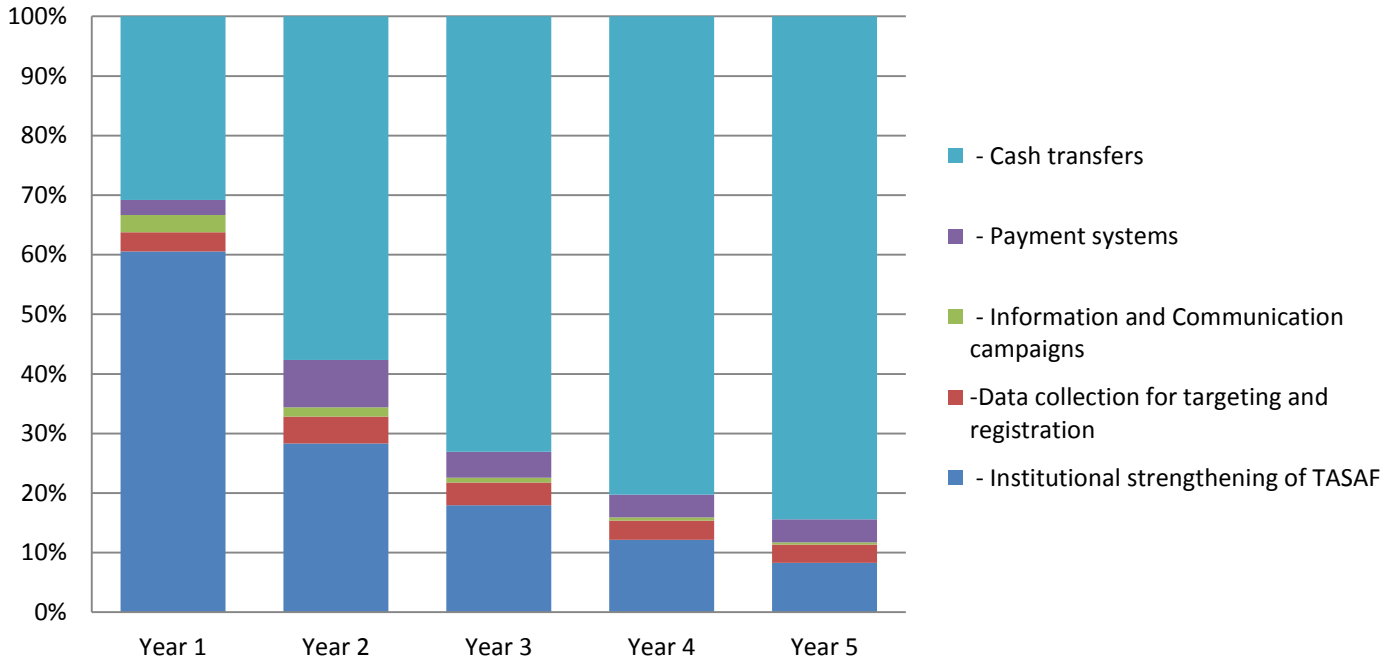


Table 3 - TANZANIA PSSN -Total Costs of delivering cash to final Beneficiaries (in US dollars) year 1-5						
	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL Yrs 1-5
1 - Consolidation of integrated SSN interventions	2,640,000	10,560,000	21,120,000	34,320,000	52,800,000	121,440,000
1A -Labor Intensive Public Works Plus						
(a) Wages	1,113,750	4,455,000	8,910,000	14,478,750	22,275,000	51,232,500
1B -Targeted Cash Transfers	1,526,250	6,105,000	12,210,000	19,841,250	30,525,000	70,207,500
- Basic benefit (100% of the households)	825,000	3,300,000	6,600,000	10,725,000	16,500,000	37,950,000
- Variable benefit (85% of the households)	701,250	2,805,000	5,610,000	9,116,250	14,025,000	32,257,500
2 – Running costs	5,923,052	7,745,602	7,776,002	8,420,252	9,767,202	39,632,109
- Institutional strengthening of TASAF for the PSSN and the new SP framework						
(a) Staff (field staff to run the program)	2,527,200	2,527,200	2,527,200	2,527,200	2,527,200	12,636,000
(b) Operating costs (including field operational staff)	1,658,002	1,658,002	1,658,002	1,658,002	1,658,002	8,290,009
(c) Equipment and maintenance (different than IT)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
-Data collection for targeting and registration	275,000	825,000	1,100,000	1,375,000	1,925,000	5,500,000
- Information and Communication campaigns						
(a) Design (first year) and revision of the campaign (years 2-5)	150,000	30,000	30,000	30,000	30,000	270,000
(b) Implementation of the campaign		250,000	200,000	200,000	200,000	850,000
(d) IEC equipment for TASAF	99,000					99,000
- Payment systems						
(a) Setting up payment mechanisms (mobile payments or electronic cards)	100,000	1,000,000	350,000	150,000	150,000	1,750,000
(b) Administrative cost (% of Cash)	113,850	455,400	910,800	1,480,050	2,277,000	5,237,100
TOTAL running cost in APL I	8,563,052	18,305,602	28,896,002	42,740,252	62,567,202	161,072,109
Component 2 as a proportion of Cost = % of running cost	69%	42%	27%	20%	16%	25%

Conclusion

- SP programs cost can be estimated prior to implementation based on macro-micro data
- Cost-simulation exercise can inform policymakers about potential impact of the program.
- Cost is a function of three elements:
  - Set-up costs: that is high at starting point but dilutes over time
  - Running costs: that comprises all costs related to the daily function of the program and are also diluted as program caseload increases
  - Transfer costs: that comprises the amount of transfer given to the beneficiary
- Measuring effectiveness of a program is often calculated by the Share = running cost / (running costs + transfer costs), which represents the cost of delivering $1 to a beneficiary