

Department of International Development public discussion

Improving Basic Services for the Bottom Forty Percent: lessons from Ethiopia

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IMPROVING BASIC SERVICES FOR THE BOTTOM FORTY PERCENT LESSONS FROM ETHIOPIA

by

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OBJECTIVES OF THE STUDY

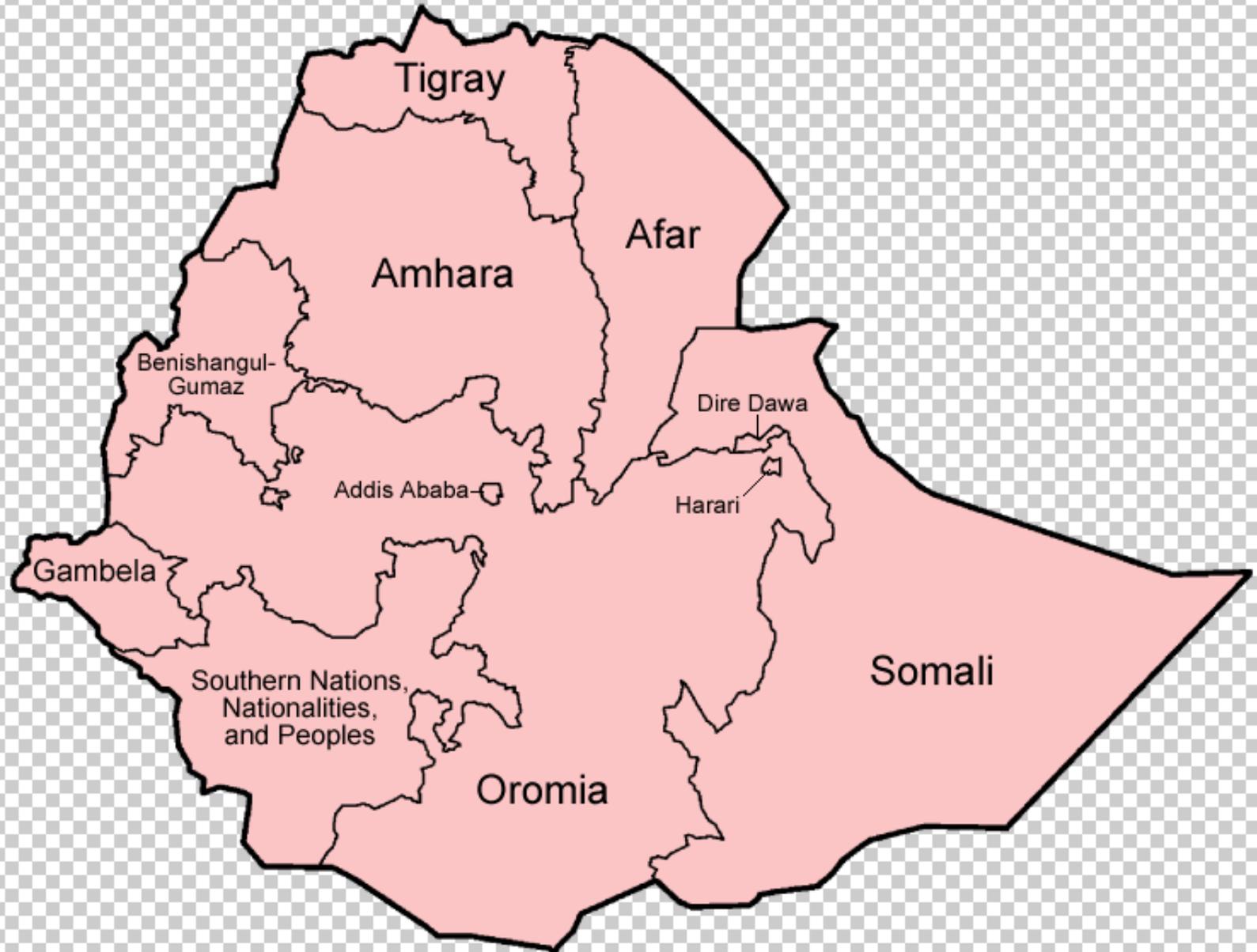
Establish whether, and to what extent, there exist distributional poverty and social outcomes in access to basic decentralized service delivery in Ethiopia.

Assess if woreda level spending helps in reaching sector targets, particularly for the poorest.

Assess distributional impacts of woreda level spending on:

wealth	spatial equality
gender	historically underserved groups.

ETHIOPIA'S REGIONS



ETHIOPIA IS A BIG, DIVERSE, IMPORTANT COUNTRY

Population ~92 million

98 ethnic groups; 93 languages

Sustained growth rate >10% in recent years

➤ Fastest growing country in Africa, and 3rd fastest in the world

One of fastest poverty reducers in the world

Rapid strides towards MDGs

➤ Child mortality fell 123 → 88/thousand

➤ Primary NER rose 68% → 82% in 2005-2010

➔ Interesting empirical context to study decentralized service provision

ETHIOPIA'S DECENTRALIZATION FRAMEWORK

1995 constitution decentralized to 9 regional states and 2 cities.

→ Full administrative decentralization with extensive intergovernmental fiscal transfers.

Regions receive block grants via formula based on needs – including additional funding for historically less developed areas.

In 2002, decentralization extended to ~850 woredas → expected to take on the bulk of service delivery responsibilities.

Woredas receive block grants from regional governments, also governed by formulas (set by regional governments).

ETHIOPIA'S PROMOTION OF BASIC SERVICES (PBS) PROGRAM

Government & development partner cooperation to speed Ethiopia to MDG targets.

Largest donor supported program in the world. Implemented via local governments.

Current (3rd) phase of PBS runs from 2013-2018, estimated cost US \$6.3 billion split 50:50 between GOE and development partners.

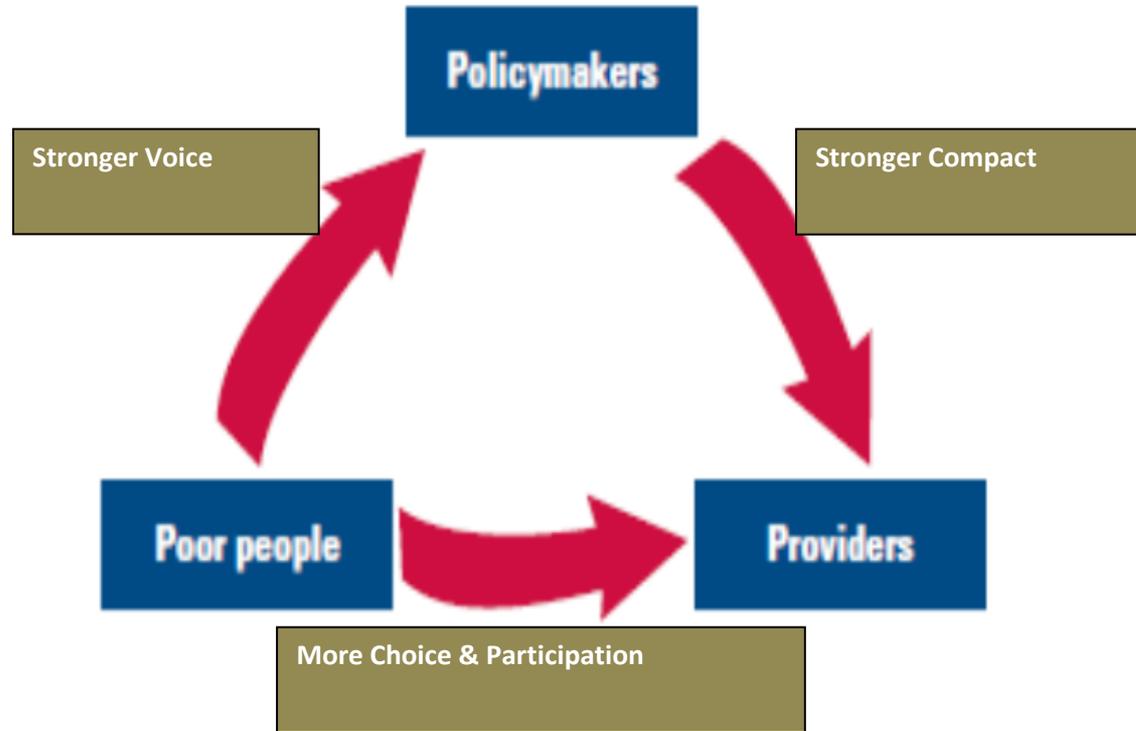
Uses intergovernmental fiscal transfer mechanism to finance basic services in education, health, agriculture, water supply and rural roads – constitutionally decentralized functions implemented at the local level. These transfers finance recurrent costs (mostly salaries of teachers, health extension workers, & agriculture extension workers).

Primary responsibility for these basic services lies with woreda governments.

Ethiopia is making record-breaking progress to reach the MDG targets.



PBS APPROACH RELIES ON WDR 2004 MODEL OF SERVICE DELIVERY



CITIZEN VOICE: FINANCIAL TRANSPARENCY & ACCOUNTABILITY

- **Ethiopia-specific FTA tools developed**
 - Explain budget process to citizens
 - Elicit citizen feedback on service delivery
 - Translated into local languages
 - Shared as example of Africa-wide budget transparency initiative
- **Strong government buy-in of FTA approaches is now institutionalized in the PFM system**
- **More than 90% of local governments posting budgets**
- **50% of service delivery units disclosed their plan, targets and achievements to the public**
- **More than 3000 local government officials trained in FTA tools (entire country). More than 270,000 citizens trained in budget and budget process so far.**

CITIZEN VOICE: PBS SOCIAL ACCOUNTABILITY COMPONENT (ESAP2) IMPLEMENTATION PROGRESS

From a pilot of about 80 woredas through capacity building and awareness activities under ESAP1 as of 2010

- SA is now implemented in 224 woredas through 49 CSOs using over 5 SA tools in five sectors [tools: CRCs, CSCs, Participatory Budgeting and Planning, Gender Based Budgeting and participatory PETS].
- A total of 15 woredas have completed application of the tools and moved to the level of interface meetings - a forum for service providers [373], citizens representatives [3.447] to discuss joint serviced improvement plans.

DATA

Fiscal & Census

Statistical analysis using cross-time pooled data for all woredas.

- FY 2008-2011 so far. Will expand to 1992-2013.

Database consists of 727 woredas, 85 zones and 10 regions

- Demographic data from 2007 census → 727 woredas
- Database covers the whole country – all people, all space

DHS

Analysis of DHS data from 2006-2011 allows a natural experiment on the impact of health extension workers.

METHODOLOGY

Three key stages. Stage 1 examines the effects of woreda-level spending on results in Education, Health and Agriculture.

$$\ln O_{mt} = \alpha + \zeta \ln E_{mt} + \beta R_m + \delta C_m + \eta \ln K_{mt} + \tau_t + \varepsilon_{mt} \quad (1)$$

$\ln O$ = different outcome variables: net enrollment rate, antenatal care usage, capturing key outcomes in each sector.

E = yearly expenditure per capita in the relevant sector;

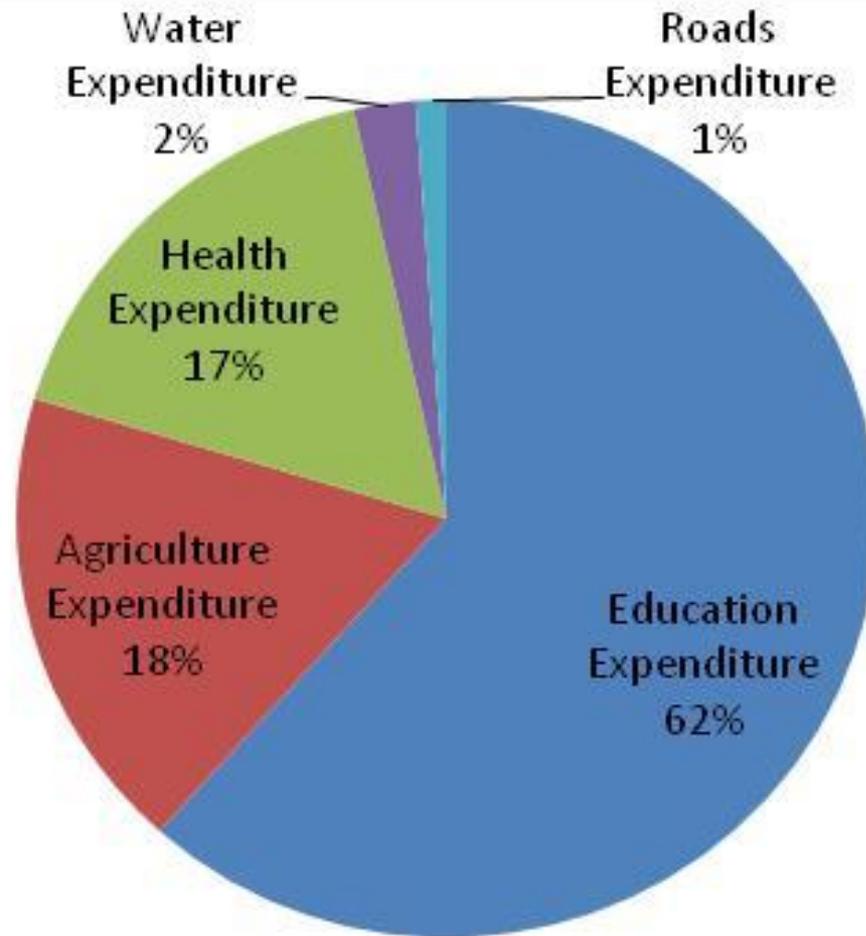
K = capital expenditure per capita,

R = percentage of rural population in each woreda;

C = vector of demographic controls (rural/urban, ethnicity, region). R and C are from census and so time-invariant.

Stages 2 & 3 analyze expenditures and results by wealth quintiles.

DISTRIBUTION OF WOREDA EXPENDITURES BY SECTOR



EDUCATION

Effect of Log of Per Capita Education Expenditure on Log of Education Outcomes			
Indep. Variable	Dependent Variable/ Indicator	Coefficient/ (SE)	Significance
Log Expend.	Log of Net Enrollment Rate	0.2705 (.0281)	***
	Log of Pupil-Teacher Ratio	-0.2242 (.0203)	***

Notes: Based on Cross-time pooled dataset from 2008-2011. Standard errors given in parenthesis. Significance is defined as: *** at 1% level. Number of Observations: 2583 for NER and 2695 for PTR.

Per capita expenditure is strongly associated with rising net enrolment rate, and also falling pupil teacher ratios.

One dollar increase in per capita education spending at woreda level increases net enrolment rate by 3.6%.

HEALTH

Effect of Log of Per Capita Health Expenditure on Health Outcomes			
	Indicator	Coefficient/(SE)	Significance
Log Expend.	Log of Penta 3 vaccinations	-0.0611 (0.0271)	**
	Log of Penta 3 vaccinations on expenditure lagged one year	0.1050 (.0370)	***
	Log of Antenatal Care	0.0784 (0.0341)	**
	Log of Contraceptive Acceptance Rate	-0.0250 (0.0404)	NS
	Log of Contraceptive Acceptance on expenditure lagged one year	0.1373 (.0487)	***
	Log of Deliveries by Skilled Birth Attendants	0.2438 (0.0732)	***

Notes: Based on cross-time pooled dataset from 2008-2011. Standard errors given in parenthesis. Significance is defined as: *** at 1% level and ** at 5% level. Number of Observations: 1,664 for Penta 3, 2,277 for ANC, 2,243 for Contraceptive acceptance rate and 2,154 for Deliveries by skilled birth attendants.

Maternal mortality and child mortality improve with increasing per capita spending.

One dollar increase in per capital spending improves Penta-3 vaccination by 4.9%, Access to ante-natal care by 3.6%, Contraceptive acceptance rates by 6.4%, and Access to skilled birth attendants by 11.3%.

(First two improve child mortality, latter two improve maternal mortality.)

AGRICULTURE

Association of Log of Per Capita spending on Agriculture Extension workers with Yield			
Indep. Var.	Dependent Variable/Indicator (Yield in Quintales/Hectare)	Coefficient/(SE)	Significance
Log Linear Regression Estimates			
Log Expend.	Log of Cereal yield	0.151 (0.0257)	***
	Log of Pulses Yield	0.016 (0.0455)	NS
	Log of Root Crops yield	0.134 (0.1080)	NS
	Log of Vegetables yield	0.177 (0.0674)	***
	Log of Oilseeds yield	-0.075 (0.0851)	NS
	Log of Enset Yield	-0.604 (0.2315)	***
	Log of Fruits Yield	0.0233 (0.1360)	*
	Log of Coffee Yield	-0.057 (0.1302)	NS

Per capita expenditure is associated with increasing yields for cereals, vegetables and enset (1% confidence interval).

Impact on root crops, pulses, and oil-seeds not significant.

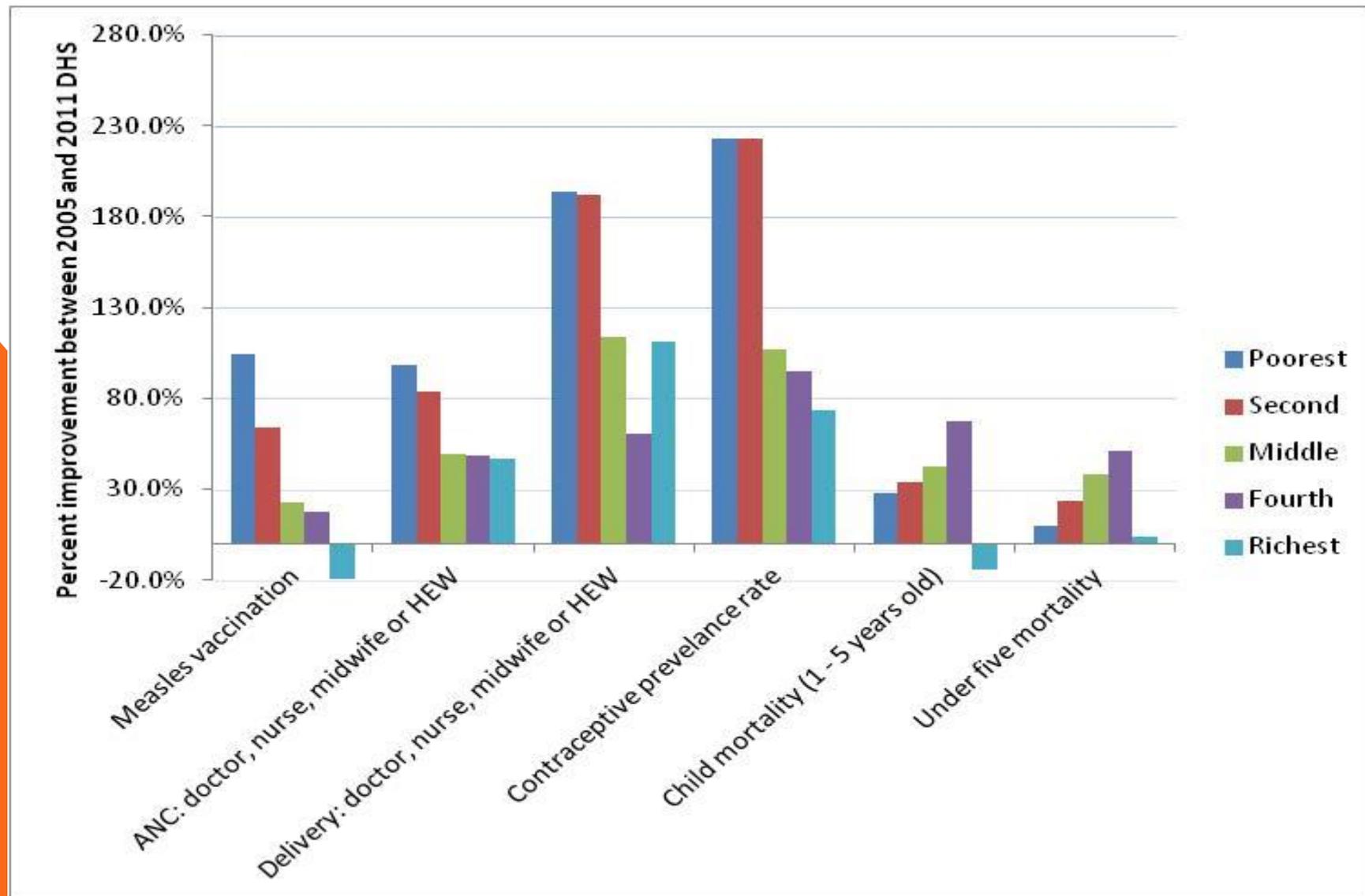
INCIDENCE OF WOREDA HEALTH & EDUCATION SPENDING ON BOTTOM 40%

	Bottom 40% Share	Top 20% Share	Multiple by which Bottom quintile exceed top quintile
Education	56%	13%	2.7
Health	63%	10%	3.4
Combined Education and Health	58%	12%	2.9

Bottom 40% of population receives only 33% of **total** public education spending . 34% for health.

Woreda level spending is pro-poor, even while overall sector spending is not.

INCIDENCE OF HEALTH IMPROVEMENTS (DHS, 2006 – 2011)



Notes: Child and Under five mortality changes are multiplied by negative one to obtain overall improvement.

INCIDENCE OF WOREDA AGRICULTURE SPENDING ON IMPROVEMENTS

Effect of One Birr per Capita Woreda spending on Agriculture Extension workers on Improved Farming Techniques by Plot Size Quintile, 2011	
Plot size quintile	Any improved technique
Smallest and Poorest	0.000322***
Second Smallest	0.000344***
Middle	0.000524***
Fourth	0.000667***
Largest and Richest	0.000818***
Based on Probit models. Standard errors given in parenthesis. Cross section data with 303,242 observations. Significance is defined as: *** at 1% level, ** at 5% level and * at 10% level, and NS is not significant.	

Agriculture spending improves techniques in all landholding quintiles.

Impact is more pronounced for the better off.

GENDER EQUITY COMPARED: EDUCATION AND AGRICULTURE

Effects of Education Expenditure on NER and NIR by Gender			
Indep. Var.	Dependent Variable/Indicator	Coefficient/(SE)	Significance
Log Linear Regression Estimates			
Log Expend.	NER 1-8 Male	0.115 (0.0117)	***
	NER 1-8 Female	0.158 (0.0137)	***
	NIR 1-8 Male	0.340 (0.0240)	***
	NIR 1-8 Female	0.431 (0.0269)	***

Notes: Significance is defined as: *** at 1% level, ** at 5% level and * at 10% level, and NS is not significant. N = 2,583 for NER; N= 2,464 for NIR.

Impact of extension spending on Predicted Probabilities a Field using Improved Farming Techniques by Gender, 2011	
Gender	Probability of field using improved technique
Male headed	0.000027***
Female headed	-0.000023***

Notes: Based on Probit models. Standard errors given in parenthesis. Significance is defined as: *** at 1% level. N = 303,242.

CONCLUSIONS

Strong association of woreda expenditures with improvements in education, health and agriculture. Less clear for agriculture.

Woreda spending appears to be pro-poor and benefits the bottom 40% – much more than regional or federal spending.

Equity effect of woreda spending is very strong for education and health. Less strong for agriculture.

Gender equity appears good for health and education, not agriculture.

Targeting of lagging regions works except for Somali. That appears driven by fact that Somali region transferred only 49% of federal grants to woredas, vs. 73% for all regions (excluding Addis Ababa) during 4 years of this study.

[→ Perhaps Somali region is paying teachers, HEWs and Das directly due to the lack of capacity or security in some woredas?]



THANK YOU

CITIZEN VOICE: DECENTRALIZATION

Big Discretion: Expenditure and decision-making authority transferred from upper to lower tiers of government.

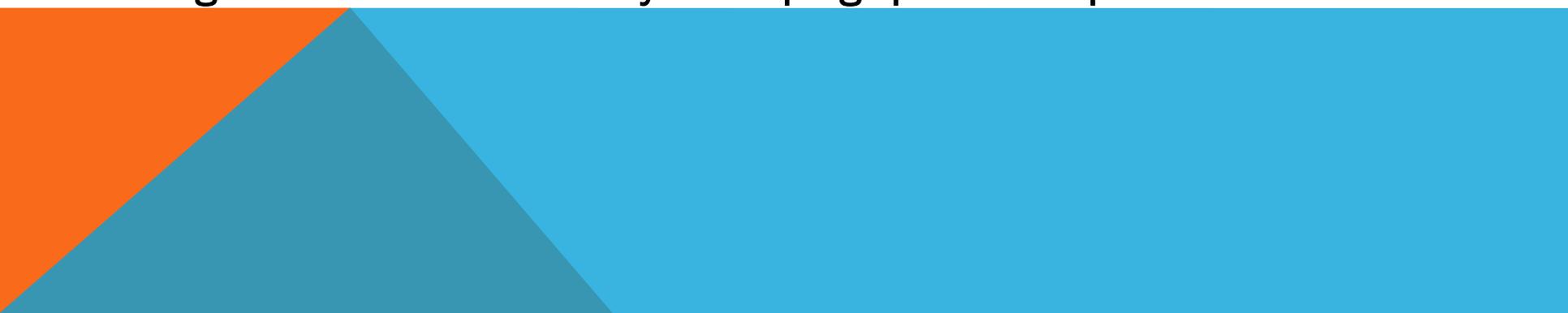
Examples: How should resources be divided between investment and expenditure? How much should be spent on schools? Hospitals? Roads?

- Sorts of questions the literature focuses on
- Unfortunately, lack of pre-decentralization data means we can't say anything about this.

CITIZEN VOICE: DECENTRALIZATION

Small Discretion: Concerns the effects of woreda-level discretion and decision-making on service quality and appropriateness to local conditions.

Examples: On which side of a road or stream should a new school be built? How should a vaccination campaign be targeted? When and how exactly should a road be maintained?

- Such decisions can increase the efficiency of public services by tailoring them to highly specific local conditions and needs.
 - Squeeze more “bang” out of each public “buck”.
 - Our detailed micro data allows us to examine this.
 - Results suggest local small discretion is improving the fit and appropriateness of services so as to make them more effective, pro-poor, and gender-neutral. This may be helping speed Ethiopia towards its MDGs.
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WDR TRIANGLE OF ACCOUNTABILITY AND PBS

Decentralization brings service providers and staff under local government control, where people have more access to leaders. Center decides staffing levels & allocations, but staff are locally hired and managed → appears to reduce absenteeism greatly.

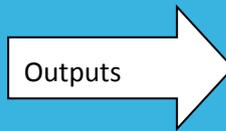
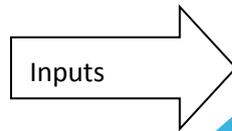
Financial transparency and accountability makes information about local spending available to people. Citizens receive training on how to provide feedback on budgets.

Grievance Redress Mechanism allows feedback to the Ethiopian Ombudsman, including regional Ombudsmen – independent of government and reports to parliament.

Structured Social Accountability designed to facilitate user feedback is being rolled out to over 340 woredas covering 4.5 million service users.



PBS RESULTS CHAIN



Spending for salaries of Teachers & Health/ Agriculture Extension workers

Teachers & Health/ Agriculture Extension workers hired

Direct impact:

- Net enrollment ratio
- Pupil-teacher ratio

Catalytic impact:

- Number of children vaccinated
- Women receiving ANC
- Number of people using contraception
- Yield from agricultural crops

Outcomes

- Gains in literacy
- Increased life expectancy
- Lower infant mortality
- Increased agricultural income

METHODOLOGICAL APPROACH: STAGE II

Incidence analysis of woreda-level spending by quintiles, using the wealth quintile breakdown from the DHS survey. We allocate improvements in health and education outcomes to each quintile by pro-rating the expenditure increases to each quintile by the improvement in outcomes achieved for that quintile controlling for the average improvement for all groups. That is,

$$\Delta E_i = (\Delta I_i / \Delta I) * \Delta E \quad (2)$$

ΔE_i is the per capita increase in expenditure for quintile “i”,

ΔE is the overall increase in expenditure per capita,

ΔI_i is the change in outcome change for quintile “i”, and

ΔI the outcome change for all quintiles. The results indicator for education was the net enrollment rate which is directly affected by woreda recruited teachers where for health the results indicator is average of three indicators which are directly affected by locally recruited health extension workers. These are: increase use of contraception, increased rates of immunization, increased use of pre-natal care and increased use skilled birth attendants.

METHODOLOGICAL APPROACH: STAGE III

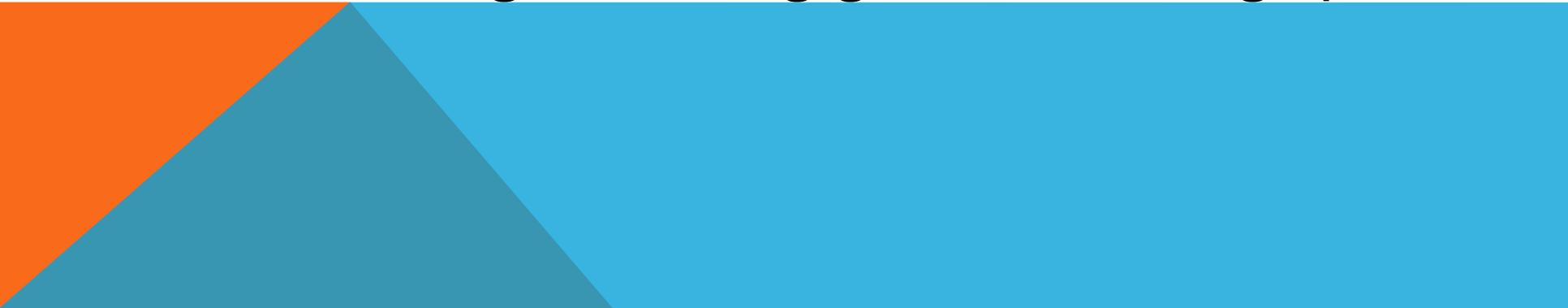
We examine the link between woreda expenditure and sectoral results for different wealth quintiles, using DHS household survey data and limited dependent variable estimations as follows:

$$P_{i,j} = f(\Theta, \text{Constant}) \quad (3)$$

$P_{i,j}$ = probability of improvement for household “j” in the quintile “i”

α = whether the household has had contact or not with a health extension worker. Θ is “yes” or “no” variable, with “yes” being coded 1 and “no” coded 0.

CITIZEN VOICE: IMPACT OF THE FINANCIAL TRANSPARENCY AND ACCOUNTABILITY ACTIVITY

- **A 2013 household survey shows citizens who know about public budget increased from 9% in 2009 to 28% in 2013**
 - **42.5% of respondents have seen the FTA templates posted**
 - **87% of respondents confirmed that Budget Literacy Training (BLT) encouraged them to become active participants in the budget process**
 - **37% of those who had ever seen the budget information posted in their area had some discussion with their respective Woreda/City officials; 26% with other citizens**
 - **Citizens are asking for more engagement in the budget process**
- 

CITIZEN VOICE: GRIEVANCE REDRESS MECHANISM (GRM)

- **Capacity building of the Ethiopian Institute of Ombudsman (EIO), its regional branches as well as GRM officers**
 - Capacity building training for staff at federal and regional levels
 - Designing procedures, guidelines and manuals to have similar standards in the country
 - **Conducting study on existing GRM system at federal and regional levels and developing standardized GRM procedural manuals**
 - **Providing training and awareness creation on GRM for key stakeholders and for the public**
 - **Support for the establishment of additional GRM offices in regions and training for staffs in government structure on how to hear and redress grievances**
- 

CITIZEN VOICE: SOCIAL ACCOUNTABILITY IMPLEMENTATION PROGRESS

- Some main challenges -
 - Low capacity among CSO and service providers
 - Need to continue current investments to reach a critical mass of beneficiaries to cause significant impact and generate representative evidence on sustainability.
 - Options to selectively seek options for linking SA outputs with public policy
- 

SOURCES OF DATA

Budget and expenditure data from MOFED: 2008-20011

Poverty rate data: 2011 HIES based PMT applied to census to develop poverty map.

10% sample from the last Ethiopian Census: 2007

DHS Surveys from 2006-2011

Agriculture and Rural Sample Surveys for 2007-2011 (each year different zones are surveyed) and over four years all zones are covered)

Administrative data in education and health:

- Although there is a discrepancy between survey data and HMIS/EMIS data, survey data is only available at an aggregated level. Over time administrative data is improving and results are

PREDICTED PROBABILITIES FOR “SUCCESSFUL” HEALTH OUTCOMES BY PLACE OF RESIDENCE AND WEALTH QUINTILE IF HH WAS VISITED BY AN HEW IN THE PAST YEAR

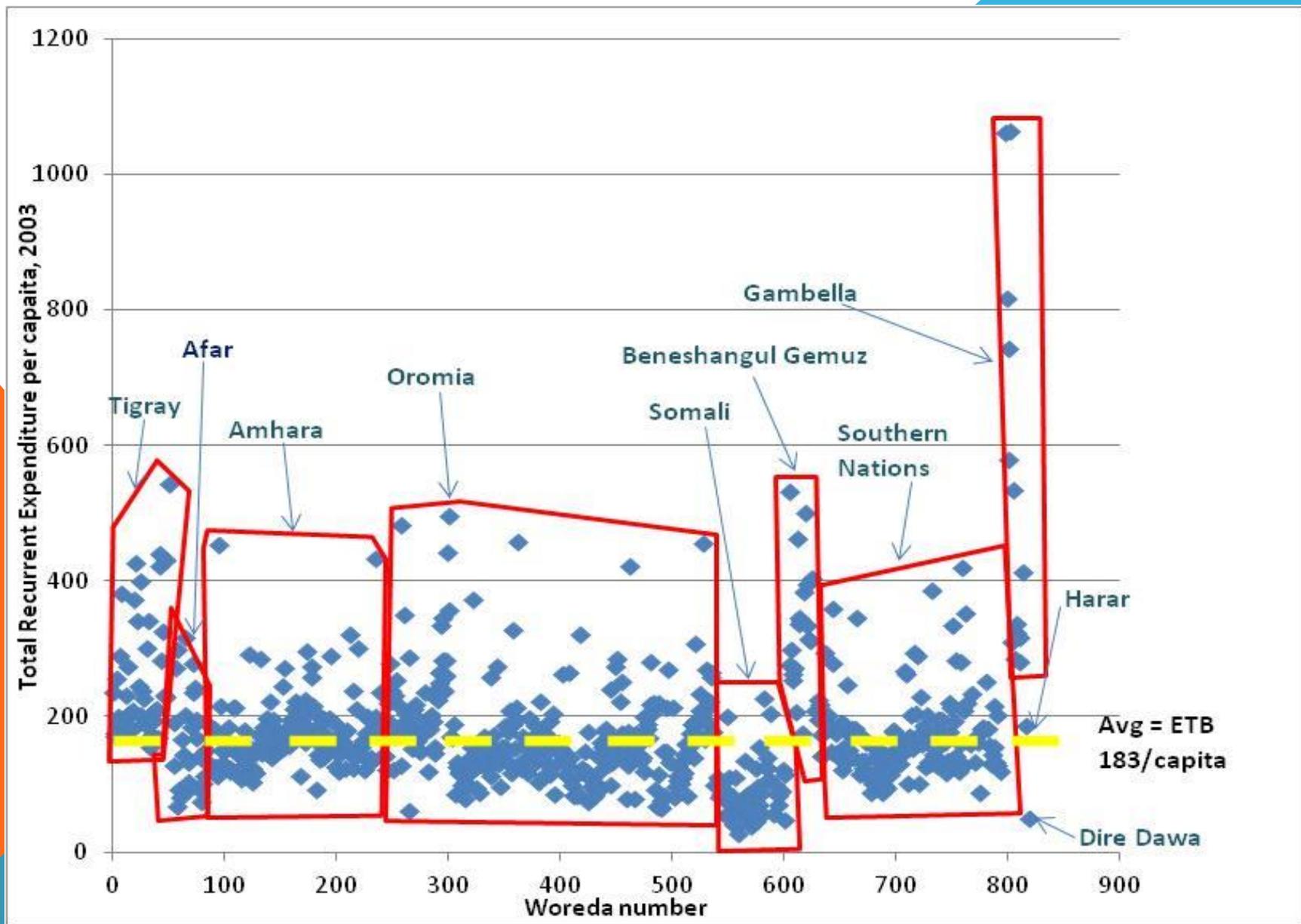
Residence	Quintile	Contraceptive Use	Measles vaccination	ANC with doctor, nurse midwife or HEW	Delivery by doctor, nurse midwife or HEW
Urban	Total	0.071* **	0.176** *	0.124** *	0.110***
Rural	Total	0.094 ***	0.144** *	0.107** *	0.017**
	Poorest	0.043 **	0.115** *	0.148** *	NS
	Second	0.078* **	0.106**	0.073** *	NS
	Middle	0.069 ***	0.123** *	0.097** *	NS
	Fourth	0.108* **	0.181** *	0.096** *	0.022*
	Richest	0.127* *	0.189*	0.130**	NS

Notes: Based on Probit models. Significance is defined as: *** at 1% level, ** at 5% level and * at 10% level, and NS is not significant. Number of observations varies by quintile, location and outcome.

Health Extension Workers seem to be effective in helping the poor access basic health services.

Effect is more pronounced on the upper quintiles.

SPATIAL VARIATION OF WOREDA EXPENDITURES PER CAPITA



ADDITIONAL QUESTIONS THAT NEED TO BE ANSWERED

With exception of some service use data for health from the DHS there is not much direct information on facility use

Not much evidence on quality of services

There is not much evidence on demand side issues which also play a critical role and needs to be assessed

The evidence on the impact of social accountability on services needs to be established.



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