Markets and policy challenges in access to essential medicines for endemic disease

The Open University

Maureen Mackintosh, Open University, UK
Phares Mujinja, Muhimbili University of Health and Allied Sciences, Tanzania

AERC Plenary Session on *Endemic Diseases and Development* Nairobi, 30.11.08

Summary

- Medicines access is a key element of health system effectiveness in tackling endemic disease
- Dominant retail markets for medicines are undermining access and rational use; they should be progressively abolished
- Wholesale market competition is important for access and should be sustained.
- Local manufacturing is important for access, can compete, and should be encouraged
- Non-governmental non-profit health provision and trading, and NGO civic action, are essential to medicines market regulation and improvement in access

The endemic disease challenge in Africa

Estimates: death rate / 100,000 (2002)

	Tanzania	Kenya	Ghana	Nigeria	South Africa	Sri Lanka
Infectious and parasitic diseases	***933.1***	***725***	***419.3***	***883.6***	***898.5***	***47.4***
of which TB	51.4	62.4	40.8	62.1	31.8	6.9
HIV/AIDS	458.7	457.8	147	257.6	794	0.3
Diarrhoeal disease	87.9	78.1	47.3	111.2	30.4	3.6
Childhood cluster	11.1	15.1	9.9	147	8.6	2.2
Malaria	156.4	57.3	114.2	181	0.2	5.5
Tropical cluster	23.3	10	5.5	18.5	0.1	0.1
Respiratory infections	***187.1***	***118.2***	***81.7***	***181.8***	***53.5***	***34.8***
Maternal conditions	***58.9***	***30.6***	***17.1***	***30.7***	***5.6***	***1.6***
Perinatal conditions	***67.5***	***42.9***	***80.1***	***73.9***	***18.2***	***12.3***
Nutritional Deficiencies	***26.8***	***8***	***7***	***15.1***	***12.1***	***7***
Non-communicable diseases	***276.7***	***288.6***	***332.9***	***362.8***	***424.2***	***585.7***
Injuries	***93.9***	***82.7***	***76.9***	***111.2***	***106.7***	***80.6***

The policy challenge

Access to essential medicines to treat endemic disease has two components:

1. Rational use: appropriate and cost-effective use of medicines in response to need
2. Universal access: avoiding exclusion of those in need; avoiding impoverishment from out-of-pocket expenditure.

A long way to go in Sub-Saharan Africa.

Is international policy coherent?

Two major initiatives to improve access frame policy problem as:

1. ‘Affordability’: policy of driving down the price of medicines all along the supply chain, including retail markets (WHO)
2. ‘Supply chain management’ : policy for delivery from international procurement to free-at-point-of-use (Global Fund)

Second approach motivated by monitoring treatment rates and outcomes

Two known problems: (1) ‘On the shelves’ availability of medicines remains poor

WHO/HAI Medicines Surveys: Median availability 2004 and 2006, selected countries (%)

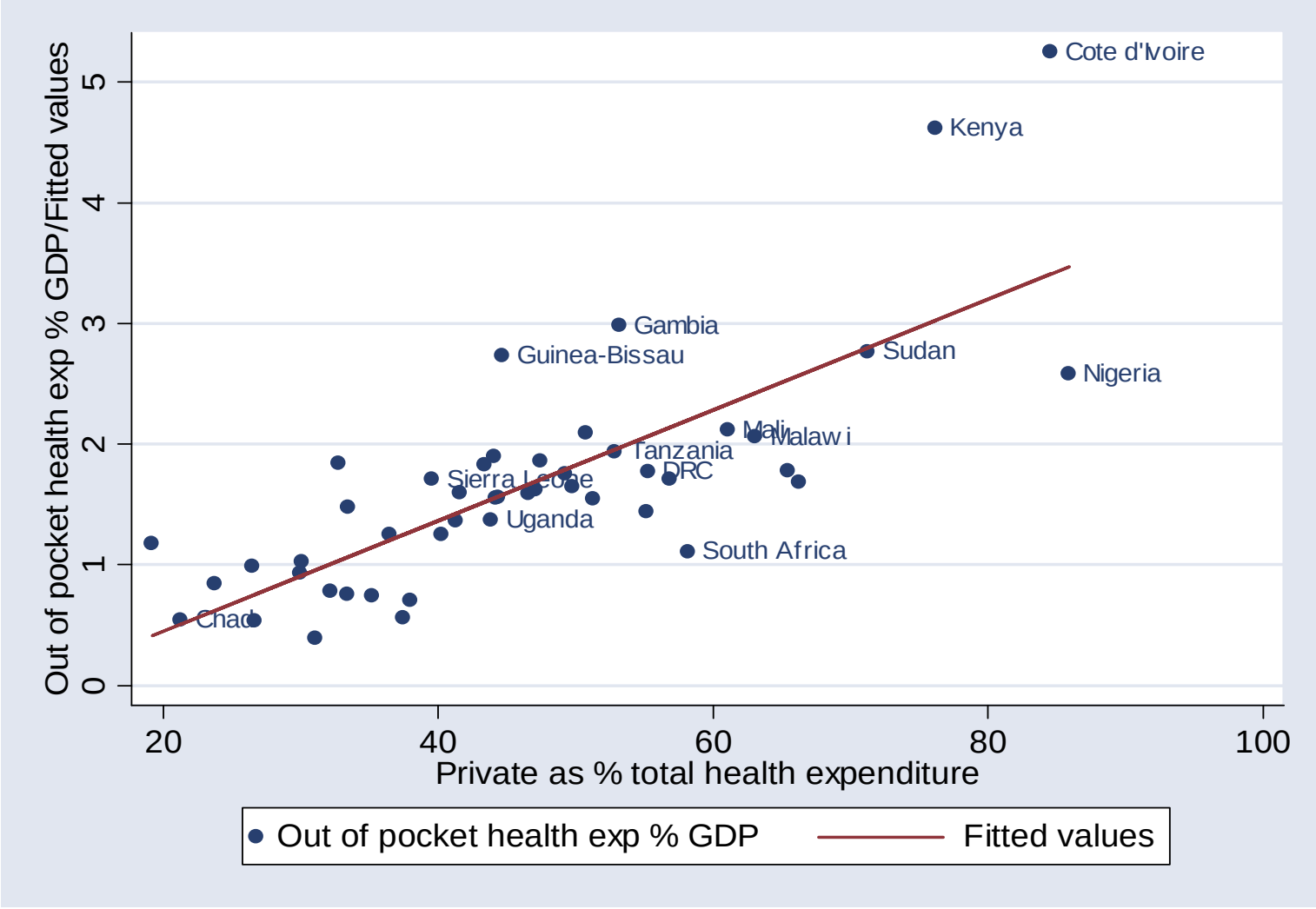
Sector	Tanzania		Kenya		Ghana	Nigeria
	2004	2006	2004	2007	2004	2004
Public	23	47	38	57	21	3
Mission / NGO	42	47	46	50	39	n/a
Private shops	48	56	72	83	79	34

In Tanzania little improvement 2004-6 except ARVs

Availability of selected medicines: Tanzania Medicines Surveys, Oct.-Dec.

	Public		Private		NGO	
	2004	2006	2004	2006	2004	2006
Aciclovir tab 200 mg	19%	19%	50%	47%	39%	41%
Amoxicillin tab 250mg	86%	84%	85%	78%	89%	75%
Arthemether +Lumefantrine tab 20+ 120 mg		0%		47%		31%
Atenolol tab 50 mg	24%	19%	41%	44%	43%	47%
Ceftriaxone inj 1 g powder	19%	53%	44%	50%	43%	59%
Ciprofloxacin tab 500 mg	57%	78%	73%	69%	75%	84%
Erythromycin tab 250mg	81%	72%	81%	75%	82%	63%
Fluconazole cap / tab 150mg	0%	19%	6%	69%	0%	34%
Gentamycin inj 80mg/ml	62%	47%	48%	53%	79%	53%
Niverapine tab 200mg	0%		0%		4%	
Niverapine/Lamivudine/Stavudine 40		53%		3%		28%
Omeprazole caps 20 mg	19%	16%	56%	66%	43%	44%
Sulfadoxine + Pyramethamine tab 500+25 mg	91%	88%	98%	97%	75%	81%

(2) Burden of out-of pocket payment known to cause exclusion (WHO data 2000)



What can field study of medicines markets tell us? Supply chain to Tanzanian rural users

Evidence on:

- Access to the market: exclusion for inability to pay;
- Market information: asymmetry in knowledge between buyers and sellers; implications for quality and irrational use;
- Degree of competition: price competition *vs*. margin-enhancing monopoly;
- Behavioural differences across sectors: between public, NGO and private medicines outlets.

Analytical questions on market behaviour

Is there evidence for or against:

- A ‘market for lemons’ effect: a race to the bottom in price and quality?
- Poorly informed consumers create a context for bad dispensing practice?
- NGOs as a counteracting force, through deserved reputations for higher quality?
- Local monopolies: highly exploitative retail, wholesale and manufacturers’ margins?
- Country of origin influencing access and perceived quality?

The rural fieldwork

Facilities by district, level and ownership:
No. of facilities (number of exit interviewees in brackets)

Region and District	Singida		Kilimanjaro		Total
Type of outlet	Manyoni	Singida Rural	Rombo	Moshi Rural	
Private drug shop	7 (36)	8 (37)	8 (40)	8 (40)	31 (153)
Private health centres / dispensaries	2 (10)	0 (0)	1 (5)	3 (17)	6 (32)
FBO / NGO health centres / dispensaries	5 (42)	6 (9)	7 (35)	5 (26)	23 (112)
FBO hospitals	2 (10)	3 (22)	2 (12)	2 (11)	9 (55)
Total	16 (98)	17 (68)	18 (92)	18 (94)	69 (352)

Context: unregulated commercialisation of medicines sales: rising self-medication

Tanzania: children with cough/ fever and with diarrhoea: % of visits to facilities and shops, by ownership (%)

Type of facility	Children with cough/ fever		Children with diarrhoea	
	1996	2004	1996	2004
Public facilities	79.25	63.79	81.79	67.12
Religious/ NGO facilities	4.18	5.86	6.19	5.56
Private facilities	3.89	7.77	3.09	7.59
Private shops	12.68	22.57	8.93	19.73
Total	100.00	100.00	100.00	100.00

Payment at time of need is a source of exclusion

- Except in a few rural public dispensaries, medicines are largely purchased for cash at time of need.
- Payment a major source of exclusion and impoverishment
- 2000/1 : 33% of those ill sought no care
  - Of whom 58% saw a need to seek care
  - Of whom 56% found care seeking too expensive
- 2006 : 95% of those interviewed while seeking care had paid for own medicines;
  - 8% could not afford medicines sought and available

Experience of those interviewed on exit (%) (n=347)

Characteristic/ Type of facility	Private drug shop	Private disp. /h.c.	FBO/NGO disp. / h.c.	FBO hosp.	Total
Had a prescription	35.29	93.75	85.59	98.18	**66.38**
Found some or all drugs unavailable	13.73	12.50	5.36	0	**8.81**
Unable to afford some or all of available drugs	8.45	12.50	9.09	0	**7.67**
Funds provided by self	83.56	68.75	61.82	63.64	**72.01**
Funds provided by relatives or friends	14.39	28.13	33.64	21.82	**23.03**
Funds provided by organisation or Fund	2.05	3.13	4.55	14.55	**4.96**
Received part not full dose	25.71	15.63	10.00	0	**15.48**

Market norms matter: selling part-doses a dangerous failure of rational use

Dispensing part-doses is the **norm** in private sector (90% of dispensers) and very common in NGO sector (66% of dispensers interviewed)

Very few patients can afford to buy the whole dose. ….It is usual for us to sell part of the dose. [drug shop seller, Manyoni]

We sell them part of the dose and advise them to come back and complete the dose but very few come back. This could mean … they have stopped the medication [drug shop seller, Singida Rural]

We give our customers half of the doses or we sometimes give them the whole dose and write on their hospital cards so that they pay during next visit. However this is done for few patients whom we know. [NGO dispensary Manyoni]

Information for consumers poor and unregulated sale of prescription medicines common

- Only 33% of consumers told name of medicine
- Only 70% could state number of days to take medicine
- 94% not told of possible side effects
- Most knew dosage per day.

- Over half had never asked for information from a dispenser
- Respondents with more education more likely to have asked for information.

Of medicines purchased at drug shops by consumers, 31% were medicines not licensed for sale there, notably antibiotics and second-line anti-malarials

Quite competitive rural retail markets for common medicines

Proposition for discussion: observed price convergence for common medicines suggests price competitiveness

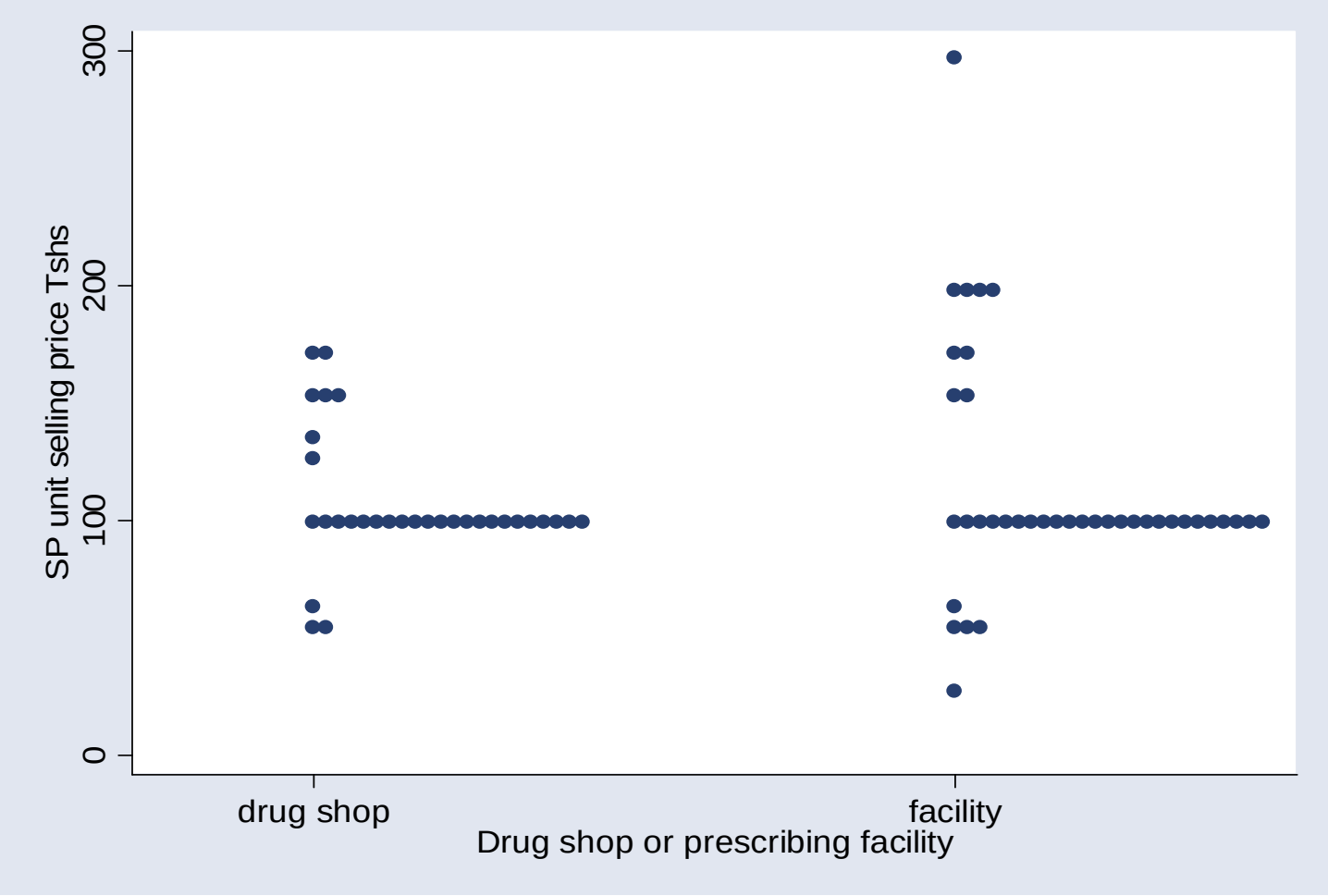
Measure: low price dispersion for most common medicines: e.g. first line anti-malarials, analgesics

Buyers do shop around, e.g.:

> *They have good prices as compared to other shops. For instance other shops sell this drug for 15 Tsh per tablet while here they sell it for 10 Tsh.* [Drug shop customer, Manyoni]

But poorer districts had significantly higher drug shop prices: consistent with more competition in better-off areas, and lower transport costs and higher turnover.

Price convergence in Sulfadoxine with Pyrimethamine (SP) selling prices by type of rural outlet



Drug shops compete on price with facilities

- NGO facility mean and median medicines prices not significantly different from drug shops
- Competition from government facilities also lowers prices
- Private facility mean and median prices significantly higher than drug shops and NGO facilities

There is competition from other drug shops and two government dispensaries [NGO dispensary manager Singida Rural]

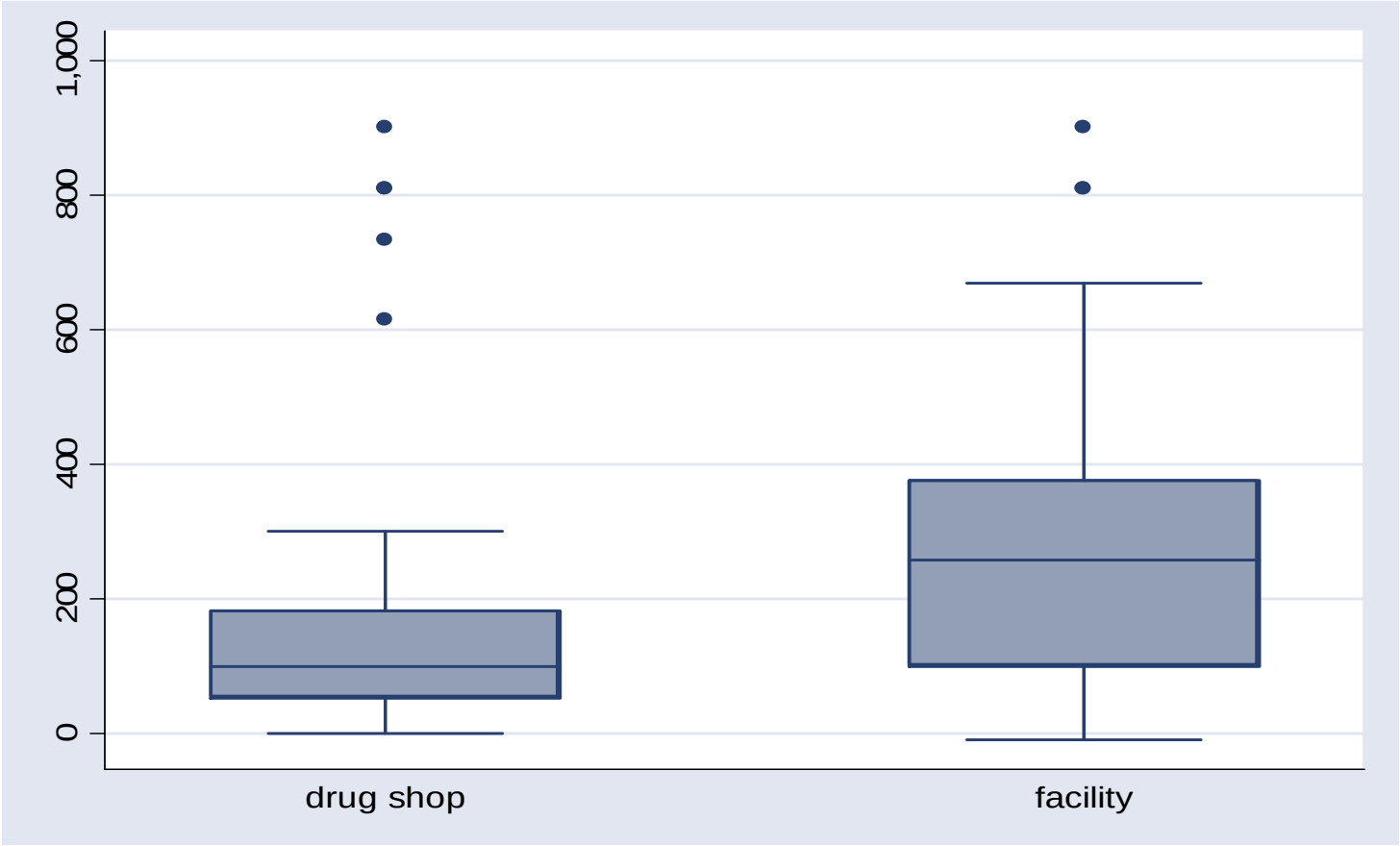
There is no difference between prices of drugs here and in the village drug shop. [Patients leaving the same NGO dispensary Singida Rural]

Mean margins not very high? Covering many shop and facility costs

Robust mean margins by medicine and type of rural outlet, 18 medicines found in all types of output (%)

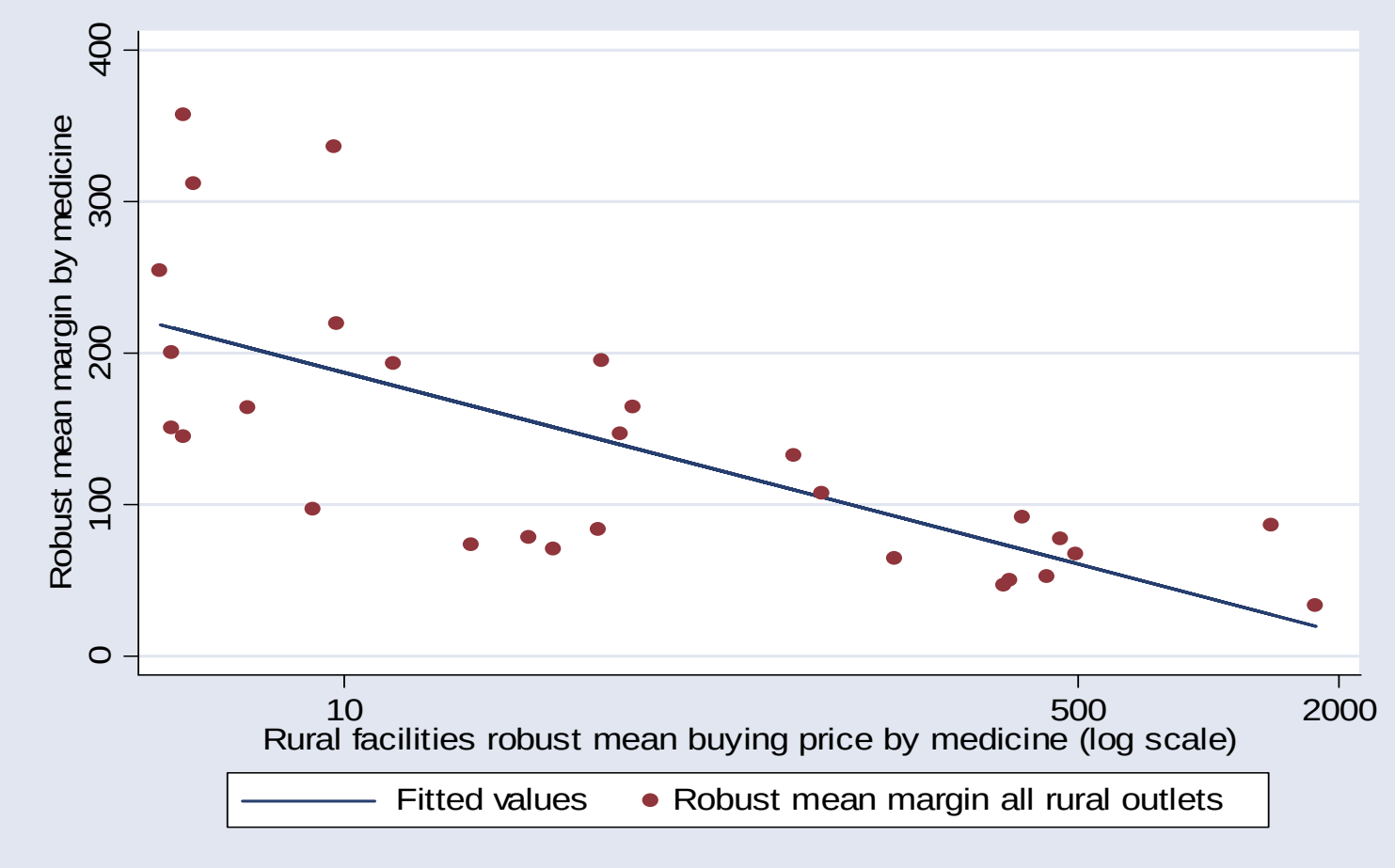
	Drug shops	Private hc/disp	FBO/NGO facilities
Robust mean margin	136.475	149.18	169.1

Box plot: distribution of percentage margins on SP tablets, by type of rural outlet



Lower margins on more expensive medicines suggests pressure on prices

Rural outlets: robust mean margin regressed on log of robust mean buying price, by medicine



Do NGOs do better for rural consumers?

To some extent:

- NGO prices **not** higher in poorer compared to better-off areas
- NGOs more likely to cross-subsidise expensive medicines e.g. for chronic disease
- NGO dispensing practices somewhat better (but not good)
- Informal charging observed was in private rather than NGO sector

NGO and government wholesaling reduces prices to NGO facilities

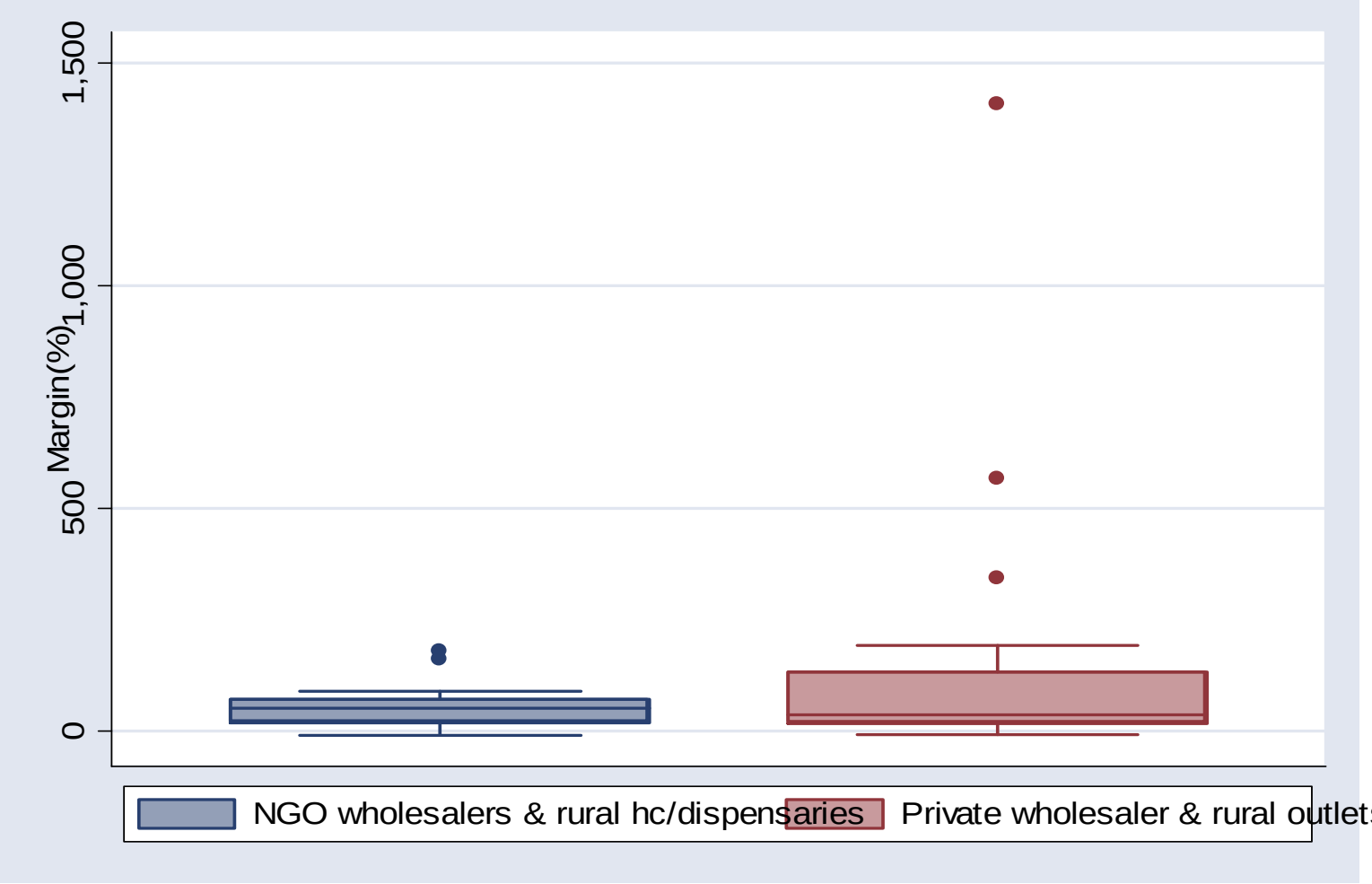
- Government wholesaler supplies maybe 50%+ of market
- NGO wholesalers small but significant
- 42% of NGO dispensaries /health centres and all FBO hospitals had non-profit wholesale suppliers
- A few private wholesalers had strong local rural market power.

NGOs buy more cheaply than private sector; non-profit wholesaling major influence on price

- NGO dispensaries have higher margins than drug shops though charging comparable prices
- Government weight in market helps keep prices down

  The import and wholesale market is very price-competitive … MSD is a very large part of the market, which keeps prices down. [Private wholesaler, Dar es Salaam]
- Median wholesale margins 40%-50% in NGO and private sectors, but private margins much more dispersed.

Margin between robust mean wholesale buying prices and rural outlet buying prices, by medicine and sector (%)



Supplies from Tanzanian manufacturers important to access

- 3 dominant suppliers: Tanzania, India, Kenya;
- 46% of tracer medicines observed in rural areas were of Tanzanian manufacture
- Of permitted medicines in drug shops, 66% on average from Tanzania (18% Kenya 11% India)
- Tanzanian supply dominant for many basic medicines; only injectables, some chronic illness medicines only available as imports
- Tanzanian medicines cheaper but not significantly: price competitive with imports
- Reliable Indian manufacturers losing interest in African markets

Policy implications

1. NGO and government wholesaling competes with private wholesaling on price and should be encouraged to develop further
2. Evidence of retail price competitiveness suggests limited further scope for driving down prices in general; price ceiling on expensive items worth considering
3. Major improvements in access will need moves towards free provision at point of use
4. Bad dispensing practice is encouraged by charging for medicines; unlikely to change without removal of fees.

Policy implications continued

4. Greater pressure for consumer rights, higher expectations and capability to claim access, requires local NGO organising and campaigning
5. Regulatory change that tackles perverse market behaviour is key to reversing direction: TFDA regulatory changes including programme to regulate drug shops having a positive impact.
6. Protection and support for local manufacturers, while retaining arms length inspection and regulation, important to access: use policy space as Least Developed Countries to build up capability.

Analytically: thinking about medicines markets

- Promote markets where they work in the direction of universal access and rational use
- Constrain or abolish markets where they operate perversely
- Take market norms of behaviour seriously: we've long known that behaviour can converge on perverse norms
- Promote regulatory intervention in private sector behaviour at key points of leverage
- Use weight of government and NGO provision and trade where effective in influencing market norms

Internationally:

- Focus ‘affordability’ pressure on wholesale and manufacturer level, but be careful not to drive out credible producers or undermine quality
- Rethink ‘affordability’ as a retail strategy: how to support a shift towards free-at-point-of-need and promote rational use?
- Rethink disease-focused (and unsustainable?) ‘supply chain management’: how to support free-at-point-of-use rational use across health system?
- Integrate medicines policy into wider health system policies.
- Support effective industrial policy-health policy integration in African pharmaceuticals