

Risk and Insurance

14.73: Lecture 15

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Risk is central in the lives of the poor

- In 2009, Robert Zoellick warned the world that the economic crisis could be a disaster for the world's poor.

“The global economic crisis [sparked by the collapse of Lehman Brothers in September 2008] threatens to become a human crisis in many developing countries unless they can take targeted measures to protect vulnerable people in their communities. While much of the world is focused on bank rescues and stimulus packages, we should not forget that poor people in developing countries are far more exposed if their economies falter”

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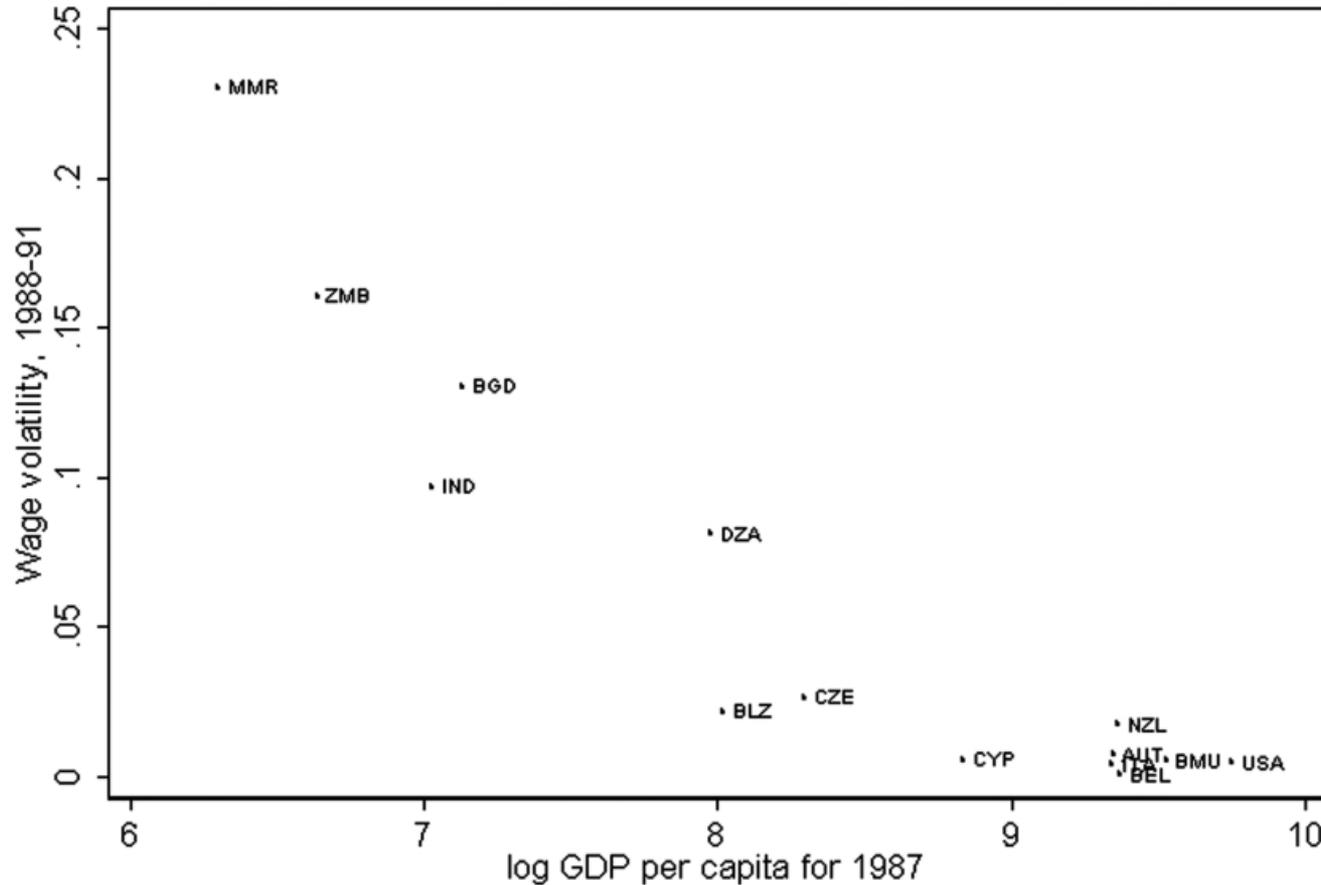
The crisis, there and here

- Surprisingly, the crisis did not end up being so important. It is not that jobs were not lost, prices did not drop: But compared to the risk that the world's poor usually face it was not such a huge event.

Risk and the poor

- 50% of the urban global poor run a non agricultural business. 30% to 98% of the rural poor have a farm, depending on the country
- Those who don't have a business are often casual laborers, paid on daily wage:
 - Easily lose their job
 - Wage volatility is much higher in poor countries than in rich countries

Wage Volatility and GDP



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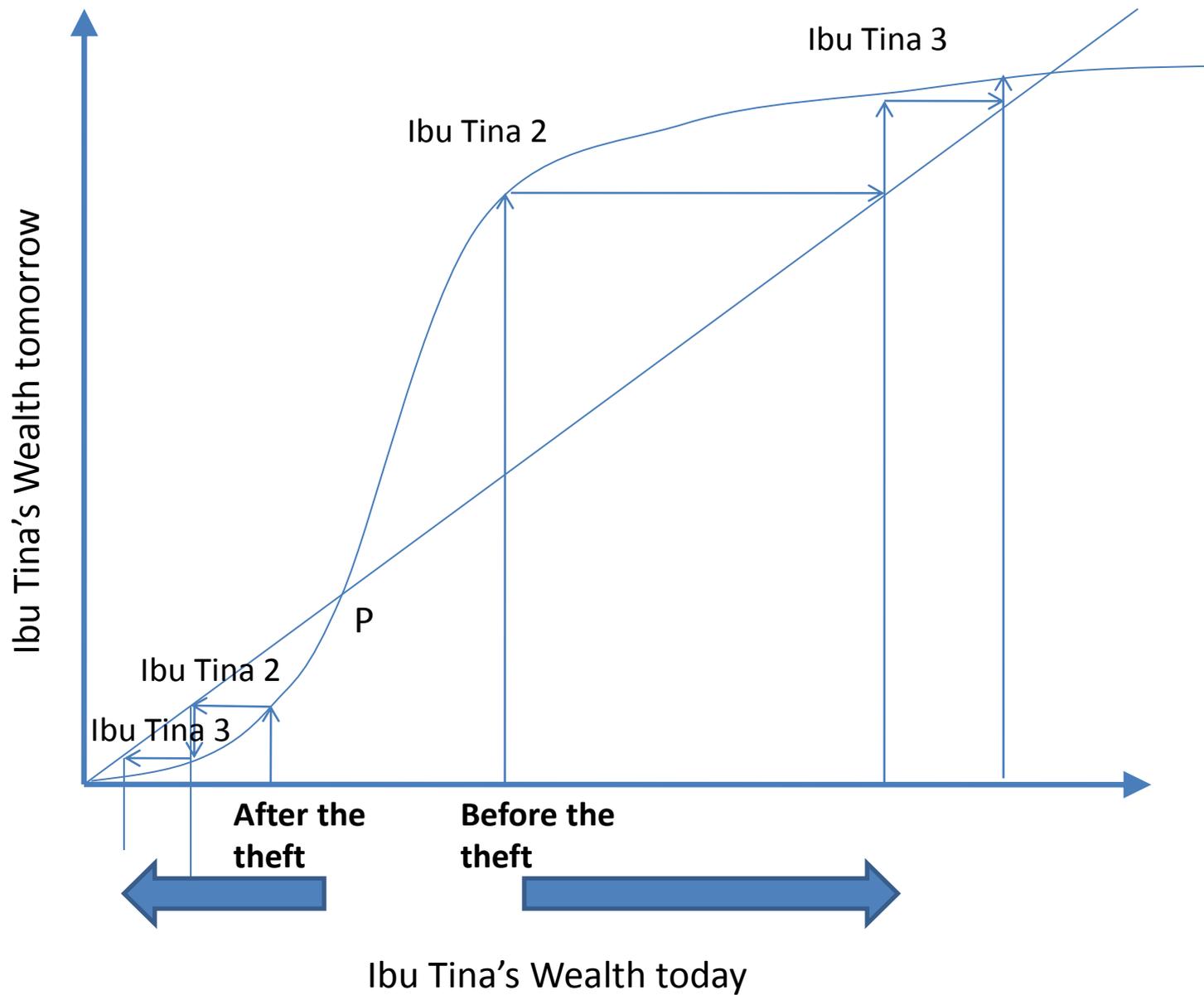
Food Prices are also volatile



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Shocks in the S-Shape World

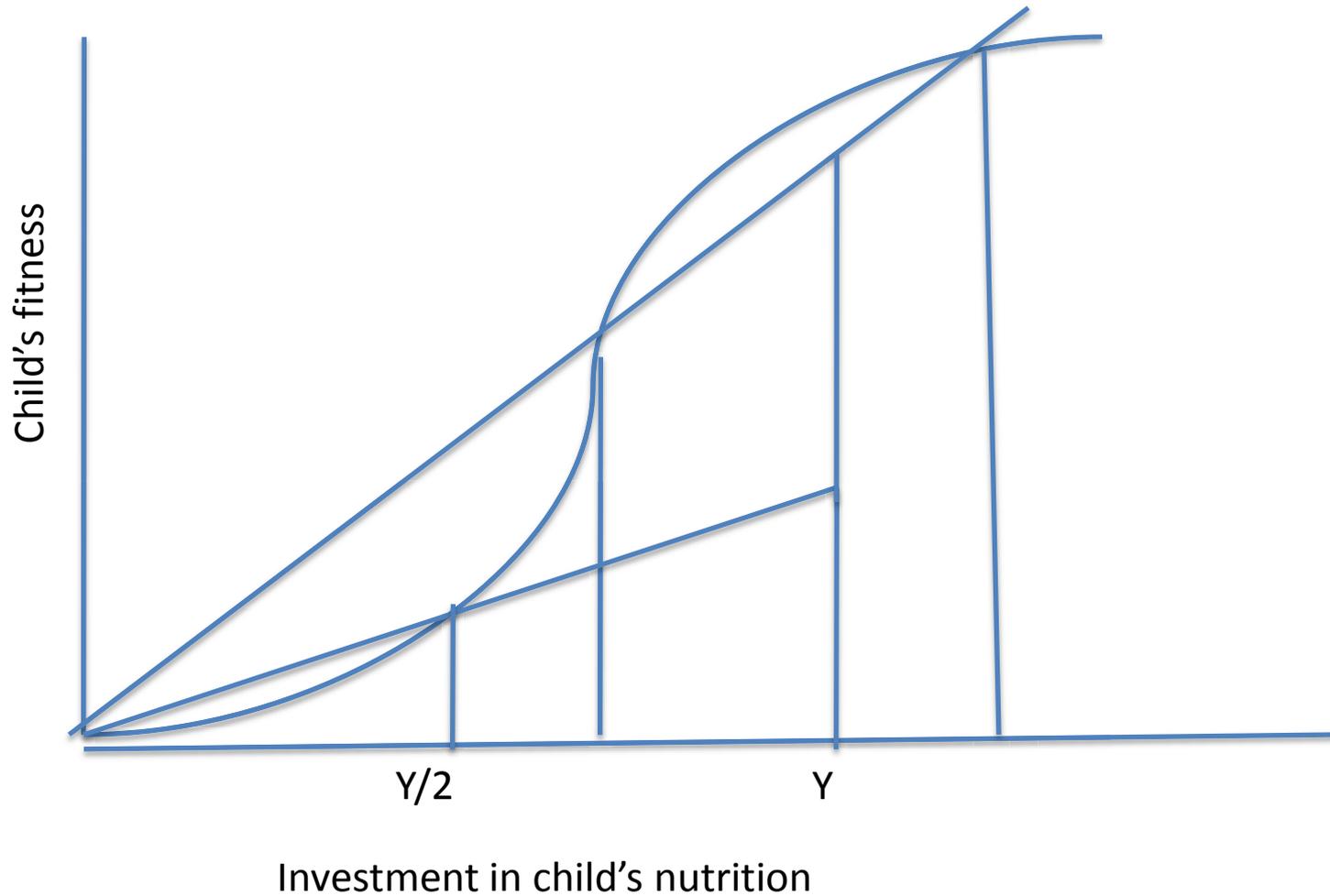
- A very small business may not be profitable, while a somewhat larger one is:
 - One shock may plunge a household in a poverty trap
 - Ibu Tina and her clothing business
- You may need to choose between your children
 - We saw in the previous lecture, on gender discrimination that girls are more likely to die than boys during drought.



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Unequal Sharing of Poverty



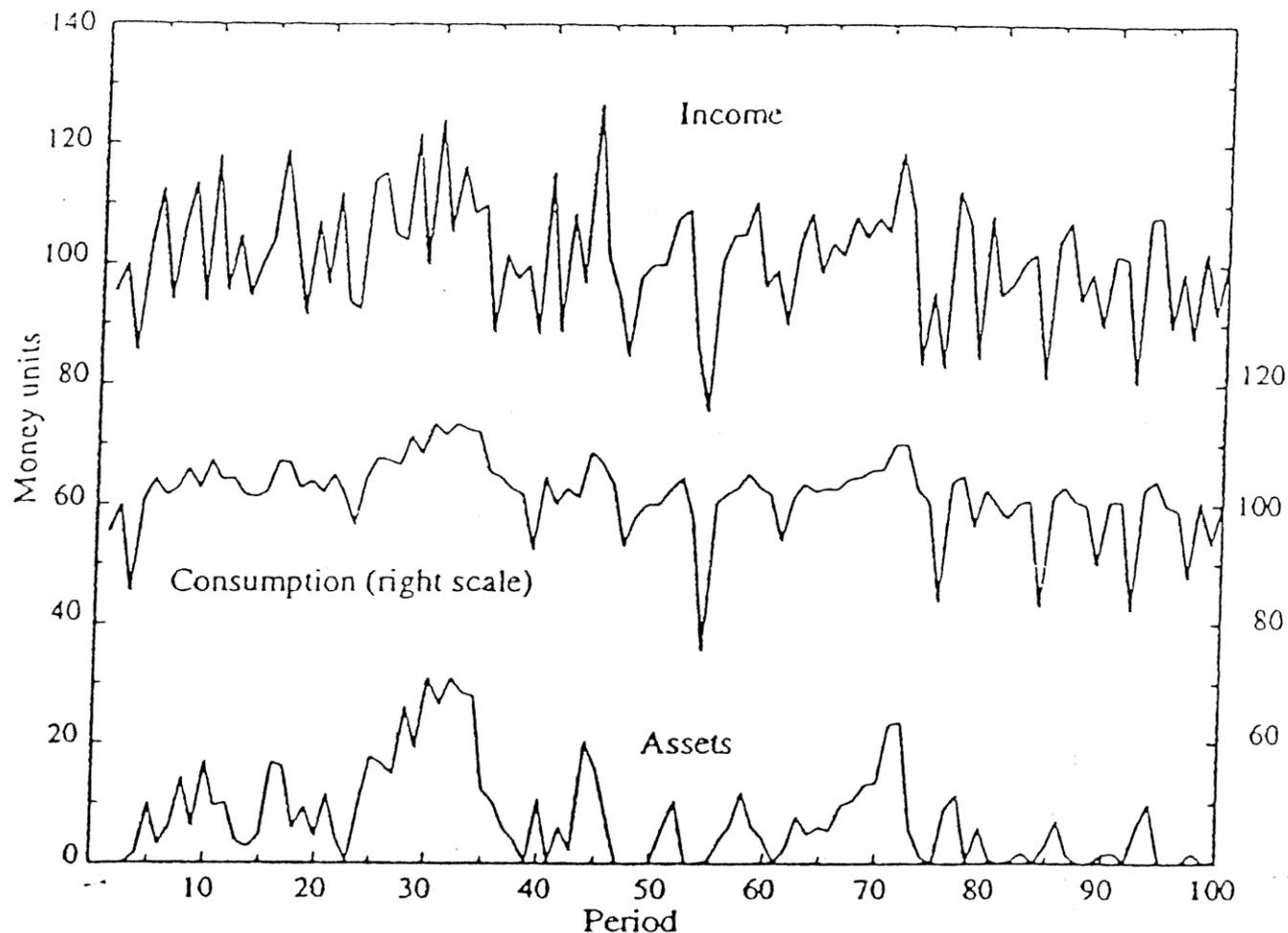
Stress can *cause* poverty

- Risk can cause poverty
- Stress can exacerbate it as well:
 - Under stress body produces cortisol, which partly affect decision making ability
 - Cortisol in pregnancy also affect the development of the fetus: babies of stressed out mothers do less well in life!

How do the poor cope with risk?

- Saving and borrowing
 - However, we will see that ability to borrow is limited
 - Suppose you cannot borrow, and your income follows an i.i.d process
 - Nearly optimal “rule of thumb” You consume everything when you have very little cash on hand, and otherwise save a fraction above some threshold
 - Even if you save a lot, there will be years when you consume very little!

Figure 6.8. Simulation of income, consumption, and assets



Source: Author's calculations as described in the text.

Deaton, Angus. 1997. The analysis of household surveys : a microeconomic Approach to development policy. Washington, D.C. : [The World Bank](#).

Source: Simulations by Angus Deaton

How do the poor cope with risk?

- Try to work more
- But when everybody try to work more at the same time (say, because there is a drought), what will happen to wages?
- The poor are more likely to want to work harder when they face a shock, because of the drop in consumption is more costly to them
- Jayachandran “Selling labor low”: this leads to an *increase* in risk:
 - Not only does risk cause poverty, poverty cause risk!!

Selling labor low

SELLING LABOR LOW

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TABLE 3
BANKING AND THE ELASTICITY OF THE WAGE
Dependent Variable: Log Agricultural Wage, 1956–87

	MEASURE OF BANKING		
	Bank Deposits per Capita (1)	Bank Credit per Capita (2)	Bank Branches per Capita (3)
Log crop yield	.162** (.083)	.158* (.083)	.138* (.082)
Banking			-.049** (.021)
Log crop yield × Banking	-.091** (.036)	-.075* (.044)	-.033* (.019)
Observations	7,678	7,614	8,080
District and year fixed effects?	Yes	Yes	Yes

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Source: Jayachandran, 2006

Avoiding risk

- Knowing that risk is ever-present and would be very costly, poor try to avoid it:
 - Avoid more profitable but more risky investment (new seeds, etc.)
 - Diversify portfolio of activities: each person in a family have several job
 - Migrate for short periods of time, keeping the family home

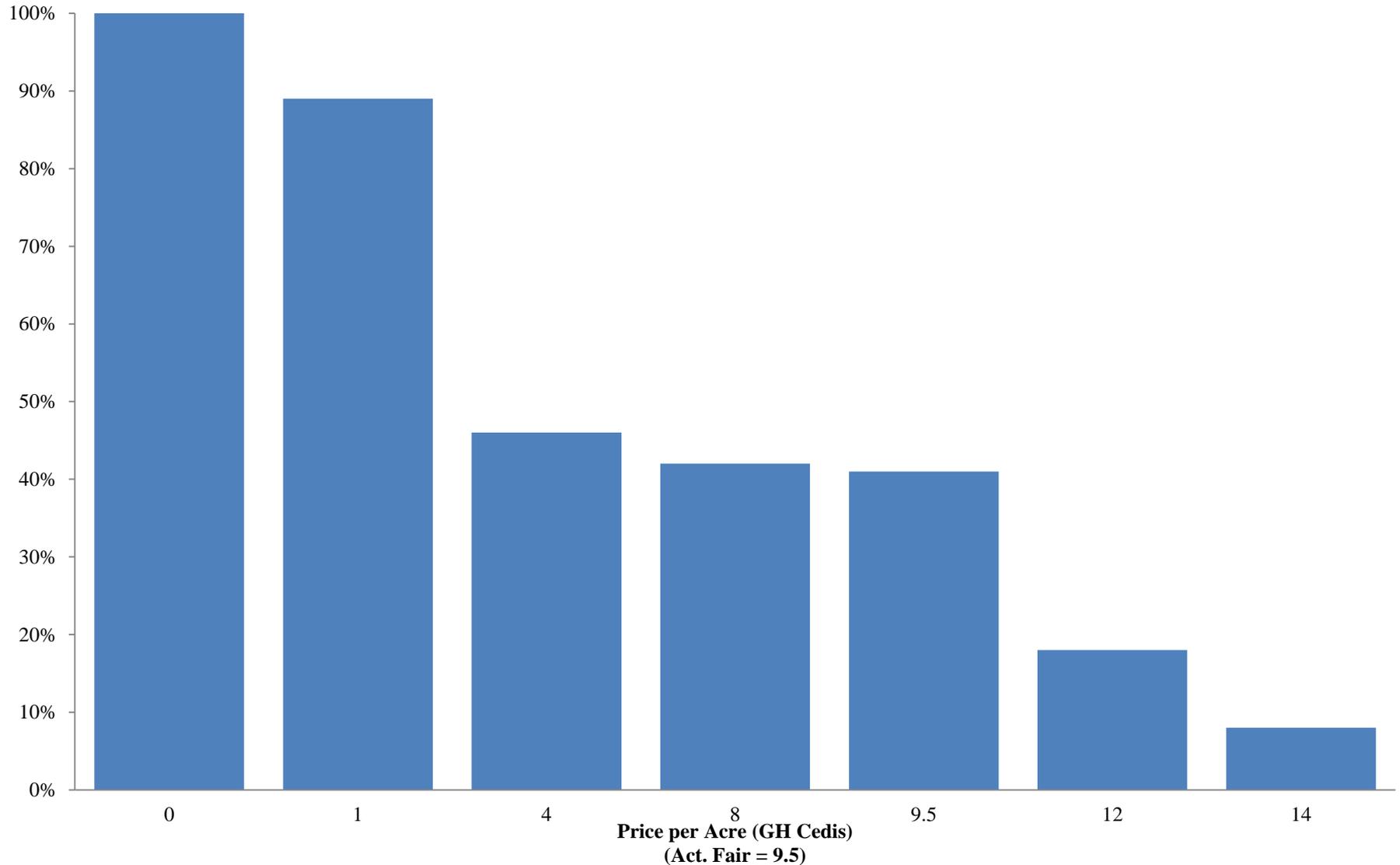
Costly strategies

- All these strategies contribute to maintain people in poverty
 - Agriculture: profit rates would be 30% higher if there was no weather risk.
 - Many jobs: no investment in specific skills.
 - Short term migration: no career

Example: Weather insurance

- Pilot program in Ghana for a simple weather insurance program:
 - At full “actuarially fair” price, demand for the product is almost nil

Take-up of Takayua Insurance for 2010 Season

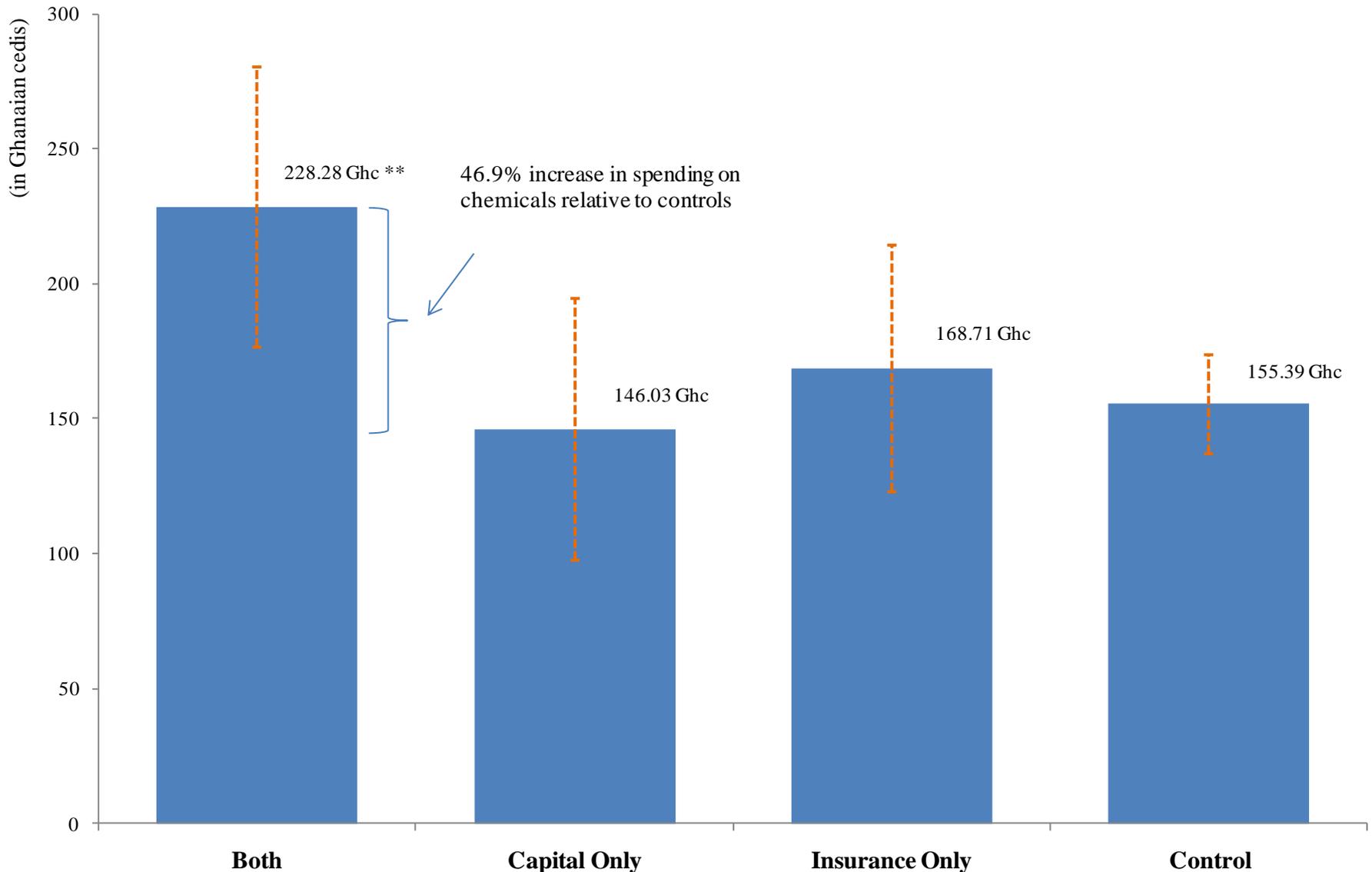


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Example: Weather insurance

- Pilot program in Ghana for a simple weather insurance program:
 - At full “actuarially fair” price, demand for the product is almost nil
 - At almost fully subsidized price, every farmer demands it
 - And there were large effects on adoption of fertilizer/food security afterwards, when insurance was combined with credit.

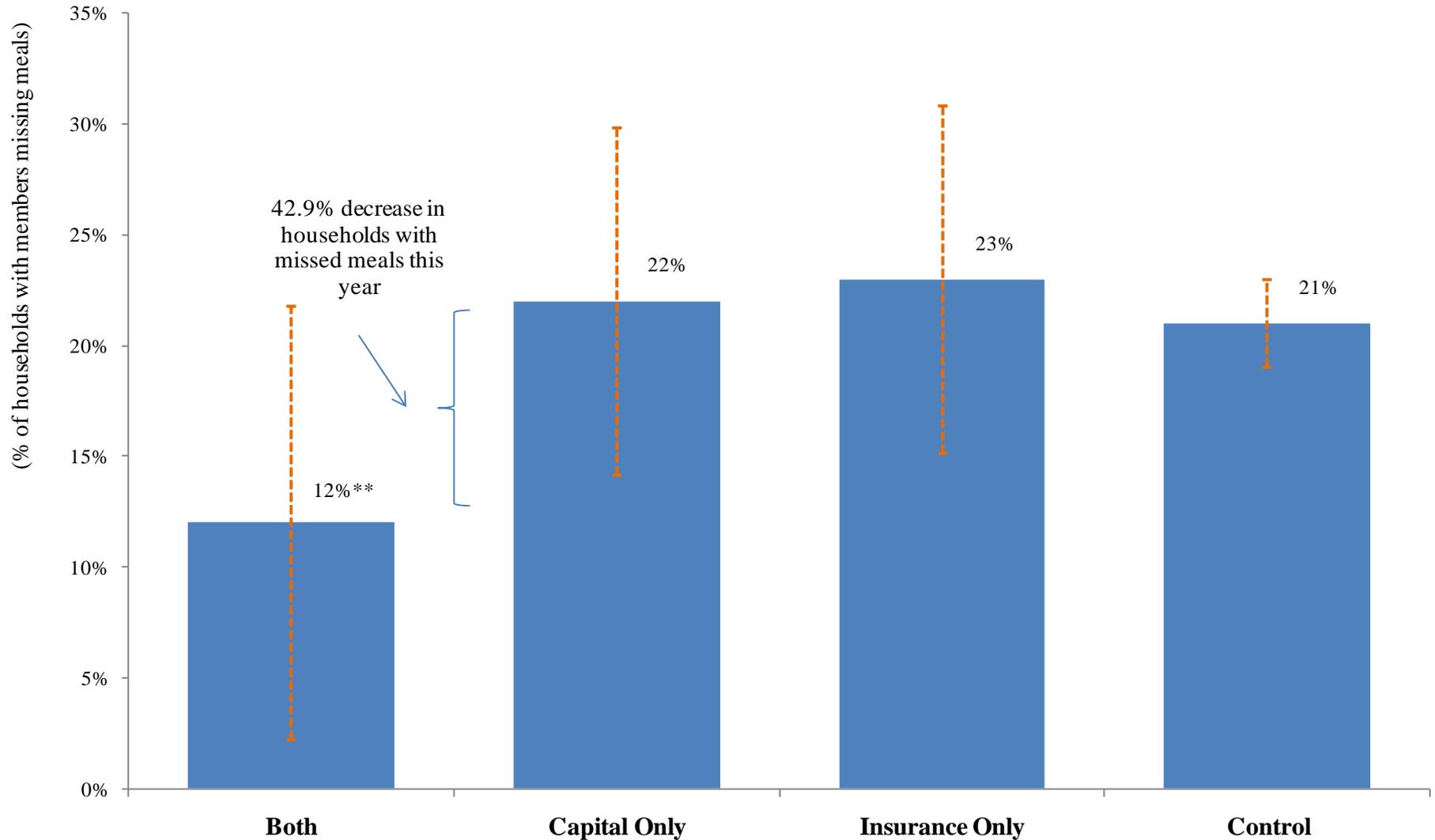
Total Chemical Spending



Note: Two asterisks (**) indicate a statistically significant difference relative to the control group, at the 95% confidence level. Orange bars show 95% CI.

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Proportion of Households with Members Missing Meals this Year



Note: Two asterisks (**) indicate a statistically significant difference relative to the control group, at the 95% confidence level. Dotted orange lines show 95% CI.

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Conclusion: Where is insurance?

- We can see that risk is costly for the poor
- But also that insurance would help them greatly
- Why are they not insured??
 - By official insurance companies
 - By their friends

Where are the insurance companies?

- Forbes magazine presents insurance for the poor an “unpenetrated natural market”
- Many microfinance institutions would like to see in microinsurance the next microcredit revolution.
- And yet the attempts have been disappointing
 - Very low demand
 - Low use even among those who *are* insured.

Why is it so difficult?

- Insurance is inherently difficult
 - Moral hazard
 - Adverse selection
 - Outright fraud
- To solve this problem, market offers only very limited set of products:
 - Catastrophic health insurance
 - Parametric weather insurance

An offer in search of a demand

- But the poor have little interest in these products and the take up is very low:
 - Lack of understanding
 - Mistrust
 - The product is not what they actually need or want
- The market may be missing for a reason.

What role for public policy?

- This opens an obvious role for public policy: step in to complement the market to insure social protection.
- But this could take several forms:
 - Food aid
 - Cash transfers (conditional or not)
 - Free primary health care
 - Offer publicly provided insurance
 - Subsidize insurance offered by the market
 - And many more!

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