Challenging Conventional Wisdom on Trader-Farmer Interlinked Input-Credit Markets with Evidence from Africa

Based on Paper by
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Introduction

• Widespread agreement that there is low input use on African farms and there is a need for intensification with:
  • external inputs
  • fertilizer
  • purchased seed
  • selective use of pesticides

• Among the constraints to external inputs use is **financing.**
Not yet a systematic inventory of how farmers finance their inputs, in this conceptual continuum:

• Whether farmers self-finance, receive gifts, or use some form of credit

• If farmers get credit, what is the type and source of credit:
  • **Informal but not tied to transaction**: friends/relatives/moneylenders in village, loan for farm needs
  • **Informal but tied to transaction**: advances from input traders or output traders (tied output-credit markets posited in the literature)
  • **Semi-formal but non-traditional and not tied to transaction**: micro-finance
  • **Formal loan but not tied to transaction**: credit from banks
  • **Formal credit tied to transaction/relation**: from processors
Objectives

Our study examines whether use any credit, and if so which type of credit, conditioned on:

• country type
• crop type (cash vs food crop)
• farm size stratum (5 categories of landholding sizes)

Where do African farmers lie currently in the continuum?
Hypotheses

• Formal and semi formal credit such as loan from banks or microfinance institutions is limited and skewed to large farmers (based on recent literature) [Poulton et al. 2006]

• Informal loans (not transaction tied) are widespread (as the traditional option) [Biswaenger 1996; Poulton et al. 2006]

• Tied output/credit is widespread (based on traditional literature hypothesis) [Bardhan 1980]

• Tied transaction credit is more among cash croppers than food croppers as it is linked to what may be contract farming for processors [Poulton et al. 2006]
Data sources

• Use comparable and recent LSMS data from a large sample of farm households

• Nationally representative datasets across a range of African countries,
  • Nigeria (LSMS-ISA 2012-2013)
  • Malawi (IHPS 2012-2013)
  • Uganda (UNPS 2010-2011)
  • Tanzania (NPS 2012-2013)
Findings of Patterns / Descriptives

• Shares of farmers buying inputs by country and farm size stratum

• A fairly high proportion of farmers buy inputs in Nigeria and Malawi (60 and 70% respectively). Lower percentage in Uganda and Tanzania (16 and 18% respectively) [might have to do with large input subsidies program ?]

• Across all countries, a higher proportion of farmers with larger landholdings purchase inputs.
Findings of Patterns / Descriptives

• Shares of farmers **buying inputs ON CREDIT**

• A key finding: **very few** farmers use credit (of any kind) to buy external inputs such as seed, fertilizer, pesticides (ranges from 3, 5, 6, to 11% over Nigeria, Malawi, Uganda, Tanzania)

• it is slightly more for fertilizer than seeds and for pesticides but all in the “very few” range:

• **IMPLICATION**: the vast majority of inputs purchases are self-financed from non-credit, such as from cash sales of labor and crops
Findings of Patterns / Descriptives

• Shares of farmers buying inputs on credit: CORRELATES

  • Positive farm size correlation with use of credit to purchase external inputs in Malawi, Uganda and especially in Tanzania. No clear pattern for Nigeria [Why ?]

  • Positive (but usually WEAK) correlation between cash crops and input credit (versus food crops). Varies extremely depending on the country;

  • but looking at “all cash crops”, it is 4% in Nigeria, 14% Malawi, 8% Uganda, and 26% Tanzania [most of it is driven by tobacco (with processing firms), a little by cotton, and little by tea or oil crops]
Findings of Patterns / Descriptives

• Share of farmers using harvest to repay inputs received on credit

  • “Tied” credit is extremely rare for external inputs (less than 2% of the farms across all countries)

  • but it is much more common (but still not ubiquitous) for labor and land (about 25% for Nigeria, 42% for Malawi, 68% for Uganda)

  • appears mainly to be for labor (work for me now and then you share harvest later, in traditional exchange)

  • Implication: traditional “financing” (in kind) is still alive but more in poorer countries, and for labor/land mainly, not for external inputs
Findings of Patterns / Descriptives

• Share of farmers using tied output/credit: CORRELATES

  • “Oddly” positive farm size correlation. Hypothesis was that bigger farms use more monetized relation. May be tied output/credit relation with processors involve bigger farms?

  • Positive (but very WEAK) correlation between cash crops and tied credit (versus food crops), except in Tanzania where we see high correlation in particular for Tobacco (80% of tobacco producing farmers use harvest to repay for input taken on credit from processors.)

  • IMPLICATION: Much less tied credit for cash crops than expected (except for tobacco); while big deal is made of this in the literature.
Findings of Patterns / Descriptives

• Share of farmers **taking (cash) loan**

  • Not so many farmers taking any kind of loan (for any goal)
    38% of farmers in Nigeria, 23% in Malawi, 10% in Tanzania

  • but even of those minor shares, only 2-5% of the farmers used these loans for agricultural input finance

• **IMPLICATION:** *Farmers are seldom using cash loans to finance agricultural inputs*
Key Findings from regression analysis

• Household level HECKPROBIT model of determinants of use of input credit given input purchase.

• Dependant variable in selection model [Input bought(0/1)]
  • Male HH, Wealth, Grains, and Cash crop production ------> positive effect
  • Dist. to nearest market and dist. to nearest population center ------> negative effect

• Dependant variables in outcome model [Input bought **ON CREDIT**(0/1)]
  • Grains and Cash crop production ------> positive effect
  • Dist. to nearest market, and dist to nearest major road ------> negative effect
Key conclusions

• Credit whether from formal or informal is used by tiny share of African farmers; self-financing from income sources is far more important

• For the few who use credit, modestly correlated with farm size, cash cropping.

• Tied credit (pay with harvest to trader) is very minor (as found in Asia) despite big deal made of this in traditional literature

• But tied credit of harvest with labor and land is still alive but minor and in poorer

• There is some contract type credit mainly in tobacco, a little in cotton. But overall in cash crops less than the conventional image
THANK YOU!

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