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Weekly Report

The legacy of civil war: The case of Mozambique

How do households cope with post-war economic reconstruction? Are groups of households trapped in poverty? These questions are discussed using the case of Mozambique, a nation in Southern Africa. Shortly after gaining independence in 1975, Mozambique delved into a civil war that lasted until 1992. Our analysis explores poverty dynamics among rural households a decade after the civil war ended. Findings indicate that both income and asset endowments are very low and the prevalence of poverty is high. However, there is no evidence that households are trapped in poverty. Instead, the rural farm-based economy as such provides very few prospects for improved livelihoods. This appears to be one of the legacies of the civil war, which destroyed much of the public infrastructure and the physical asset endowments of households and increased the welfare gap between urban and rural areas.

In Mozambique, the period of violent conflict began with armed struggle for independence in the mid-1960s. When Mozambique gained its independence from Portugal in 1975, it was among the poorest nations at that time. The independent government, led by the former liberation movement FRELIMO (Frente de Libertação de Moçambique, Front for the Liberation of Mozambique), adopted a socialist path to development. Neighboring South Africa and Rhodesia, both ruled by white minority regimes at that time, feared that FRELIMO would support black liberation movements in their own countries. They conducted military attacks against Mozambique and, from the end of the 1970s onwards, supported the formation of a rebel organization in Mozambique, RENAMO (Resistência Nacional Moçambicana, Mozambique National Resistance).

In the course of the civil war, RENAMO became increasingly independent from its former supporters. RENAMO spread terror as a means of discouraging people from supporting the FRELIMO government.¹ The principal targets of RENAMO attacks were public institutions, the well-off, as well as better-educated individuals, often using brute force. This caused major population displacement away from rural areas, where most actions of warfare took place. About 1 million individuals died and an estimated 5 million people were displaced.²

¹ Vines, A.: RENAMO: From Terrorism to Democracy in Mozambique? York, 1996. Wilson, K.B.: Cults of Violence and Counter-Violence in Mozambique. *Journal of Southern African Studies*, 18(3), 1992, 527-582.

² Hanlon, J.: *Peace without profit: How the IMF blocks rebuilding in Mozambique*. Oxford, 1996. Synge, R.: Mozam-

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Since neither FRELIMO nor RENAMO had a reasonable chance of winning the war by military means, both parties began peace negotiations in 1989. A General Peace Accord was signed in Rome in 1992. During elections, FRELIMO was confirmed in power and in 2011 is still the governing party in Mozambique.

After the transition to peace, a large number of displaced people returned to the countryside, although not necessarily to their original communities.³ Often, they arrived in devastated areas. At the end of the war, 60 percent of primary schools were closed or had been destroyed, 40 percent of immobile physical capital, such as farm irrigation systems, shops, and administrative buildings, had been destroyed or were non-operational⁴ and about half of all roads were impassable.⁵ Moreover, both war parties had planted landmines around public buildings and along roads and footpaths, causing casualties for years after the war concluded.⁶ Many rural households also lost their productive asset base, including land tenure. People fleeing their homes often left their property behind, while many of those staying on in rural areas had their food reserves, assets, and livestock looted by soldiers. For instance, the number of cows fell from 1.3 million in 1980 to 250,000 in the post-war period.⁷

Is economic reconstruction successful?

Given the massive destruction of assets, our research⁸ investigates how households cope with reconstruction. What are the poverty dynamics among rural households more than a decade after the civil war ended? Are there groups of households still trapped in poverty?

At first sight, there is contradicting evidence: On the one hand, macro-economic indicators improved steadily in the post-war period. Strict structural adjustment programs were implemented in the late

bique: UN Peacekeeping in Action 1992-1994. Washington, DC, 1997.

3 Wilson, K.B.: Internally Displaced, Refugees and Returnees from and in Mozambique. Studies on Emergencies and Disaster Relief, 1, 1994.

4 Brück, T.: Mozambique: The Economic Effects of the War. In: Stewart, F., E.V.K. FitzGerald (Eds): War and Underdevelopment. Oxford, 2001, 56-88.

5 Arndt, C., Jones, S., Tarp, F.: Aid and Development: The Mozambican Case. University of Copenhagen, Department of Economics Discussion Papers, 06-13, 2006.

6 Ascherio, A. et al.: Deaths and injuries caused by land mines in Mozambique, The Lancet, 346, 1995, 721-24.

7 Brück, T.: Mozambique: The Economic Effects of the War. In: Stewart, F., FitzGerald, E.V.K. (Eds): War and Underdevelopment. Oxford, 2001, 56-88.

8 Giesbert, L., Schindler, K.: Assets, shocks, and poverty traps in rural Mozambique. DIW Discussion Paper, 1073, 2010.

1980s as an attempt to achieve macroeconomic stability.⁹ With large inflows of donor assistance, investments in infrastructure, education, and the health sector were made. For instance, between 1992 and 2004, the number of students enrolled in primary and secondary schools increased by 174 and 537 percent, respectively.¹⁰

On the other hand, these improvements do not appear to have trickled down to rural areas, where 63 percent of the population lived in 2008. Between 1995 and 2001, median income among rural households rose by 30 percent.¹¹ Yet, this increase is largely driven by favorable market prices for agricultural produce in 2001. In contrast, productivity of the smallholder farm sector stagnated at a low level.¹²

In order to investigate the well-being of rural households in more depth, we analyze two waves of the Trabalho de Inquérito Agrícola (TIA) household survey. The surveys were collected by the Mozambican Ministry of Agriculture in 2002 and 2005. Each survey is representative of smallholder farm households in rural Mozambique. The survey questionnaire records, among other things, household demography, income, assets, farming techniques, and household exposure to shocks. Our analysis builds on 4,058 rural households that were interviewed in both years. These longitudinal data allow us to observe the same households over time.

Asset ownership and income are strongly related

Table 1 presents a poverty profile, showing how poverty varies across groups of households in 2002 and 2005. The incidence of poverty decreased slightly over the time period of interest: In 2002, 80 percent of all rural households were poor, while in 2005 only 76 percent were poor.¹³ Households

9 Hanlon, J.: Peace without profit: How the IMF blocks rebuilding in Mozambique. Oxford, 1996.

10 Arndt, C., Jones, S., Tarp, F.: Aid and Development: The Mozambican Case. University of Copenhagen, Department of Economics Discussion Papers, 06-13, 2006.

11 Boughton, D., et al.: Changes in Rural Household Income Patterns in Mozambique, 1996-2002, and Implications for Agriculture's Contribution to Poverty Reduction. Republic of Mozambique, Ministry of Agriculture and Rural Development, Directorate of Economics Research Paper Series, 61E, 2006.

12 Datt, G., et al.: Determinants of Poverty in Mozambique:1996-97. FCND Discussion Paper, 78, 2000.

13 The incidence of poverty found here is higher compared to studies using household consumption data (which is not collected in the TIA surveys). This is due to the tendency of households to underreport income to a larger degree than consumption expenditures, greater annual fluctuations in income than consumption, and the fact that consumption expenditures are typically valued with retail prices, while we value income from farm production with (lower) producer prices. Hence, the focus in the following is less on absolute levels of poverty, but rather on changes in poverty over time and the differences in poverty across groups

Table 1

Poverty profile

| | Population share (in percent) | | Mean household income per adult equivalent (in Euro ¹) | | Poverty headcount (in percent) | | |
|--|----------------------------------|------|---|-------|-----------------------------------|------|----|
| | 2002 | 2005 | 2002 | 2005 | 2002 | 2005 | |
| All households | 100 | 100 | 76.1 | 91.8 | 80 | 76 | |
| Household cultivates more than 0.5 hectare of land per adult equivalent | yes | 28 | 44 | 108.8 | 111.6 | 71 | 72 |
| | no | 71 | 55 | 63.2 | 73.9 | 83 | 79 |
| Household owns livestock | yes | 77 | 69 | 78.4 | 96.7 | 79 | 74 |
| | no | 23 | 31 | 67.9 | 77.2 | 81 | 80 |
| Household owns a bike | yes | 24 | 32 | 97.3 | 94.1 | 71 | 70 |
| | no | 76 | 68 | 69.6 | 89.3 | 83 | 79 |
| Household owns a radio | yes | 51 | 53 | 94.7 | 117.6 | 74 | 67 |
| | no | 49 | 47 | 5.7 | 59.9 | 86 | 86 |
| Household uses fertilizers or pesticides | yes | 15 | 11 | 107.5 | 127.3 | 74 | 68 |
| | no | 85 | 89 | 70.8 | 86.6 | 81 | 77 |
| Head has some education | yes | 60 | 65 | 87.4 | 103.0 | 76 | 73 |
| | no | 39 | 34 | 58.7 | 67.5 | 86 | 82 |
| Household is member of an association | yes | 4 | 6 | 103.6 | 157.1 | 76 | 68 |
| | no | 96 | 93 | 74.8 | 85.7 | 80 | 77 |

¹ At constant 2005 values.

Results are weighted with population weights and inverse probability weights. Official, regional-specific food poverty lines are used. Household income is calculated per adult equivalent in order to make income comparable across households of different size and composition.

Source: TIA 2002/2005 panel households; own calculations.

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Asset ownership is strongly correlated with well-being.

cultivating a large area of land had a much higher income per person and a lower incidence of poverty in both years compared to households cultivating little land. This finding underlines the importance of land as the key input for farming in Mozambique. Moreover, there seems to be an increasing importance of knowledge on markets and prices as well as education. Owning a radio lowers the incidence of poverty by 12 and 19 percentage points in 2002 and 2005, respectively. Similarly, if the head of household has some education, the incidence of poverty is lower by around 10 percentage points in both years.

These results suggest a strong relationship between asset ownership and wellbeing. However, the causality of this relation is not clear: Asset ownership may raise income; or better-off households may invest their wealth in assets.

There is no evidence for a poverty trap

As a further step of analysis, we analyze households' asset accumulation over time and test whether a poverty trap is present in post-war Mozambique.¹⁴

of households.

¹⁴ See, for instance, Carter, M.R. and Barrett, C.B. (2006) The economics

A poverty trap implies that one threshold of asset ownership exists, dividing households above and below this threshold into two groups. On the one hand, a household above this asset threshold is predicted to accumulate assets over time as more profitable activities and investments become accessible. Eventually, the household would move out of poverty. On the other hand, a household below this threshold is too poor to accumulate assets. The household remains trapped at low welfare levels.

Testing whether such a threshold exists involves several steps.¹⁵ First, for every household, we combine different kinds of assets – land, fruit trees, livestock, tools for farming, human capital – into one common index. Second, we estimate the relationship between a household's asset index in 2002 and 2005. Third, we account for other household and community characteristics and exposure to shocks that may influence a household's asset accumulation.

Findings reveal that there is no evidence for a poverty trap. Instead, it appears that all households in rural Mozambique converge towards the same as-

of poverty traps and persistent poverty: An asset-based approach, *Journal of Development Studies*, 42(2), pp. 178-199.

¹⁵ For a detailed description of methods used, see Giesbert, L., Schindler, K.: Assets, shocks, and poverty traps in rural Mozambique. DIW Discussion Paper, 1073, 2010.

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set level in the medium-term. Surprisingly, this asset level is at an extremely low income level, worth 1.11 times the poverty line. This corresponds to a yearly income per adult of about 142 Euro. Households above this asset level are better off for stochastic reasons, such as luck and favourable weather for farming. Their livelihood is not grounded in a sustainable asset base and households are expected to lose assets in future until they reach the common asset equilibrium. Households below the asset equilibrium will eventually improve their well-being and approach the equilibrium from below. To conclude, there appears to be relative stagnation and little differentiation across households in rural Mozambique.

Our findings contrast with most other empirical studies on Sub-Saharan Africa that do find poverty traps. The Mozambican civil war may explain the unusual results in two regards. First, there may have been a selection in the back-migration of displaced people to rural areas after the civil war ended. Possibly, most returnees to rural areas did not succeed during the war, having less economic incentives to stay on in urban settlements. This would explain the low differentiation across rural households, while the wealth divide between urban and rural households is large.

Second, the massive war-related destruction of assets may have amplified the impact of unfavourable economic conditions in rural Mozambique. These include low population density, low degree of market integration, high transport costs, high frequency of natural disasters, and very few off-farm employment opportunities. While there is no evidence that groups of rural households are trapped in poverty, one may think of the rural farm-based economy as such being trapped in poverty compared to the urban economy.

Conclusions

The long-lasting civil war in Mozambique disrupted economic activities in rural areas and caused major destruction of physical property. In the early post-war period, many displaced persons returned to rural areas and reconstructed their livelihoods. While overall economic indicators improved, economic reconstruction fell short of expectations at the household level.

Poverty decreased slightly between 2002 and 2005. Yet, in absolute terms, poverty remained at a high level, even by regional standards. Surprisingly, there is no evidence of a poverty trap that discriminates against some households based on their initial welfare endowments. Rather, all rural households are expected to converge to a common asset level associated with a very low income level. This may indicate an overall development trap in the farm-based rural economy, being one legacy of the civil war. This indicates the need for structural change in rural areas, including improved access to, and integration of markets.

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