Student loans
Measuring credit constraints in South Africa

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Access to higher education is believed to be a condition for sustained growth based on innovation and technological adaptation. However, university enrolment remains low in most developing countries. **South Africa is a relevant case study**: as an emerging country it faces the need for an upgraded workforce, but its enrolment ratio into tertiary education remains only 15%. Unsurprisingly, according to recent studies, wage returns to university are extremely high (Branson et al. 2009, Keswell and Poswell 2004). This research looks at why such a high return does not generate high enrolment level. We show that a significant number of South Africans face a credit constraint that prevents them from investing in tertiary education, using original data from 2004-2007. **This is a source of concern both in terms of equity and efficiency**.

THE BURDEN OF TUITION FEES

In South Africa, tuition fees are high: they represent about 25% of the higher education budget. In 2004 (the beginning of our sample period), the yearly average fee was thus about ZAR 7,000 (about 1,200 current US dollars), but it is not unusual that required fees climb to levels higher than ZAR 15,000. Those fees are to be compared to the average monthly wage which is around ZAR 7,500 in this period. In order to alleviate this burden, the government has implemented a contingent loan program (NSFAS) targeted to the poor. Commercial banks constitute an alternative source of financing, but the requirements for a loan approval are such that only the wealthiest families are likely to use this option.

In this context, **Eduloan** (a private company created in the 1990's and supported by international donors) **targets middle to upper-middle income households, most of whom would not have access to NSFAS, nor commercial banks**. Loans only cover registration fees, whose payment is made directly by Eduloan to the university. They are short-term (typically 12 months), charge a moderate rate, and are granted to borrowers who are currently employed and have a minimum level of income. They can borrow for themselves or their relatives.

THE IMPACT OF EDULOAN CREDIT

How important is access to Eduloan for this population? Consider some individuals who have the academic capacity and willingness to pursue into higher education but cannot afford to pay a high level of fees upfront (although they can face it if they access credit). Then **we should observe that loan access does make a difference**.

It does not make sense, in general, to simply compare enrolment of individuals who obtained and didn't obtain a loan. Two such individuals could have many more differences, for instance distinct family backgrounds, that affect at the same time their educational outcomes and the likelihood they will be granted a loan. We use an alternative strategy based on the credit score (*Empirica score*) used by Eduloan to decide on loan grants: there is a score threshold (normalized to zero here) below which a loan should not be granted according to Eduloan's own rules. Starting with a set of individuals applying for a loan, we compare individuals to the left of the threshold and individuals to the

Figure 1: Share of loans granted as a function of *the Empirica score* (2004-2007)

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right of it. They are extremely similar because it is only by chance that they have a few less *Empirica* points. **However the likelihood that they obtain a loan is very different, as illustrated by Figure 1**. Generally, a higher *Empirica* increases the chances to get the loan, but there is a sharp discontinuity at the threshold: whereas less than 10% of loan demands are accepted below 0, this ratio jumps to 50% just above 0.
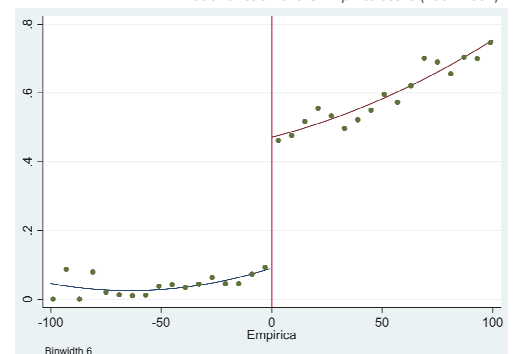
Figure 2 thus gives **a visual representation of the impact of a loan**. University enrolment is measured using the HEMIS database from the Ministry of Education matched to Eduloan files. Just more than 50% of individuals whose value of the *Empirica* is to the left of the threshold enrol in public universities ; this proportion jumps to 60% to the right of the threshold.

This increase by 9 points in enrolment rates at the neighborhood of the threshold (Figure 2) mirrors the fact that there is a 40 points difference in the proportion with a loan between those two otherwise similar populations (Figure 1). This means that obtaining a loan rather than not, **increases one's probability to enrol by 23 points** (0.09/0.40). This can be compared to a baseline enrolment rate of 50% in this population.

Figure 2: Proportion of the University enrolment as a function of *the Empirica score* (2004-2007)

Table 1 shows the same estimate when the sample of potential clients is split between the 25% borrowers with the lowest wage and the 75% with the highest wage. The table shows that loan access increases enrolment by 42 points among the poorest, for whom the liquidity constraint is the heaviest, while the corresponding figure is only 15 points in richer families.
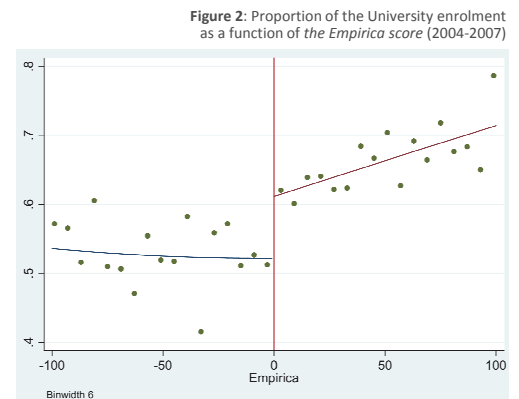
Table 1: Percentage point increase in the probability of enrolment at University as a result of obtaining a loan

	Overall population	Borrower wage below first quartile	Borrower wage above first quartile
Impact	0.2254	0.4188	0.1520
(standard-error)	(0.0616)	(0.1464)	(0.0663)

Source : Gurgand, Lorenceau and Mélonio (2011). Sample restricted to +/- 65 Empirica points around shreshold. Local linear instrumental variable regression.

STUDENT LOANS TO INCREASE ENROLMENT

Because access to loans can easily be confounded with other opportunities, the economic literature has only provided very indirect evidence that access to liquidity is really a binding constraint to enrolment in higher education. **This research is the first to demonstrate and quantify the importance of this constraint in a simple and direct way**. Of course the result only apply to the kind of short-term loans that Eduloan provides, and not to stronger solvency issues that can only be solved through an increase in future revenues and longer grace periods. But the fact that even a simple smoothing payment mechanism has a very significant impact on university enrolment suggests that the credit constraint must be very strong in South Africa.

This general result is all the more striking that South Africa is a highly financialized emerging country. Its credit-to-GDP ratio amounts to 88% in 2009, much higher than that of other African countries and close to that of other emerging countries such as Vietnam or Thailand. Therefore, **it is most likely that many potential students in low-income or middle-income countries are also strongly affected by credit constraints**, limiting their ability to achieve the studies their talent would allow for.

This research indicates that **the development of education loan mechanisms seems highly suitable**. The Eduloan experiment shows that **targeting such loans to a middle-income population is workable and sustainable** (we evaluate the cost of public support, through international donors, at around 2% of outstanding loans). Schemes that target poorer segments of the population, such as NSFAS, would probably imply a heavier public subsidy, but this has to be weighted against their impact on enrolment and success.

Références

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