

"Labour Exclusion and Informality in a Latin American country, a Latent Class model approach "

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Motivation

The Model

The Econometric Model

Results

Concluding Remarks

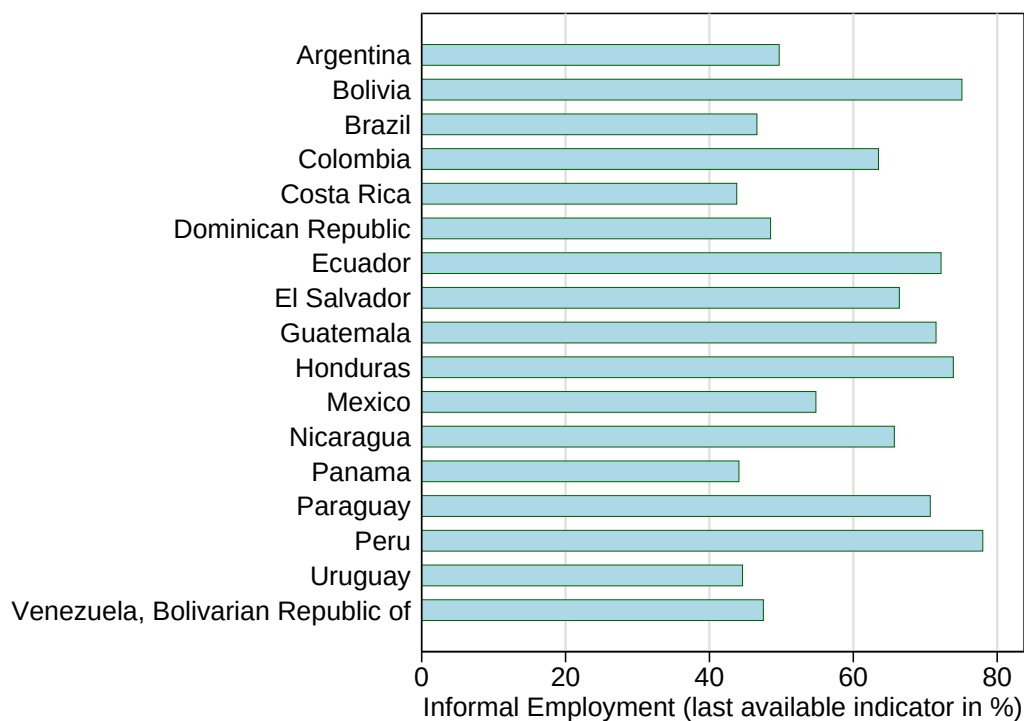
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Workers have no choice than to create an "informal" market !
- **New Evidence:** Informality may also be a **voluntary** status
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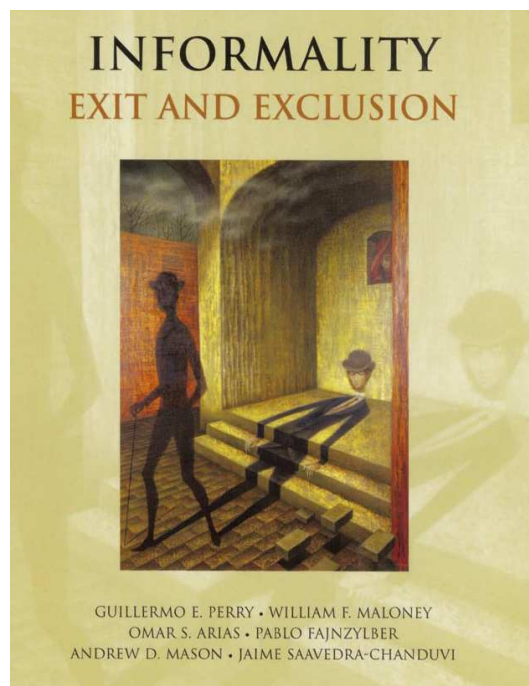
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- Exit or Exclusion are explained by different theoretical approaches
- Hard to (empirically) identify excluded from non excluded informals (subjective surveys and only a few exist)

+ This paper's methodology explains/proposes :

- How an existing unifying theoretical framework may nest both (exit and exclusion)
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- Workers receive job (wage) offers at random frequencies $\sim \mathcal{P}_\lambda$ if $\lambda \rightarrow \infty \Rightarrow$ perfect competition equilibrium
- Two groups of workers with heterogenous information availability: $\lambda_1 < \lambda_2$

Main implications:

Workers with less information stay at lower paid or less satisfactory jobs

This paper suggests :

- Workers at $\lambda_1 \rightarrow$ segmented ones from Harris and Todaro model

Thus, Excluded workers may be identified to the group with less information availability λ_1

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- Less satisfactory jobs: $S_{\mathcal{R}} < S_{\bar{\mathcal{R}}}$
- Higher probability ($\mathcal{J}$) of a job search: $\mathcal{J}_{\mathcal{R}} > \mathcal{J}_{\bar{\mathcal{R}}}$
- Higher unemployment probability

Empirically :

- Exclusion state ($\mathcal{R}$) $\rightarrow$ unobserved
- wages and a job seeking status & unemployment $\rightarrow$ available
- Job quality $\rightarrow$ Informality Status (Pagés & Madrigal 2008)

A lower $\lambda \equiv$ Exclusion ($\mathcal{R}$) implies :

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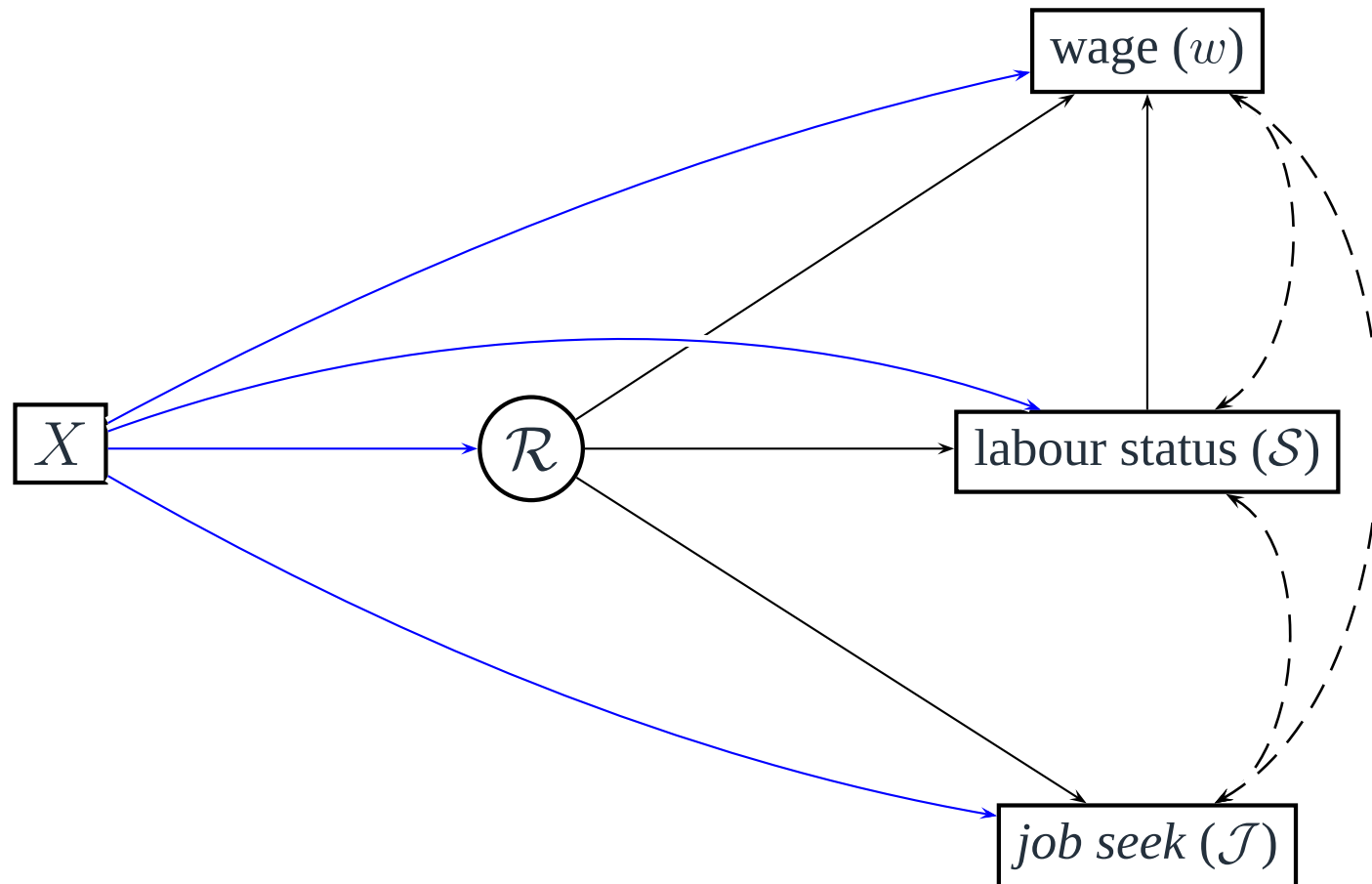


Figure 1: Model's structure

The Latent Exclusion Regime $\mathcal{R}$

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■ Exclusion :

$$\mathcal{R} = \begin{cases} 1 & \text{Excluded} & \text{if } \mathcal{R}^* \geq 0 \\ 0 & \text{Non-excluded} & \text{otherwise} \end{cases}$$

■ Its specification :

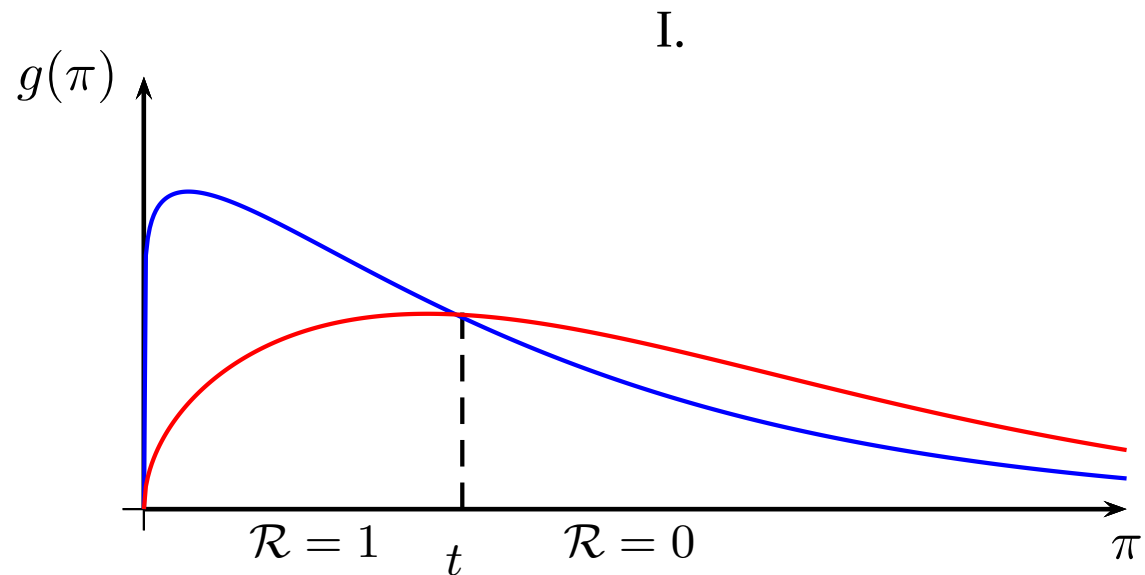


Figure 2: Labour productivities, supply(blue) and demand(red) density functions

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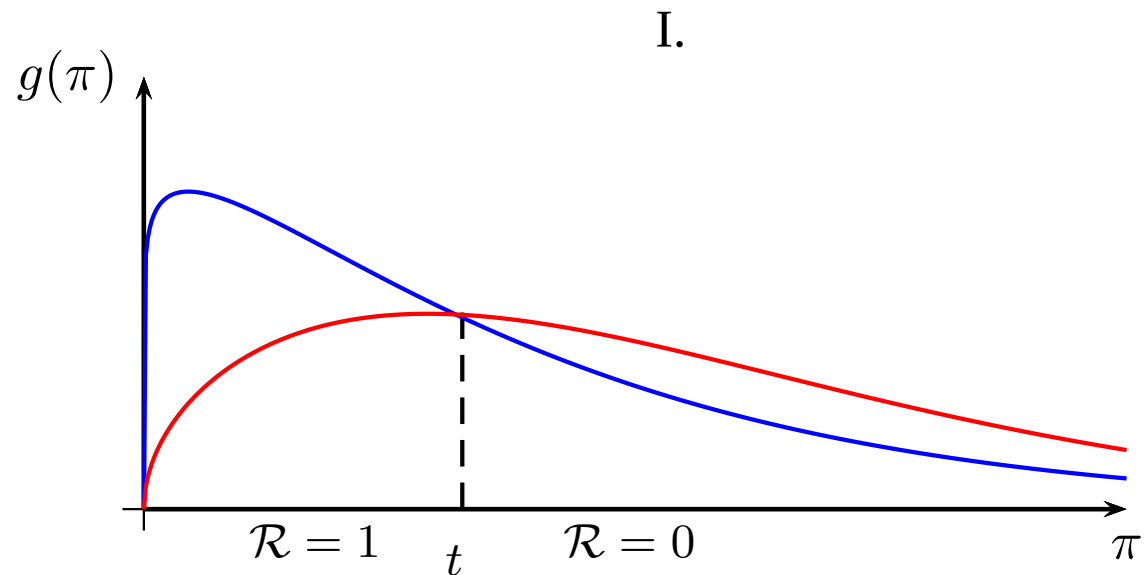


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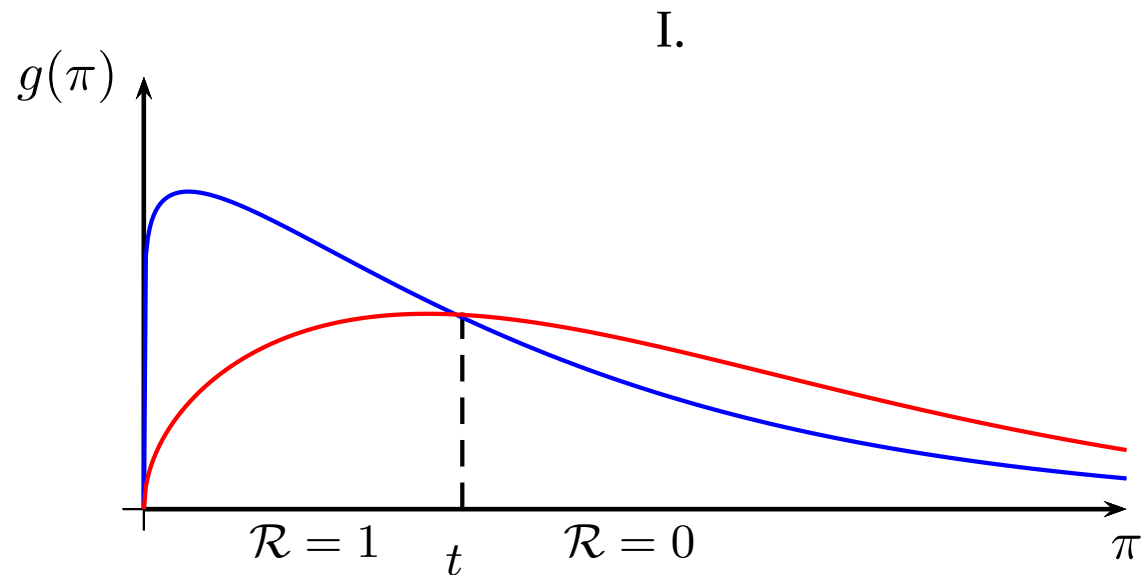


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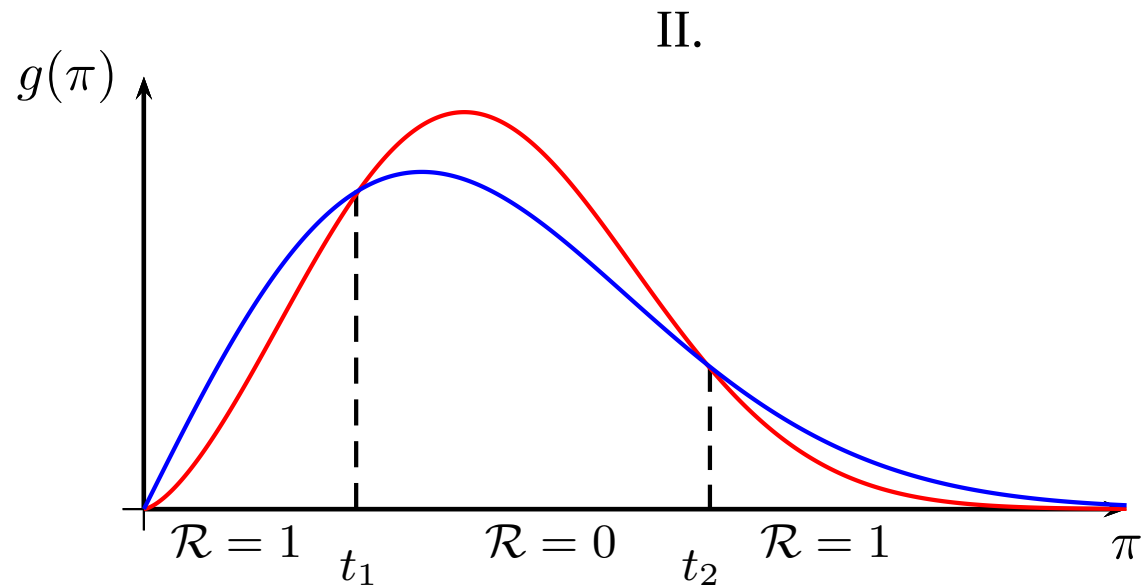


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Indicators specification

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Table 1: Endogenous variables densities and cdf's

	Definition	Specification
$P[\mathcal{J} x, \mathcal{R}]$	Probability of the dichotomous job seeking indicator $\mathcal{J}$.	Logit*
$P[\mathcal{S} x, \mathcal{R}]$	Probability of observing the Labour status where $\mathcal{S}$ is qualitative and nominal. The four labour status categories in $\mathcal{S}$ are formal, independent, informal and unemployed	Mixed multinomial logit*
$f_u(w x, \mathcal{R}, \mathcal{S})$	Observed wage density function , where u stands for the residual term.	Linear regression*
$P[\mathcal{R} x]$	Probability of the underlying dichotomous regime	Logit*

* Linked to the other model equations through the mixing distribution $\psi(\varepsilon)$

- Brazil 2004 household survey (PNAD)
- Male individuals between 18 and 65 years old
- Workers with 2 or more jobs are not considered (2.5% of the sample)
- Four labour categories: formals, independents, **informals** and unemployed

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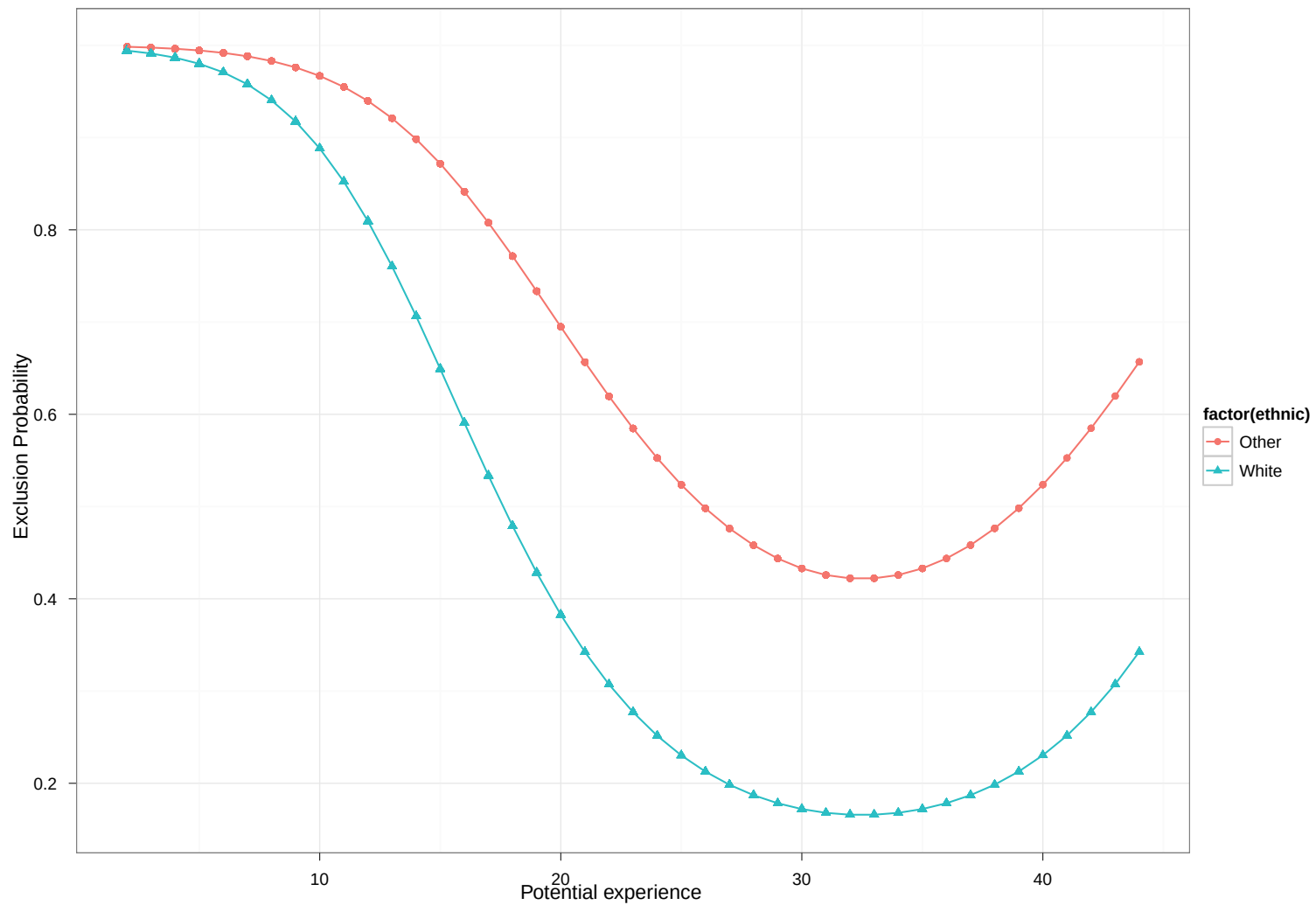
Table 2: Unconditional exclusion probability ($P[\mathcal{R} = 1]$), logit estimated parameters.

Variable	parameters
White(race)	-1.3 (0.15)
Years of education(Urban)	-0.08 (0.02)
Years of education	0.04 ^a (0.04)
Years of education(> 15)	-0.84 (0.19)
Urban	0.62 (0.19)
Potential Experience	-0.53 (0.06)
Sqrd. Potl. Exp. /100	0.73 (0.08)
Educ. $\times$ Potl.Exper. /100	0.57 (0.12)

Exclusion probability

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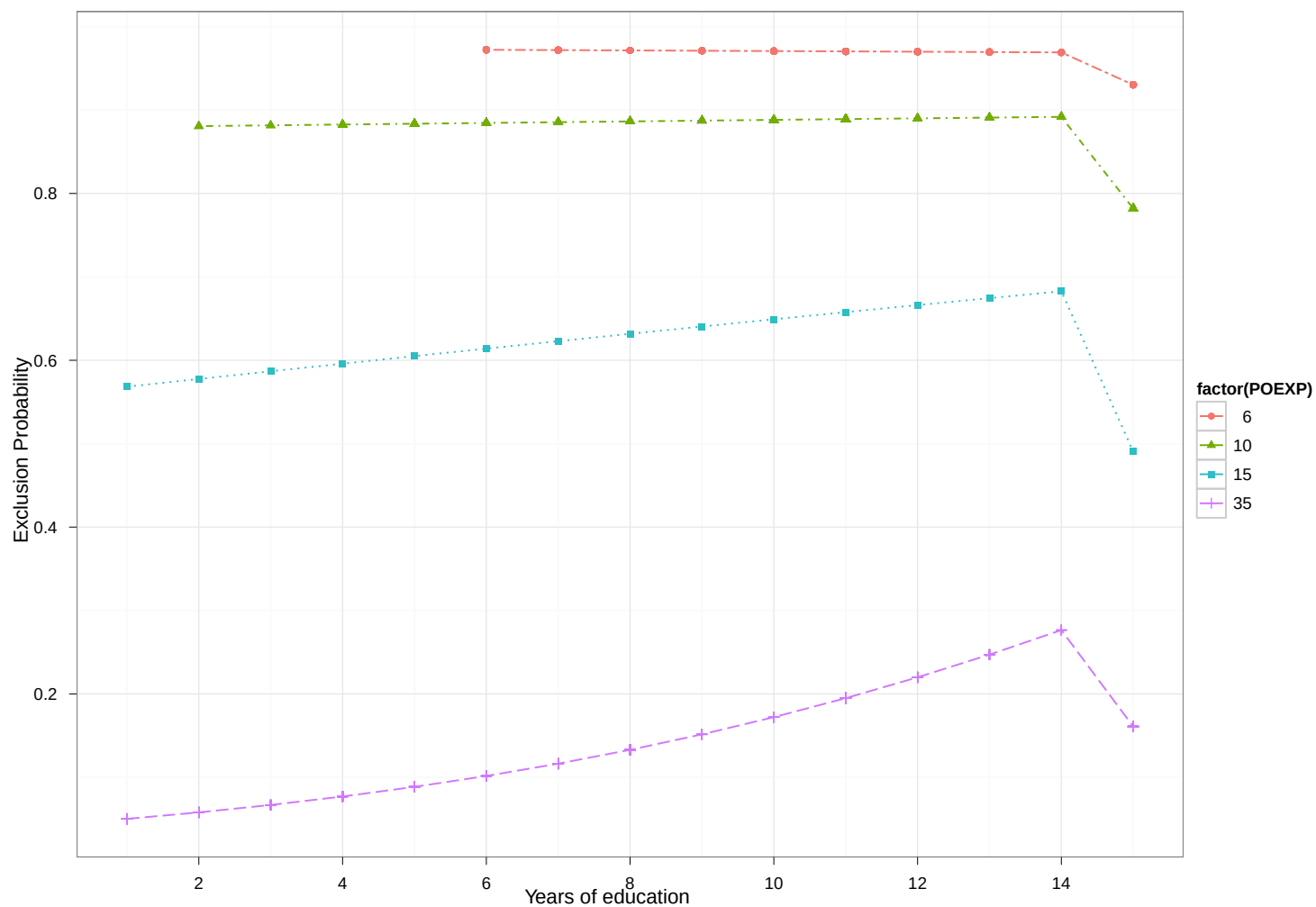
Figure 4: Exclusion probability and potential experience (by ethnic groups)



Exclusion probability

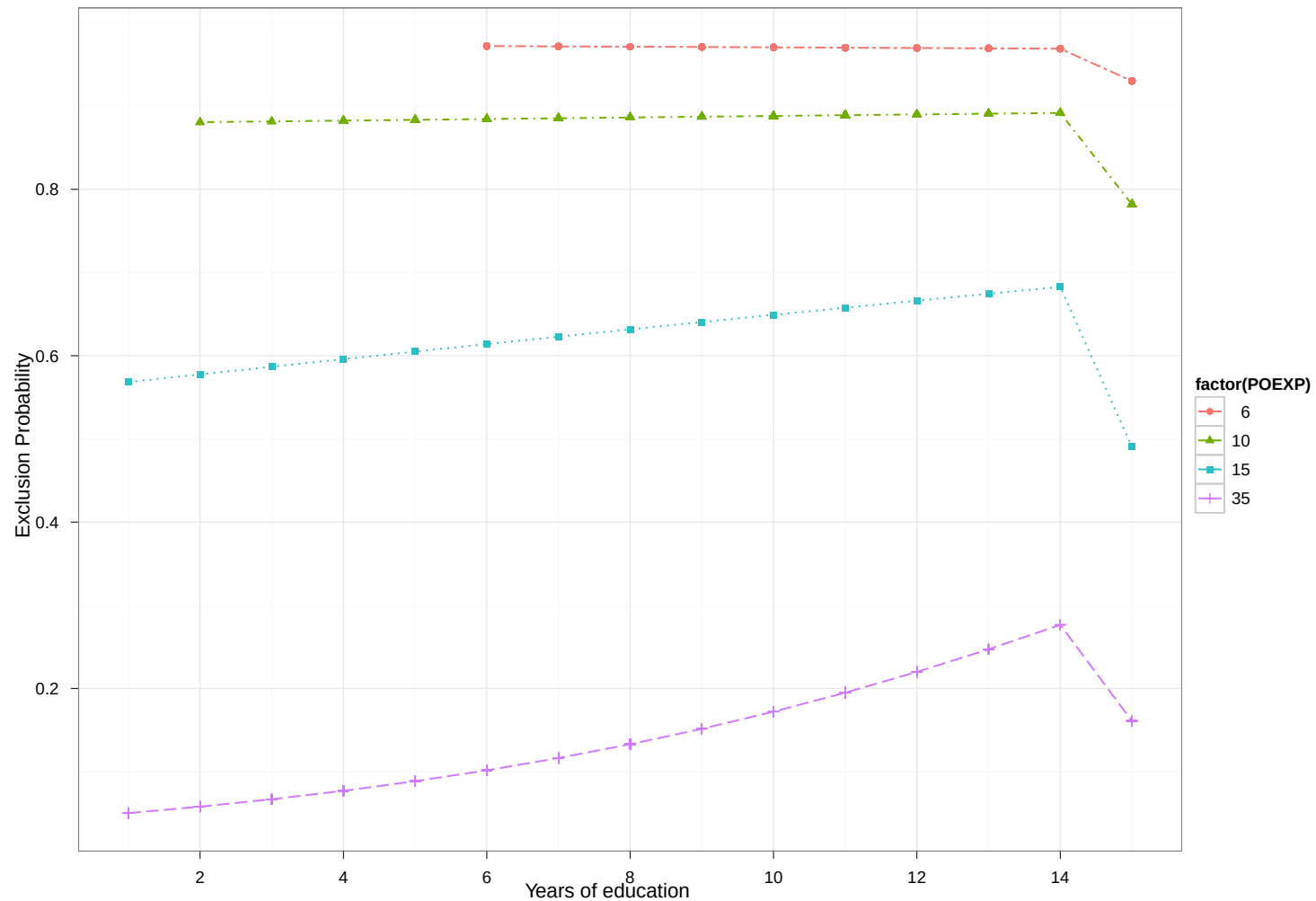
Exclusion probability

Figure 5: Exclusion probability and years of education



Exclusion probability

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Exclusion seems to **increase** with education... !

- Urban $\rightarrow$ Exclusion
- Education $\rightarrow$ Exclusion

But other empirical evidence supports these findings Ernst (2008) :

- Structural change in Brazil's labour market since the early 90's, caused a systematic increase of the lower and middle skilled labour demand
- It also increased the urban unemployment rates : urban unemployment $\approx 10\%$ rural unemployment $\approx 1\%$

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Table 3: Estimated labor status and exclusion regime distribution

	<i>formal</i>	<i>independent</i>	<i>informal</i>	<i>unemployed</i>	
<i>Non-excluded</i>	0.25	0.15	0.05	0.02	<i>0.47</i>
<i>Excluded</i>	0.23	0.08	0.12	0.10	<i>0.53</i>
	<i>0.48</i>	<i>0.23</i>	<i>0.17</i>	<i>0.12</i>	

Based on estimated posterior probabilities

Concluding Remarks

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- Estimated parameters reflect the structural shocks in the labour market (education and urban $\rightarrow \mathcal{R}$)
- From labour status probabilities given exclusion $P[\mathcal{S}|\mathcal{R}]$:
 - Education unambiguously reduces exclusion at any labour status
 - The estimated share of excluded within the informal sector $\approx 70\%$
 - Exclusion mainly affects informality and unemployment

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