LABOR FLOWS IN VENEZUELA: 1997-2013.

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Introduction

- Connection between business cycles and informality

- Venezuela:

  - Large share of informal sector employment.

  - Stricter employment protection regulations as of 2002.

- This paper measures worker flows (1997 -2013).

- Methodology

  - Frazis, Robison et al. (2005): Raking

  - Shimer (2012): Instantaneous transition probabilities

Introduction

- *Encuesta de Hogares por Muestreo.*

- Results on unemployment

    - NU highly countercyclical

    - IU, UF, FU, NU are the main driver of the unemployment fluctuations

    - Changes in regulations affected worker flows.

- Results on informality:

    - UF, FU, NF transition explain fluctuations in informality

Structure of the presentation

- Literature Review

- The Venezuelan Labor Market

- Data and Methodology

- Traditional Labor Market Indicators

- Emerging Country Perspective

- Conclusions

Literature Review

- Gross worker flows

  - Poterba and Summers (1986) Frazis, Robison et al., (2005) Elsby, Hobijn et al., (2015)

  - US: Blanchard and Diamond (1990), Fujita and Ramey (2009), Shimer (2012)

  - Institutions matter: Burda & Wyplosz (1994); Abowd *et al.* (1999); Blanchard & Portugal (2001)

- Paper Contribution

  - Shimer(2012)'s method with 4 states

Literature Review

- Informality

  - Connection between Informality and Unemployment:

    - Harris and Todaro (1971) vs. Hart (1973)

  - Countercyclicality of informality: Loayza and Rigolini (2006), Fernandez and Meza (2015)

  - Flows (4 states): Bosch and Maloney (2008, 2010)

- Paper Contribution

  - Confirms BM findings in a different country

Labor market in Venezuela

- Strict employment protection regulation
- High firing costs
  - Forced savings accumulation
  - Unfair dismissal compensation
  - Advanced paid notice
- *Inamovilidad laboral* by decree in 2002 and increase in firing costs in 2015
- Informal sector: non-professional self-employed / employees in firms with 4 or less employees.
  - 41,2 % of the workforce in the informal sector (INE, 2015).

Data and methodology

- Data: *Encuesta de Hogares por Muestreo*.

- Working dataset: all individuals 14 years old or older in the corresponding interview period.

- Rotational panel scheme

- Algorithm to match persons within the matched households

  - Verification by using sex and age of individuals.

- More than 50% of the sample can be matched except 2001-2002 (sample increases).

  - After 2002, more than 70% of the sample is matched across periods.

Data and methodology

- We estimate instantaneous transition probabilities.
  - Margin error correction: raking approach suggested by Frazis, Robison et al. (2005).
  - We correct for time aggregation bias based on Shimer's (2012) method.
  - Misclassification error: eliminating frequent reversals of transitions (Elsby, Hobijn *et al.*, 2015).
- If the eigenvalues of the matrix $\boldsymbol{P}_t$ are all real, positive and distinct, the $\boldsymbol{P}_t$ can be written as

$$\boldsymbol{P}_t = \boldsymbol{M}_t \boldsymbol{\Lambda}_t \boldsymbol{M}_t^{-1},$$

- Instantaneous transition rates, λ_t

$$\lambda_t = \boldsymbol{M}_t \widetilde{\boldsymbol{\mu}}_t \boldsymbol{M}_t^{-1},$$

Log of eigenvalues diagonal matrix

Traditional labor market indicators

Unemployment rate. Venezuela, 1997-2013.
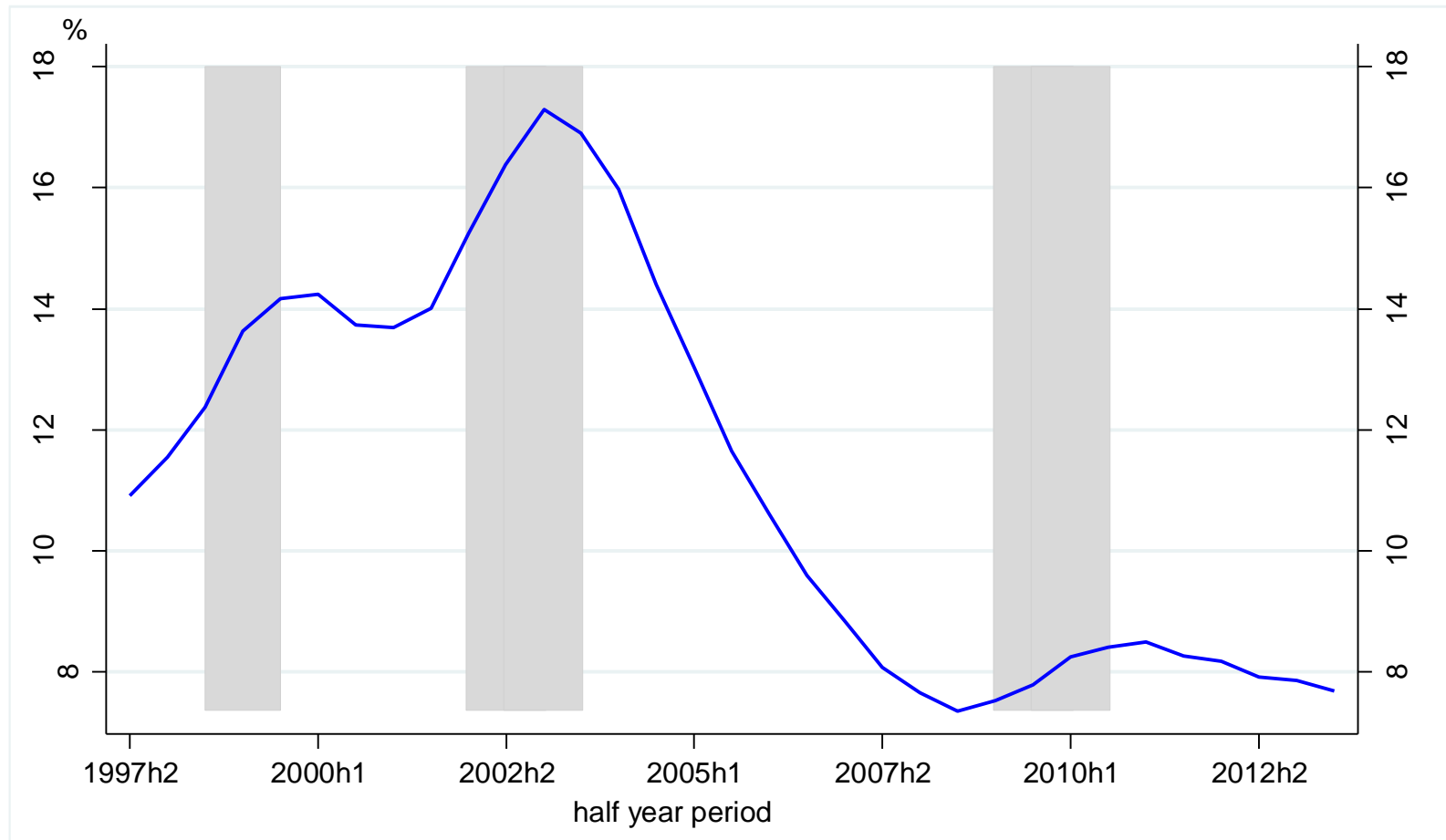
Note: Shaded regions represent recessions. Moving average is applied to the original data.
Source: Authors' calculation using data BCV-INE.

Traditional labor market indicators

Employment outflow transition probability
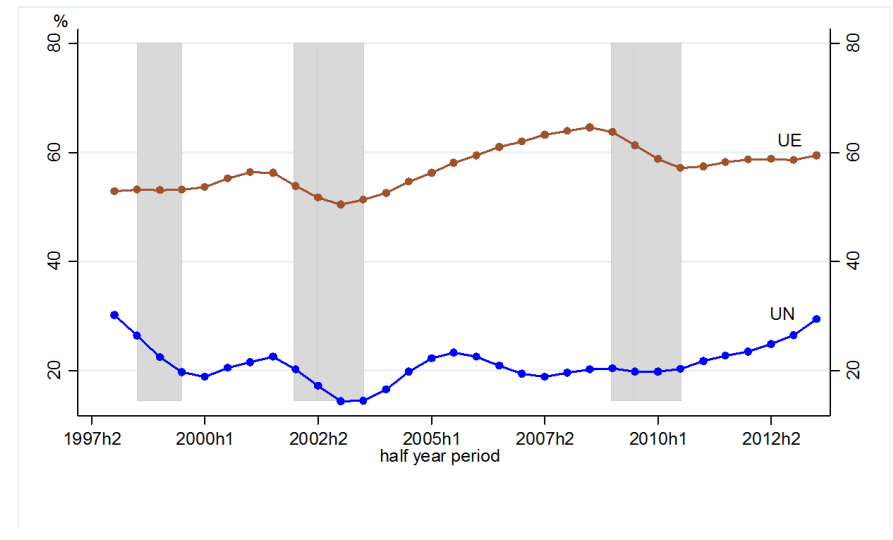
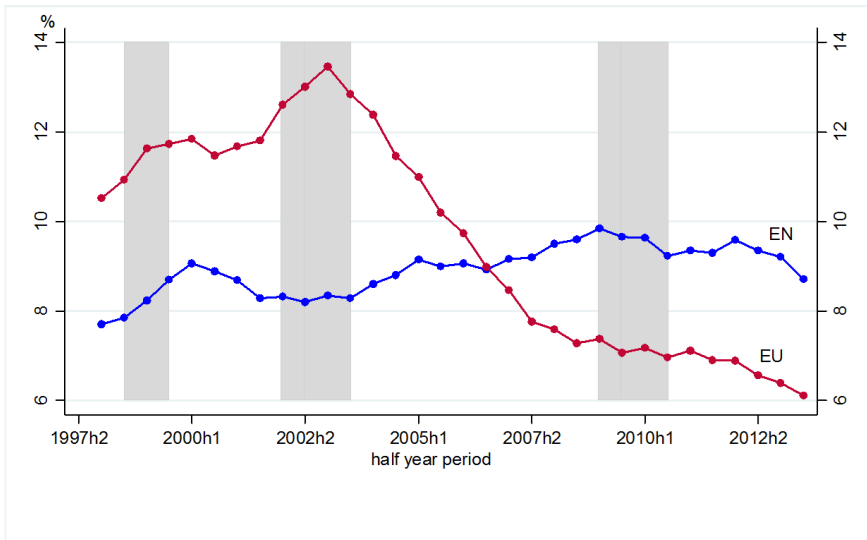**Unemployment outflow transition probability.**

Note: Shaded regions represent recessions. Moving average is applied to the original data.
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Traditional labor market indicators

Cyclicality and Contribution of changes in each of the six transition rates to fluctuations in the unemployment rate

1s1998-2s2013	Cyclicality	Contribution
λ_t^{UN}	-0.469*** (0.1614)	-0.019
λ_t^{UE}	-0.238*** (0.0366)	0.228
λ_t^{NU}	0.801*** (0.1746)	0.113
λ_t^{NE}	-0.075 (0.0475)	0.011
λ_t^{EN}	-0.082* (0.0426)	-0.035
λ_t^{EU}	0.644*** (0.0442)	0.684

Note: The second column displays the coefficient of a regression of the corresponding transition probability on season semi-annual dummy, time trend and unemployment rate. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The second column shows the coefficient from a regression of the corresponding detrended hypothetical unemployment rate on the detrended actual unemployment rate

Emerging country labor market indicators

- Emerging economies labor markets: significant share of employment in the informal sector
- Four-state transition probability matrix

$$\boldsymbol{P}_t = \begin{pmatrix} P_t^{NN} & P_t^{UN} & P_t^{FN} & P_t^{IN} \\ P_t^{NU} & P_t^{UU} & P_t^{FU} & P_t^{IU} \\ P_t^{NF} & P_t^{UF} & P_t^{FF} & P_t^{IF} \\ P_t^{NI} & P_t^{UI} & P_t^{FI} & P_t^{II} \end{pmatrix}$$

- Shimer's (2012) decomposition

$$u = \frac{\lambda_t^{EN}\lambda_t^{NU} + \lambda_t^{NE}\lambda_t^{EU} + \lambda_t^{NU}\lambda_t^{EU}}{(\lambda_t^{EN}\lambda_t^{NU} + \lambda_t^{NE}\lambda_t^{EU} + \lambda_t^{NU}\lambda_t^{EU}) + (\lambda_t^{UN}\lambda_t^{NE} + \lambda_t^{NU}\lambda_t^{UE} + \lambda_t^{NE}\lambda_t^{UE})}$$

- Regression of the detrended hypothetical u on the detrended actual u.

Emerging country labor market indicators

Cyclicality and Contribution of changes in each of the transition rates

		Contribution	
1s1998-2s2013	**Cyclicality**	**Unemployment**	**Informality**
λ_t^{UN}	-0.476*** (0.1630)	-0.018	0.0059
λ_t^{UF}	-0.664*** (0.0620)	0.3001	0.464
λ_t^{UI}	-0.059 (0.0391)	0.0148	-0.0163
λ_t^{NU}	0.782*** (0.1761)	0.1431	-0.0491
λ_t^{NF}	-0.836*** (0.0565)	0.0717	0.3247
λ_t^{NI}	0.161*** (0.0574)	-0.0299	0.1079
λ_t^{FN}	-0.523*** (0.0744)	-0.058	-0.2629
λ_t^{FU}	0.368*** (0.0460)	0.2741	0.3674
λ_t^{FI}	-0.005 (0.1544)	0.0156	0.2479
λ_t^{IN}	-0.048* (0.0278)	-0.0195	0.0704
λ_t^{IU}	0.861*** (0.0454)	0.3473	-0.3316
λ_t^{IF}	-0.168 (0.1884)	0.0111	0.1775

Emerging country labor market indicators

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Conclusions

- This paper measures instantaneous transition probabilities in Venezuela from 1997 to 2013.

- Job destruction, especially informal sector, main factor behind the unemployment rate fluctuations.

  - IU transition rate: 33% cyclical fluctuations of u

  - UF transition rate: 30% cyclical fluctuations of u

  - FU transition rate: 26% cyclical fluctuations of u

- Changes in protection may affect transitions.

- Employment protection has benefited workers but introduced rigidities in the labor market.