

- Introduction
- The theoretical model
- Dynamics behaviour in the basic model
- Extended model
- Empirical results
- Impulse responses function for the basic model
- Impulse responses function for the extended model
- Some preliminary results

Output and Unemployment dynamics in LDC's The Okun Law revisited

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Motivation

We know that :

- A *Take-off* come from *Big Push*, for ex : industrial revolution,
- There is a trade-off between development and unemployment,
- Okun Law is unstable in LDC's,

The aim of this paper

- Is to reexamine the consequences of dualism in the perspective of economic take-off,
- If the development of the modern sector decreases employment, then the take-off is unavoidably accompanied by a sudden increase in unemployment.
- The economic take-off is represented by a dual model in which the production in the modern sector generates two technological externalities,
- On the one hand a static externality (Marshall type economy of scale)
- On the other hand, a dynamic technology externality that benefits the entire economy. Wage disparities and

Previous paper

- 1 The work of Arthur Lewis (1954) placed at the heart of the debate on development, the ideas of classical economists about the process of industrial transformation in the early stages of capitalist development,
- 2 Harris and Todaro (1970) extended the Lewis model. According to these authors, an increase in employment in the modern sector impacts negatively on employment in the economy at large,
- 3 Murphy, Vishny (1989), Industrialization and the big Push,

Assumptions

- We consider an economy with two sectors, a modern sector and a traditional one. Both sectors produce the same good
 - There are N workers in the economy. Workers are identical and risks neutral,
 - The wage in the modern sector is negotiated,
 - Unemployment seems to be necessary step for those willing to work in the modern sector,

Basic relations

Basic relations

$$\hat{\ell}_t^d = -\delta (\hat{w}_t - \hat{p}_t - \hat{a}_t)$$

$$\hat{w}_t = E_{t-1} \hat{p}_t + \hat{a}_{t-1} + g - \frac{\gamma}{\delta} \hat{\ell}_{t-1}^d - \frac{1-\gamma}{\delta} \bar{\ell}$$

$$\hat{p}_t = \hat{p}_t^f + \hat{e}_t$$

$$\hat{p}_t^f = \hat{p}_{t-1}^f + \pi + \epsilon_t^p$$

$$\hat{m}_t - \hat{p}_t = \bar{y}_t - \eta \hat{i}_t + v_t$$

$$v_t = v_{t-1} + \epsilon_t^m$$

$$\hat{i}_t^f = \hat{i}_{t-1}^f + \epsilon_t^i$$

$$\hat{i}_t = E_t \hat{e}_{t+1} - \hat{e}_t + \hat{i}_t^f$$

$$\hat{u}_t = \bar{\ell}_t - \hat{\ell}_t$$

Dynamics behaviour in the basic model

- We compute the rational expectations solution to the previous model given the exchange rate regime. The general solution is :

$$\hat{u}_t = \gamma \hat{u}_{t-1} + \delta (E_{t-1} \Delta \hat{p}_t - \Delta \hat{p}_t) - \delta \epsilon_t^S$$

Introduction

The theoretical model

Dynamics behaviour in the basic model

Extended model

Empirical results

Impulse responses function for the basic model

Impulse responses function for the extended model

Some preliminary results

Unemployment dynamics under flexible exchange rate

Under fixed exchange rate

Under flexible exchange rate

The reduce-form for the unemployment rate dynamics is :

$$\hat{u}_t = \gamma \hat{u}_{t-1} - \delta \eta \epsilon_t^i - \delta \epsilon_t^m$$

Introduction

The theoretical model

Dynamics behaviour in the basic model

Extended model

Empirical results

Impulse responses function for the basic model

Impulse responses function for the extended model

Some preliminary results

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Extensions

- 1 We extend the discussion by taking into account the New Keynesian Macro-Model,
- 2 Caribbean labor markets, are affected by international business cycles (foreign shocks),
- 3 we complete the previous model by integrating, the aggregate supply, this IS curve and the monetary policy based on the Taylor rule.

Simulation and calibration

- 1 We solve the equilibrium model by taking into account the rational expectations' hypothesis,
- 2 We perform the parameterization for both basis and extended models,
- 3 We simulate the model for Barbados and OECS countries.

TABLE : Parameter values of the model basic

α	γ	η	\bar{l}
0.33	0.90	0.25	1

TABLE : Parameter values of the extended model

λ	θ	ϑ	ς	ω	κ	ρ
0.5586	0.0011	0.4859	0.0045	1.6409	0.6038	0.0045

Note : Cho and Moreno (2006).

Introduction

The theoretical model

Dynamics behaviour in the basic model

Extended model

Empirical results

Impulse responses function for the basic model

Impulse responses function for the extended model

Some preliminary results

OECS countries

FIGURE : Impulse responses to ϵ_t^S

fig1.pdf

Introduction

The theoretical model

Dynamics behaviour in the basic model

Extended model

Empirical results

Impulse responses function for the basic model

Impulse responses function for the extended model

Some preliminary results

Barbados

FIGURE : Impulse responses to ϵ_t^i

fig3.pdf

- Introduction
- The theoretical model
- Dynamics behaviour in the basic model
- Extended model
- Empirical results
- impulse responses function for the basic model
- Impulse responses function for the extended model**
- Some preliminary results

OECS

FIGURE : Impulse responses to ϵ_t^{AS}

fig4.pdf

Introduction

The theoretical model

Dynamics behaviour in the basic model

Extended model

Empirical results

impulse responses function for the basic model

Impulse responses function for the extended model

Some preliminary results

Barbados

FIGURE : Impulse responses to ϵ_t^{AS}

fig7.pdf

- Introduction
- The theoretical model
- Dynamics behaviour in the basic model
- Extended model
- Empirical results
- impulse responses function for the basic model
- Impulse responses function for the extended model**
- Some preliminary results

OECS

FIGURE : Impulse responses to ϵ_t^{MP}

fig9.pdf

- Introduction
- The theoretical model
- Dynamics behaviour in the basic model
- Extended model
- Empirical results
- impulse responses function for the basic model
- Impulse responses function for the extended model**
- Some preliminary results

OECS

FIGURE : Impulse responses to ϵ_t^{MP}

fig8.pdf

- Introduction
- The theoretical model
- Dynamics behaviour in the basic model
- Extended model
- Empirical results
- impulse responses function for the basic model
- Impulse responses function for the extended model**
- Some preliminary results

Barbados

FIGURE : Impulse responses to ϵ_t^{MP}

fig9.pdf

- 1 Under a flexible exchange rate regime, unemployment and wage have smaller impacts when countries are hit by structural shocks,
- 2 Under a fixed exchange rate regime, labour market tends to fluctuate more,
- 3 Structural shocks coming from the US economy have strong effects on Caribbean labor markets (this is due to the rigidity).