Economic integration in WAEMU : Nominal Convergence and Growth Dynamics of Member States

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Context and Background

- Globalization of the economy : formation of regional entities as one of the essential ways to come together to better integration into the global economy

- West African countries adopted Pact of Convergence to stabilize economic situation and lead to the convergence of member economies : nominal convergence will lead to a gradual reduction of disparities between their living standards.

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  (ii) Schor (2000) : In a monetary union, looking for a nominal convergence could even lead to real divergence raising behavior of "free Ridding" in response to asymmetric shocks.
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Goal and Key Issues

Paper's Goal

This paper aims to analyze the implications of the Convergence, Stability, Growth and Solidarity Pact adopted by WAEMU governments on nominal and welfare convergence of member states.

Research Questions

1. Does the performance of WAEMU countries give a hope of nominal convergence ?
2. Has looking for nominal convergence favored a reduction in disparities in per capita income across WAEMU countries ?
3. Will WAEMU member states converge to the same level of per capita income in the long run ?

OUTLINE

Three hypothesis of welfare convergence have been tested :

- (1) : beta convergence :Neoclassic growth model Barro and al (1991), estimated with GMM

$$Y_{i,t} - Y_{i,t-1} = a + bY_{i,t-1} + \sum_{j=1}^{m} \rho_{i,t}^{j} K_{(i,t)}^{j} + \mu_t + \upsilon_i + \varepsilon_{i,t}$$

  $Y_{i,t}$: logarithm of per capita GDP of country i at time t
  K : set of m explanatory variables to control structural characteristics of countries
  μ_t and ν_i represent respectively the unobservable temporal effects and individual. $\varepsilon_{i,t}$ is white noise.
  We accept the hypothesis of convergence if b is statistically significant and less than zero.

- (2) : Sigma convergence :Graphical analysis of the evolution over time of the deviation between income countries combined with Wilcoxon-Mann-Whitney's non parametric test.

Methodology and data sources (Cont.)

- (3) : Clubs of convergence : Polynomial functions of Chatterji (1992) adapted to panel data estimated with GMM

$$GAP\_PIB_{i,t} = b_1 GAP\_PIB_{i,t-1} + b_2 (GAP\_PIB_{i,t})^2 + b_3 (GAP\_PIB_{i,t})^3 + \varepsilon_{i,t}$$

  $GAP\_PIB_{i,t}$: is the difference between the per capita GDP of country i and the target of convergence at time t

- The data used come from the Socio Economic Data Base of the African Development Bank and from annexes of the reports of multilateral surveillance mechanism of WAEMU Economic Commission respectively for real convergence and nominal convergence.

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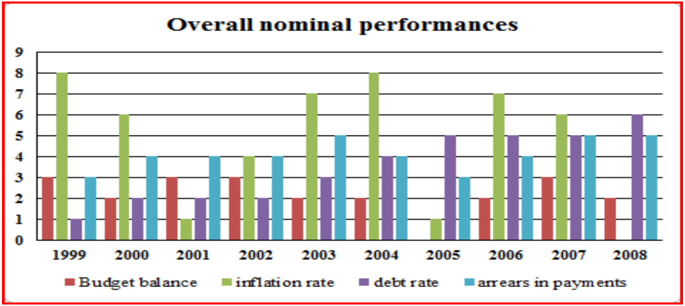
- Non negative Budget balance ; Inflation rate $\leq$ 3 per cent ; External and internal debt $\leq$ 70 per cent of GDP ; no Arrears in payment ; wage bills $\leq$ 35 per cent of fiscal revenues ; Investment rates$\geq$ 70 per cent of fiscal revenues ; taxe incidence $\geq$ 17 per cent of GDP ; Current Accounts $\geq$ 5 per cent of GDP.



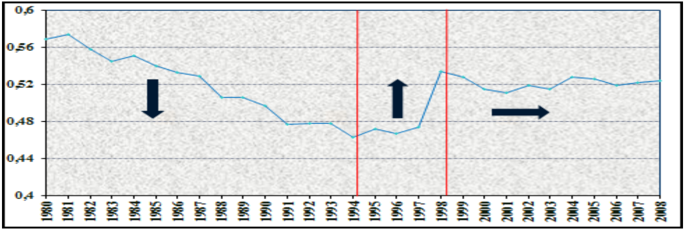
- Inflation most impressive criterion over the period.
- Greater difficulty for of countries to meet the structural criteria.
- Convergence does not appear simultaneously in all country.

	Absolute beta convergence			Conditional beta convergence		
Periods	1980-1999	2000-2008	1980-2008	1980-1999	2000-2008	1980-2008
Trade liberalization	-	-	-	0.19**	-0.08	0.07
Speed of convergence β (%)	1.26 Converge	-1.08 Diverge	0.72 Converge	1.33 Converge	0.65 Converge	0.78 Converge

- Slow process of absolute convergence : speed 0.72 per cent per year.
- Divergence over 1999-2008.
- Convergence of living standards improves with the introducing of the rate of trade liberalization : rate of conditionnal of 0.65 per cent over the period 1999-2008.

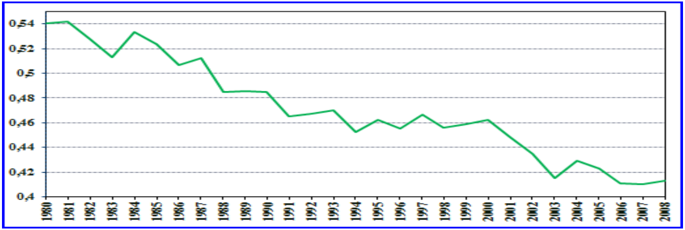
Sigma convergence

- 3 phases marked by a very pronounced divergence between the per capita incomes over 1995-1998 due to Guinea Bissau



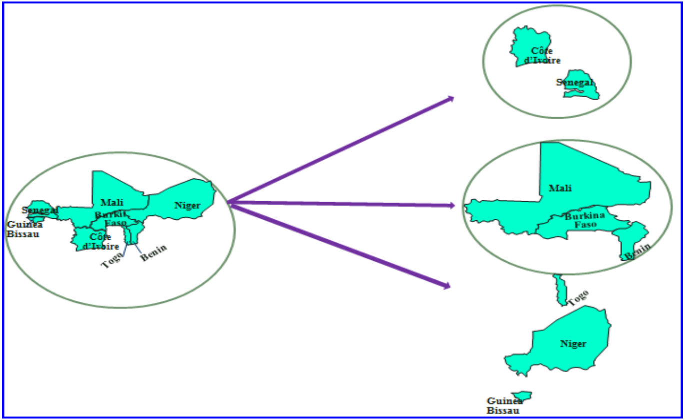
- Average cross-sectional dispersion in per capita income 0.51 before 1999 against 0.52 after 1999 : adoption of convergence's pact followed by increasing disparities between per capita incomes of countries.

- Guinea Bissau Excluded : continued decline in disparities between per capita incomes of WAEMU member over 1999-2008



- Conclusions on the convergence of per capita income between WAEMU countries vary depending on the group considered

Clubs of convergence



- Guinea Bissau, Niger and Togo diverge taking each its own growth path leading them to lower equilibria
- Benin, Burkina Faso and Mali converge towards the union average.
- Senegal and Cote d'Ivoire converge towards a highest equilibrium .

OUTLINE

Concluding Remarks

- Existence of at least two long run equilibria, over the period considered.
- The geographic position of countries does not justify the establishment of clubs.
- Nominal convergence does not lead to welfare convergence.
- Redefinition of the convergence criteria.
- Methods that allow determination of endogenous target of convergence.

THANKS FOR YOUR KIND ATTENTION