



## **The Nineteenth Dubrovnik Economic Conference**

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### **Lessons from the History of European Integration: What Can a New Entrant Expect, Convergence or Divergence?**

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CROATIAN NATIONAL BANK

# **Lessons from the History of European Integration: What Can a New Entrant Expect, Convergence or Divergence?**

**Helmut Wagner**

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**19th Dubrovnik Economic Conference, June 12–14, 2013**



## Outline

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# I. Introduction/Motivation (1)

Interpretations of the European integration process:

## **European integration process – a success story**

(Brought peace, and [until 2008] growth and income convergence)

= Long-term view

## **European integration process – a disaster**

(Struggle with “Euro-crisis”; from 2009 income divergence)

= Short-term view

**What lesson should a new entrant, like Croatia, draw from these experiences?**

I will argue that:

**Most important decision for a new entrant: when to (try to) join the Eurozone**



# I. Introduction/Motivation (2)

“How quickly should (which) EU member states try to enter the Eurozone?”  
was a

**Fiercely debated question**

**10 years ago**

(Fourth and largest round of enlargement of EU in 2003)

**Already 20 years ago**

(Question about which countries should join Eurozone)

The debate was then dominated by the **“New OCA Theory”**



## A) Traditional Optimum Currency Area (OCA) Theory

The old classical OCA Theory of the 1960s analyses the conditions under which a currency union can function. That is, it tries to work out the optimality or stability conditions for a currency union.

The **core of this theory** can be described as follows:

Only if a certain level of real (structural–institutional) convergence among the candidate countries has already occurred, is a currency union a reasonable option.

In other words, according to the OCA Theory:

**A currency union only makes sense or is efficient and sustainable if certain structural and institutional adjustments among the candidate countries have been carried out beforehand.**

This hypothesis has been challenged by the New OCA Theory.



## B) New OCA Theory

Implies the idea of an “**endogenous**” convergence :

That by and after entry into EMU, incentive mechanisms become effective which themselves lead to a nominal + (via) real convergence.

In other words, **a prior nominal or real convergence is thus not necessary.**

See for example, Frankel and Rose (1997):

*“countries which join EMU, no matter what their motivation may be, may satisfy OCA properties ex-post even if they do not ex-ante!”*

Otherwise put, entry into the EMU as well as into the EU would support the institutional convergence of the member countries, since the accession countries would be encouraged to adjust or adapt their institutions and structures towards those of the present member countries.



## C) My own Position (at IMF and Elsewhere) has been:

New OCA Theory is/was not well founded.

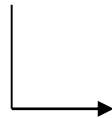
**Hence: For new emerging market economy (EME) type EU member states, it is ambitious or even dangerous to try to rush into the Eurozone.**

The argumentation for this position has been laid out as follows:

At the Bundesbank Conference in 2002 → Wagner (2002a, Bundesbank)

At the IMF Conference in Prague in 2005 → Wagner (2005, IMF publication)

Supported by a model analysis → Wagner (2002b, J. Ec. Int.)





**In this New/Endogenous Growth model (Wagner 2002b, J. Ec. Int.),** I showed that the planned early entry into the Euro Area of the then emerging NMS-10 could have resulted in real divergence.

The model I presented provided one scenario of how attempts to satisfy the nominal Maastricht convergence criteria could have a negative impact on (envisaged) real convergence between the incumbents and the accession countries in a monetary union.

**The key arguments** in this paper are based on

(1) the fact that “emerging” accession countries have relatively high optimal public investment levels in comparison to developed incumbents, and

(2) the nominal Maastricht convergence or entry criteria, which were elaborated for the original (developed or “emerged”) incumbents, may put pressure on today’s “emerging” accession countries to deviate from their relatively high optimal public investment levels (sooner or later), due to fact (1).

Hence, the real convergence process could be slowed by negative growth effects.

**Overall, my results imply that a sufficient degree of real convergence should be seen as a precondition for a promising accession to a monetary union and not as the hoped-for endogenous result of early accession.**



# I. Introduction/Motivation (3)

As it was only possible to argue theoretically at that time, due to lack of data (the Eurozone had just started to exist), it was difficult to convince the “optimists” among politicians and also at IMF.

Now that we have data that is broadly based, we can start to empirically test the above hypothesis.

First attempts have been

- Christodoulakes (2009)
- Marelli and Signorelli (2010)
- Raileanu Szeles (2011)
- Gill and Raiser (2012)
- Wagner (2013)

**However, they all have missed some important aspects.**

**Therefore, I embarked on a new attempt at the end of 2012 (together with my co-author Nina Breitzkreuz), using a dynamic panel data model.**



## II. Evidence

### II.1 Literature

**Christodoulakis (2009)** estimated (in a parametric framework) the  $\beta$ -convergence parameter for members of the EMU, and found that the speed of  $\beta$ -convergence weakened between pre- and post-EMU periods. On the same basis, the  $\sigma$ -income-convergence between EMU members slowed or even substantially reversed. The only signs of progress that can be observed are in the synchronization of business cycles, which has improved the viability of common monetary policy. Thus, business cycles have become more symmetric and less intensive after the establishment of the EMU, at least until 2008.

**Marelli and Signorelli (2010)** estimated  $\beta$ -convergence in productivity levels and labour market performance indicators in the EU-27 (emphasizing the role of alternative indicators for real structural convergence). The evidence of convergence in industrial specialization is less clear for EMU members. Trade integration increased due to institutional integration in the EMU and EU. When the  $\sigma$ -convergence of these indicators and per capita GDP is assessed, a strong convergence can be found in labour market performance indicators, but none in productivity and per capita GDP for the EMU-12. In contrast, NMS experienced strong  $\sigma$ -convergence in per capita GDP and productivity.

**Raileanu Szeles (2011)** applied a nonparametric framework for NMS, which detects convergence clubs and distinguishes between long-term and short-term absolute convergence. Her findings indicated a lack of real convergence in the long-term in favour of short periods of convergence and divergence. By comparing these results with the standard parametric approach to detect  $\beta$ -convergence, the  $\beta$ -parameter is found to be weakly significant.



## II. Evidence

### II.2 Own recent results

→ Wagner 2013 (EUSI, Tokyo)

As a general tendency, institutional–structural convergence can only be observed before accession to the EMU.

**After accession to EMU, [institutional-structural convergence](#) appears to slow down or even becomes divergence in some countries (particularly with emerging markets).** *LINK*

In particular, there was real divergence with respect to institutional and structural alignment in some of the GIIPS countries after accession to the EMU.

Nonetheless, there has been a clear alignment of [per capita GNI](#) and the fulfilling of some [Maastricht criteria](#) in a majority of the E(M)U member countries (until 2009). *LINK*

However, the alignment of per capita GNI and the fulfilment of some Maastricht criteria (before 2009) were only possible against a background of unconditional financial aid and non-credible commitments (due to erroneous or inefficient incentives and sanction mechanisms).

After 2008, even the original goal of (supported) income convergence could not be attained any more; income convergence slowed and went into reverse in parts of Europe (see e.g. Gill and Raiser 2012).



## II. Evidence

### II.3 New (own) results

My new paper (with Nina Breitzkreuz)

- Investigates speed and direction of institutional development of European countries
- Tests the following Hypotheses:
  - The prospect for European countries to join the EU disposes them to strengthen their institutions so that the speed of convergence is high.
  - EU Member States preparing the introduction of the euro have incentives to develop their institutions but the speed of institutional convergence is much lower.
  - As soon as Member States introduce the euro, institutional convergence grinds to a halt, or is even reversed, as there could be incentives to undo reforms.



# Econometric model and Estimation Method

## Estimated equation:

$$WGI_{i,t} = \beta_0 + \beta_1 WGI_{i,t-1} + \beta_2 Status_{i,t-1} + \beta_3 WGI_{i,t-1} \times Status_{i,t-1} \\ + \beta_4 FDI_{i,t-1} + \beta_5 GDP\_per\_capita\_growth_{i,t-1} + \beta_6 Trade_{i,t-1} + \alpha_i + \gamma_t + u_{i,t}$$

$WGI_{i,t}$  : one Worldwide Governance Indicator

$\beta_2, \beta_3$  : column vectors of coefficients

$Status = [MBEA, \dots, PCEU]'$  : column vector of status dummy variables

$\alpha_i$  : fixed effects

$\gamma_t$  : time effects

$u_{i,t}$  : disturbance term

$FDI$  : foreign direct investment, net inflows (% of GDP)

$GDP\_per\_capita\_growth$  : GDP per capita growth (annual %)

$Trade$  : trade (% of GDP).

## Estimation method:

Two-way fixed effects OLS estimator with panel robust standard errors allowing for heteroskedasticity across countries and serial correlation.



# Data: Governance Indicators

Description of the six dimensions of the WGI	
Voice and Accountability (VaA)	capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
Political Stability and Absence of Violence/Terrorism (PSNV)	capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.
Government Effectiveness (GE)	capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Regulatory Quality (RQ)	capturing perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Rule of Law (RoL)	capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
Control of Corruption (CoC)	capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
Source: Kaufmann et al. (2010, p. 4)	



## Data: Status dummy variables

Classification of Status dummy variables		
Status	Abbreviation for	Classification
MBEU	Member State of EU	EU Member State that have been granted an exemption from participating in the third stage of Economic and Monetary Union, and Sweden, which is de facto not willing to introduce the euro.
MBEA	Member State of euro area	EU Member States at Stage Three of the Economic and Monetary Union, i.e. Member States in the euro area
CCEA	candidate country for euro area	EU Member States with derogation, i.e. Member States preparing to adopt the euro, but has not yet done so (other than Sweden)
ACEU	accessing country for EU	Countries that have signed the treaty of accession
CCEU	candidate country for EU	An applicant country for EU Membership that has been granted candidate country status by the European Council
PCEU	potential candidate for EU	Countries of the Central and Eastern Europe, which signed Europe Agreements; countries of the Western Balkans involved in the Stabilisation and Association process, which are not yet candidate countries; 6 Western Balkan countries were identified as potential candidates during the Thessaloniki European Council summit in 2003; European Council confirmed a clear European perspective for the Kosovo in 2008. In 2009 Iceland applied to join EU.
NO	no status	other
<p>Notes: Quite many countries have been granted candidate status at European Council meetings in December. As one should expect no effect for the respective year, our dummy variables generally display all changes in the status occurring during the months November and December the following year. Above that, we assign all Member States which adopted the euro in 1999 the status CCEA until 1998.</p>		





## Descriptive data analysis

- Countries of interest are better institutionally developed than world average.
- Improvement of WGI from 1996 to 2011 of least performing countries.
- Best performing countries have not improved further.
- The mean values of WGI increase with Status.
- Tendency that year-to-year changes of WGI are higher for countries before and in early stages of accession.



# Results: Two-way within OLS

Two-way within OLS estimates						
	Explanatory variables					
	VaA	CoC	GE	PSNV	RoL	RQ
lag(WGI)	0.7811 (0.034) ***	0.7687 (0.0302) ***	0.8259 (0.0353) ***	0.7849 (0.0342) ***	0.8495 (0.0271) ***	0.851 (0.0364) ***
lag(Status)PCEU	-0.0118 (0.0286)	0.021 (0.0256)	0.0674 (0.0261) **	0.0273 (0.0338)	0.0307 (0.0235)	0.0826 (0.0221) ***
lag(Status)CCEU	0.0603 (0.0543)	0.0421 (0.0614)	0.1448 (0.0263) ***	0.064 (0.0578)	0.0174 (0.0322)	0.0659 (0.0524)
lag(Status)ACEU	0.1422 (0.0913)	0.0168 (0.0982)	0.1605 (0.0601) ***	0.0932 (0.113)	0.045 (0.0472)	0.2621 (0.0835) ***
lag(Status)CCEA	0.0311 (0.0673)	0.035 (0.0764)	0.1703 (0.0527) ***	0.1376 (0.0815) *	0.0512 (0.0457)	0.1477 (0.0704) **
lag(Status)MBEA	0.1056 (0.0787)	-0.1384 (0.0934)	0.1933 (0.0753) **	-8e-04 (0.0999)	0.0489 (0.0581)	0.2095 (0.0797) ***
lag(FDI)	0 (0)	0 (1e-04)	0 (1e-04)	0 (2e-04)	-1e-04 (1e-04)	2e-04 (1e-04) *
lag(GDP_per_capita_growth)	-0.0015 (0.0012)	0.0049 (0.0017) ***	5e-04 (0.0011)	0.0027 (0.0036)	0.0022 (9e-04) **	0.004 (0.0018) **
lag(Trade)	-3e-04 (3e-04)	-2e-04 (7e-04)	3e-04 (5e-04)	0.0018 (9e-04) **	3e-04 (3e-04)	3e-04 (4e-04)
lag(WGI):lag(Status)PCEU	0.0294 (0.0375)	-0.063 (0.0235) ***	-0.0634 (0.0223) ***	-0.0605 (0.0237) **	-0.0329 (0.0187) *	-0.0734 (0.0318) **
lag(WGI):lag(Status)CCEU	-0.11 (0.0507) **	-0.1146 (0.0368) ***	-0.1332 (0.0245) ***	-0.164 (0.0323) ***	-0.068 (0.0241) ***	-0.0426 (0.054)
lag(WGI):lag(Status)ACEU	-0.2464 (0.0904) ***	-0.1451 (0.1128)	-0.1842 (0.0458) ***	-0.3005 (0.0938) ***	-0.1809 (0.0465) ***	-0.2325 (0.0742) ***
lag(WGI):lag(Status)CCEA	-0.0738 (0.0467)	-0.0517 (0.0335)	-0.0481 (0.0332)	-0.1759 (0.0533) ***	-0.0531 (0.0251) **	-0.0845 (0.055)
lag(WGI):lag(Status)MBEA	-0.1632 (0.0629) ***	0.0167 (0.0437)	-0.1069 (0.0405) ***	-0.1619 (0.0504) ***	-0.0832 (0.0322) **	-0.1343 (0.054) **
r2/r2adj.	0.7325/0.6349	0.7155/0.6202	0.7431/0.6442	0.6142/0.5321	0.7853/0.6807	0.7043/0.6103

Notes: \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% level, respectively; lag() denotes lagged one year; sample: 1996 - 2011, 33 European countries, which have been at least potential candidates at some point of the time period; unbalanced panel (n=33, T=4 - 15, N=458) because of data availability. Two-way fixed effects OLS estimator; panel robust standard errors are reported in parentheses. Control variables: foreign direct investment, net inflows (% of GDP); GDP per capita growth (annual %); trade (% of GDP).  
Source: World Development Indicators (World Bank)



## Results: Two-way within OLS

- WGI are state dependent.
- The lower the WGI, the stronger the positive impact by a countries affiliation to EU/EA.
- Affiliation to EU/EA reduces the persistence of low level institutional development.
- No sufficient evidence for institutional divergence.
- Direct positive effect of Status on Government Effectiveness (GE) and Regulatory Quality (RQ).



## Results: Wald tests

Wald tests on linear hypotheses						
Null-hypothesis	P-values of the Wald tests on the six regressions					
	VaA	CoC	GE	PSNV	RoL	RQ
lag(Status)PCEU=lag(Status)CCEU	0.2221	0.69	8e-04	0.4633	0.553	0.7582
lag(Status)PCEU=lag(Status)ACEU	0.0986	0.9625	0.062	0.5032	0.7215	0.0314
lag(Status)CCEU=lag(Status)ACEU	0.2961	0.684	0.7169	0.7607	0.3297	0.0251
lag(Status)CCEA=lag(Status)MBEA	0.23	0.0027	0.6052	0.0094	0.9516	0.2351
lag(Status)CCEU=lag(Status)CCEA	0.513	0.835	0.4684	0.0922	0.1304	0.2201
lag(WGI):lag(Status)PCEU =lag(WGI):lag(Status)CCEU	0.0375	0.3143	0.0092	0.0013	0.1568	0.5401
lag(WGI):lag(Status)PCEU =lag(WGI):lag(Status)ACEU	0.0097	0.4493	0.0084	0.007	0.001	0.0347
lag(WGI):lag(Status)CCEU =lag(WGI):lag(Status)ACEU	0.12	0.796	0.2833	0.1141	0.012	0.0426
lag(WGI):lag(Status)CCEA =lag(WGI):lag(Status)MBEA	0.0732	0.0897	0.0304	0.8036	0.2364	0.2458
lag(WGI):lag(Status)CCEU =lag(WGI):lag(Status)CCEA	0.4905	0.0632	0.035	0.8258	0.5972	0.5241
lag(Status)PCEU=0, lag(Status)CCEU=0, lag(Status)ACEU=0	0.4101	0.7357	0	0.7203	0.3717	1e-04
lag(Status)PCEU=0, lag(Status)CCEU=0, lag(Status)ACEU=0, lag(Status)CCEA=0, lag(Status)MBEA=0	0.3336	0.0074	0	0.0583	0.546	1e-04
lag(FDI)=0, lag(GDP_per_capita_growth)=0, lag(Trade)=0	0.2608	0.0259	0.8711	0.1014	0.0162	0.0313

Notes: t-tests and F-tests on linear hypotheses; estimates of panel robust covariance matrixes allowing for heteroskedasticity across countries and serial correlation are supplied.



## Results: Wald tests

- Differences in speed of institutional convergence are difficult to disentangle, once a country is somehow affiliated to EU/EA.
- Some indication that PCEU converge less than other prospective and actual EU/EA Member States.
- Some indication that acceding countries perform particularly well.



## Conclusions of the study:

- Positive effect of European integration on institutional convergence.
- Mainly through breaking the path dependence of low institutional development.
- Novel finding: no institutional divergence, once countries become EU Member States.
- In-depth empirical analysis is necessary on each area of Copenhagen criteria.



## To sum up,

(my reading of the empirical evidence of the various studies):

**There is a positive effect of European integration on institutional and per capita GDP convergence,**

**But if a country enters the Eurozone as an emerging market economy, it reduces the incentive of the country to go on investing in (necessary) institutional upgrading.**

This means that institutional convergence tends to slow or stop within the Eurozone, so that the remaining gaps are not going to be diminished, and **this is likely to work out disastrously for the emerging member countries as well as for the union as a whole.**

The present Euro crisis is an example of this.



### III. Politico-economic interpretation

In Wagner (2013) I argue (and substantiate) that this slowing down of institutional convergence after EMU entrance can be explained by

**(i) The wrong incentive mechanisms in the Eurozone**

based on

**(ii) Construction failures in the EU treaty**

The main reason for the slowing down of institutional reforms is that an EME entrant cannot be thrown out of the EU or, respectively, the EMU, even when it stops implementing reforms and instead keeps relying on the solidarity of the other member countries. (Hence, the no-bailout clause becomes non-binding.) The previously effective incentive mechanisms, then, do not work anymore, which (seen ex-post) is a serious construction failure of the EU-treaty.

Moreover, a country that enters the Eurozone gets an entry premium in the form of a decreasing (bankruptcy) risk premium, and hence a lower interest rate on the capital market. Therefore, after entry into the EMU, it becomes easier and less costly for the country to run into debt. If these bonuses are invested productively they can accelerate the convergence process. However, if they are (mis)used for consumption and prestige investment projects, as for example in the GIIPS countries, the converse effects can occur leading to real divergence.

In addition, after entry into the Euroclub, there is an expectation of an increasing solidarity with member countries that get into imbalances, since all member countries are in the same euro boat, insofar as not helping failed countries has a negative feedback on the other member countries and on the union as a whole.





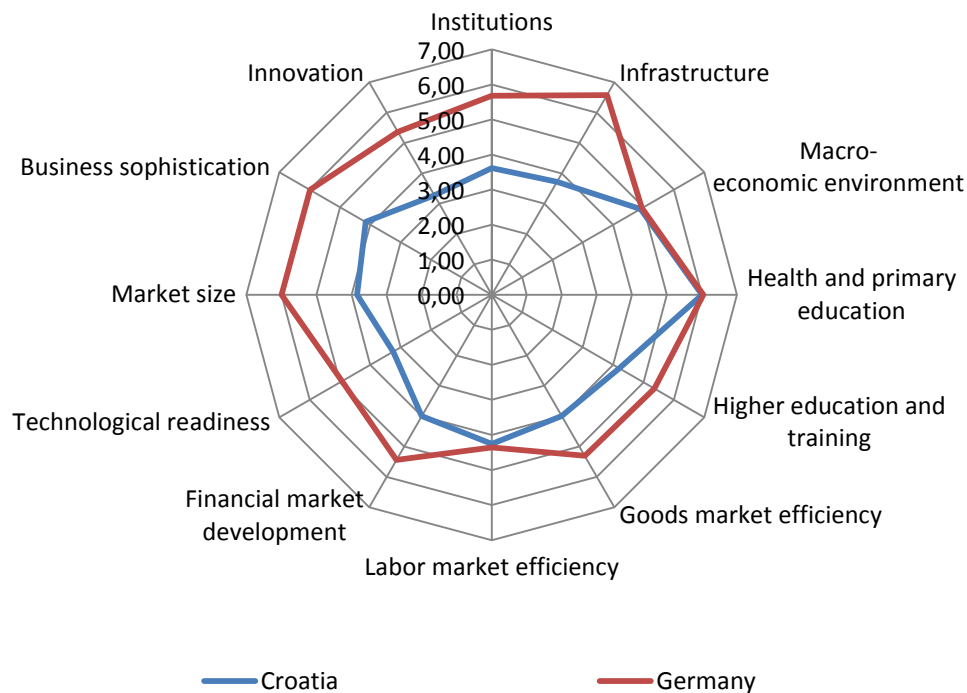
## IV. Lessons for a (EME-type) new EU member country like Croatia

### Looking at CROATIA :

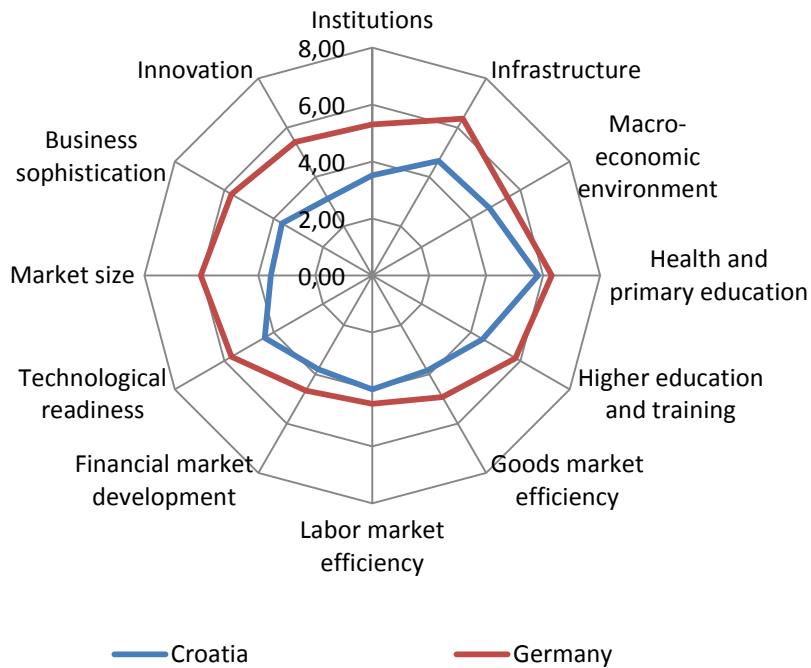
There has been significant institutional convergence as well as per capita GNP convergence in Croatia over the past 15 years.

Figure 1: Institutional convergence. (Data Source: World Bank)

### Global Competitive Index for Croatia and Germany (2006)



## Global Competitive Index for Croatia and Germany (2012)



## Convergence Croatia to Germany 2006 vs. 2012

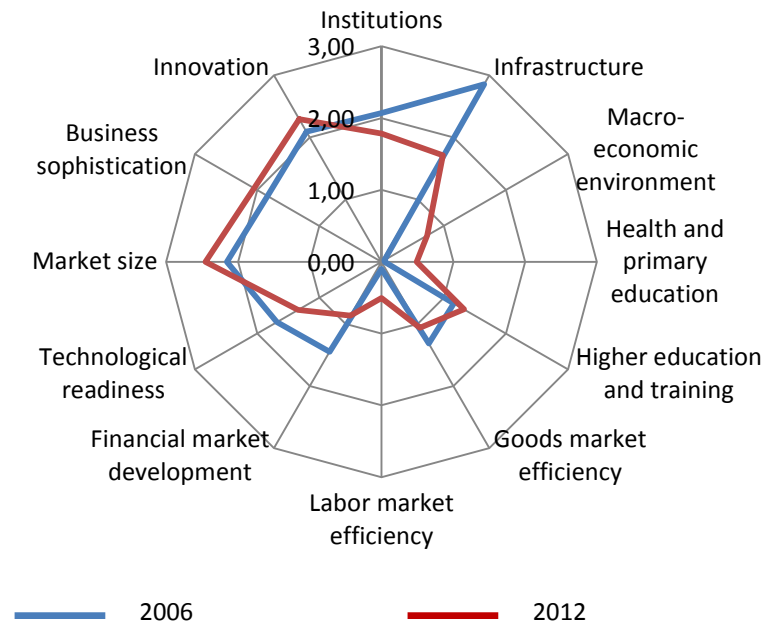
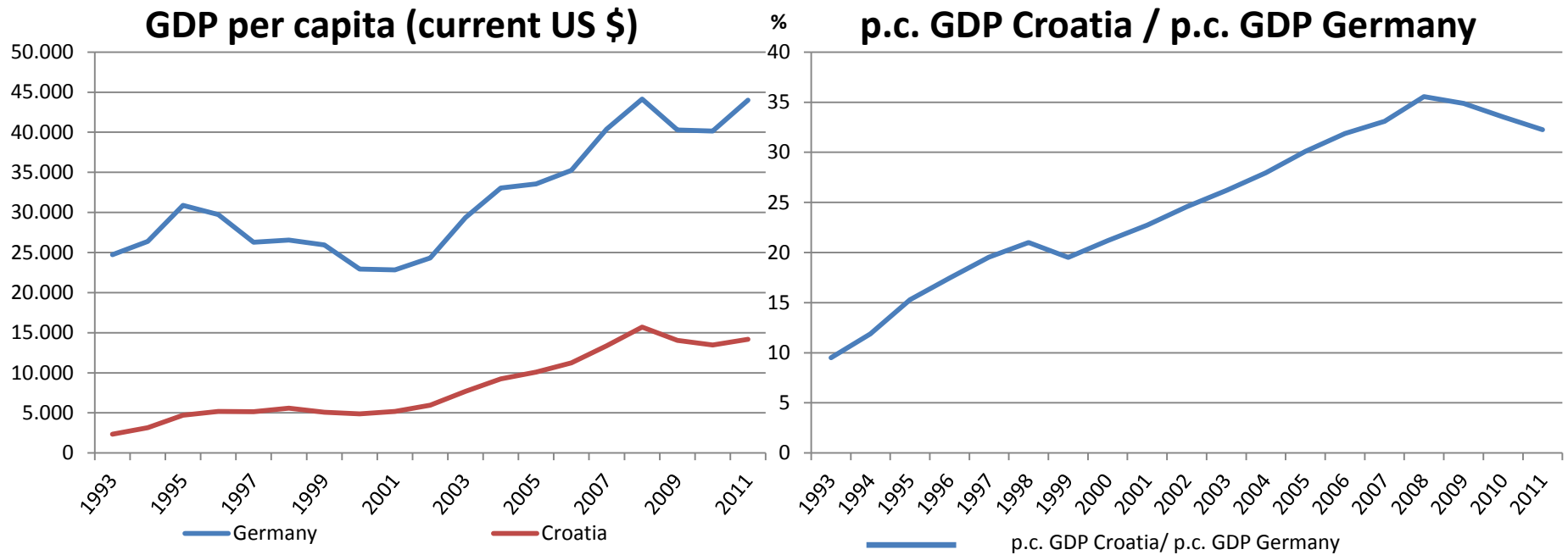


Figure 2: GNP per capita convergence.



## Question:

**Is it justified to hope that Croatia will accelerate this convergence process after entrance into E(M)U?**

What is expected for Croatia in the light of the above results – after entrance into EU (EMU)?

**It is very likely that institutional and income convergence will continue in the period before Eurozone accession. But what will take place afterwards?**

Will Croatia be like, for example, Finland, or more like the GIIPS countries?

This depends mainly upon politics/policies!!

And upon how quickly Croatia enters the Eurozone.

It is possible to have real convergence also after Eurozone entrance; however, for an EME-type member country this is very ambitious, and against the background of the experiences of other comparable previously new member countries, it seems to be unwise to me for Croatia to try to rush into the Eurozone before closing the institutional convergence gap.



## V. General Implications

The general lessons I am drawing from the above theoretical and empirical results are as follows:

### V.1

It is important that new member countries withstand the incentive to speculate over a bailout, even if they do want to avoid (minimize) the costs of reforms necessary for institutional convergence.

- Although avoiding necessary reforms and speculating over a bailout may be, in the short run, a successful strategy for single countries or politicians (Game of chicken strategy)
- it is definitely a disastrous strategy in the long run, for them, and for the union as a whole  
(since it will destroy the Monetary Union and damage MOST member countries)

## V.2

That is, there is a trade-off between

- short-term gains from using the wrong incentive mechanisms installed in the Maastricht-treaty
- and the long-term losses from doing this.

(To be avoided:

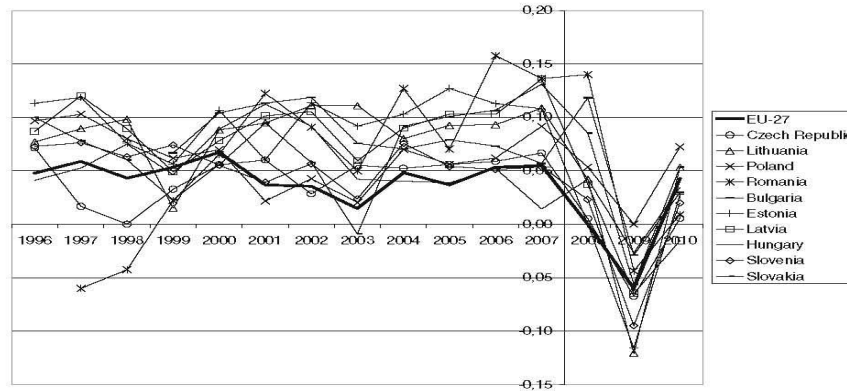
Basic problem: Non-internalization of negative (inter-temporal) externalities in own (egoistic) strategic acting.)



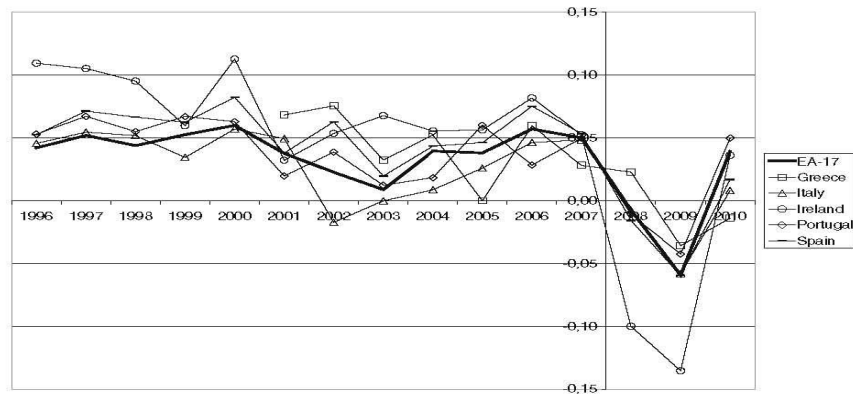
## VI. Conclusions

- The general hope of EME entrants is that by joining E(M)U they will profit from a quicker economic convergence process
- Theory suggests that this is dependent upon (mainly) institutional preconditions (pre-investment)
- Evidence suggests that entrants are willing to invest in those institutional preconditions before and after EU entrance; however, not so much anymore after Eurozone entrance
- The main causes of this slowing down of reform zeal after Eurozone entrance are construction failures in the EU treaty
- Without repairing or eliminating these construction failures, it will be demanding for newcomers to voluntarily resist incentives to act egoistically and avoid the costs of reforms
- But: though cooperative behaviour is difficult, it is not impossible; it depends on choosing the right politicians to implement the framework for a cooperative solution
- (What we economists often overlook):  
It is not enough to develop a so-called “optimal” reform programme, this reform programme has to be implemented politically (however, the chance of success varies across the different member countries due to different socio-politico-economic roots and specifics).





**Fig. 1** GNI per capita growth in NMS. Data source: Eurostat. Notes: Gross national income at market prices in purchasing power standard per inhabitant; year-to-year growth rates



**Fig. 2** GNI per capita growth in GIIPS. Data source: Eurostat. Notes: Gross national income at market prices in purchasing power standard per inhabitant; year-to-year growth rates

from Wagner (2013)

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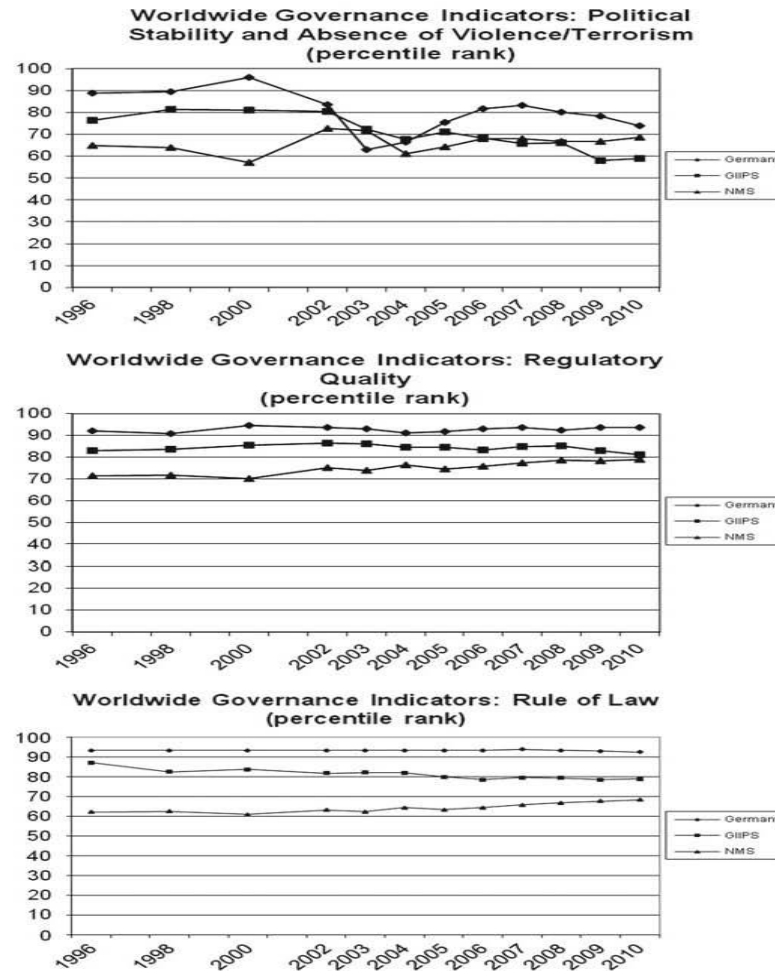


Fig. 3 Some governance indicators. Data source: World Bank, Worldwide Governance Indicators

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**Table 2** Violation of Maastricht criteria: deviations from reference values in percentage points

		Price stability	Government budgetary position		Long-term interest rate
		HIPC inflation	General government net lending (+)/net borrowing (-)	General government consolidated gross debt	EA convergence criterion bond yields
Germany	1997	—	—	—	—
	2002	—	-0.8	0.7	—
	2008	—	—	6.7	—
Ireland	1997	—	—	3.7	—
	2002	1.6	—	—	—
	2008	—	-4.3	—	—
Greece	1997	2.7	:	36.6	2.18
	2002	0.8	-1.8	41.7	—
	2008	0.1	-6.8	53.0	—
Spain	1997	—	-1.0	6.1	—
	2002	0.5	—	—	—
	2008	0.0	-1.5	—	—
Italy	1997	—	—	57.4	—
	2002	—	-0.1	45.1	—
	2008	—	—	45.8	—
Portugal	1997	—	-0.4	—	—
	2002	0.6	—	—	—
	2008	—	-0.6	11.6	—
Estonia	1997	6.6	—	—	:
	2002	0.5	—	—	:
	2008	6.5	—	—	:
Hungary	1997	15.8	-3.0	2.9	:
	2002	2.1	-6.0	—	0.2
	2008	1.9	-0.7	12.9	2.0

(continued)

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Table 2 (continued)

		Price stability	Government budgetary position		Long-term interest rate
		HIPC inflation	General government net lending (+)/net borrowing (-)	General government consolidated gross debt	EA convergence criterion bond yields
Poland	1997	12.3	-1.6	—	:
	2002	—	-2.0	—	0.5
	2008	0.1	-0.7	—	—

Data source: Eurostat

Notes: “—” indicates no violation of the Maastricht criteria; “:” indicates unavailable data; reference values and boundaries according to the Maastricht Treaty

from Wagner (2013)

[Wagner, H. (2013) „Is the European Monetary Union Sustainable? The Role of Convergence“, In: S. Kaji and E. Ogawa (eds.), Who will provide the Next Financial Model?: Asia’s Muscle and Europe’s Financial Maturity, Springer Japan 2013, pp. 183-218]

[[Wagner, H. (2002b) "Growth Effects of 'Heterogenous' Economic Integration : The Example of EMU-Enlargement", In: Journal of Economic Integration, Volume 17, 2002, no. 4, pp. 623-649]]

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