

International Colloquium

***ECONOMIC CRISIS AND NEW NATIONALISMS:
GERMAN POLITICAL ECONOMY AS PERCEIVED BY EUROPEAN PARTNERS***

Macroeconomic imbalances in the euro area: A matter of culture?

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* The views expressed are those of the authors and are not necessarily shared by the ECB.



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Motivation

- “The eurozone is confronted with a crisis of not just labour costs and prices – but culture. [...] The future of the euro beyond a select group of northern countries with a similar culture will depend on the ability of all eurozone nations to follow suit.” Alan Greenspan
(*FT*, 6 October 2011)



- The euro, a “Procrustean Bed”? G. Soros (February 2012)

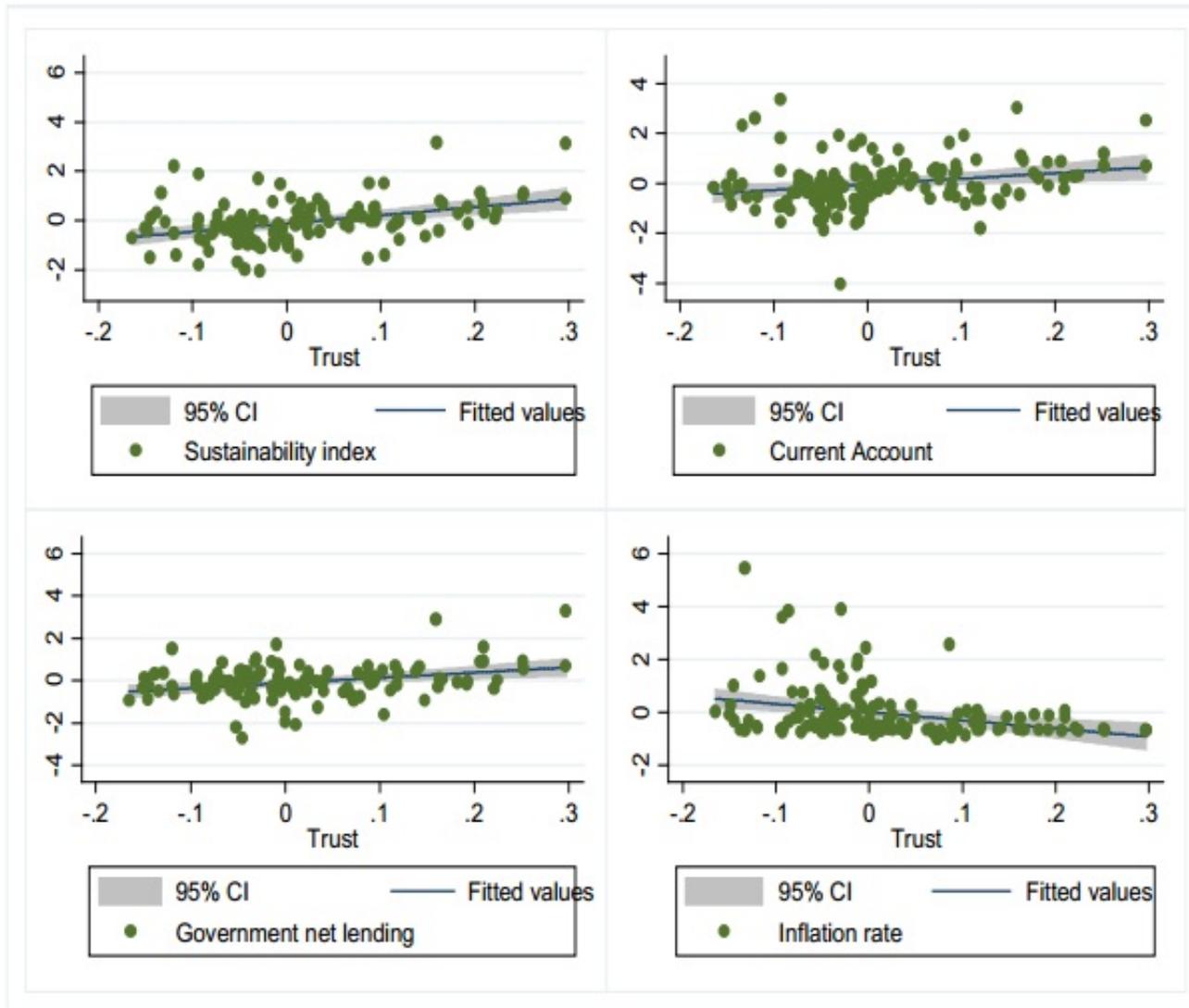
Key questions

- 1. Do significant differences in trust and other cultural traits exist within the euro area**
- 2. Do national differences in trust affect macroeconomic imbalances**

And if so

- 3. Does euro area membership mitigate such an effect?**

A picture is worth a thousand words



Preview of results

- Cultural differences between euro area core and periphery countries **exist** although they are not large by international standards
- A **causal link from trust to macroeconomic imbalances can be established**: Higher levels of trust may help in mitigating the emergence and persistence of imbalances.
- The build-up of imbalances within the euro area can be **partly attributed to cultural factors**
 - Controlling for differences in trust removes around one third of the differences between core and peripheral countries in terms of our measure of macroeconomic sustainability, leaving the other two thirds unexplained

Preview of results (continued)

- The nexus between trust and sustainability **is not stronger** (or weaker) in the euro area than it is in the rest of the world.
- Hence euro area membership **does not appear to have had a mitigating impact** on the nexus between trust and macroeconomic sustainability

Related literature

Impact of cultural traits on economic outcomes

- Culture and economic growth (Tabellini 2010, Algan & Cahuc 2010, Guiso et al. 2010)
- Value attached to thrift and savings rate (Guiso et al. 2006)
- Culture and female labour participation (Fernandéz 2007)

Challenges

- How to isolate the effects of culture from those of other factors? (e.g. quality of institutions Hall & Jones 1999, Acemoglu et al. 2001)
- Reverse causality, simultaneity

Our contribution

- Nexus between culture and sustainability, rather than growth
- Empirical analysis of cultural traits in the context of EMU

Background

- **Macroeconomic imbalances between euro area countries** increased in the first decade of the single currency
- Low interest rates and lax financial conditions led to **large private capital flows** from the core to the periphery
- **Excessive credit and borrowing in the periphery** fuelled domestic demand and inflationary pressures

Our narrative

- Macroeconomic imbalances as
 - **inter-temporal shift of resources** from the future to the present
 - **inter-generational collective action problem:** Goods from which the current majority gains are paid by future generations
- Examples
 - Over-consumption/over-investment leads to high current account deficits (where these deficits do not reflect expectations of higher future growth);
 - Loose fiscal policies lead to higher public deficits

Our narrative (continued)

- Societies are more likely to overcome CA problems when interpersonal trust / civic capital is high
 - because trust enhances the care of current generations for future generations;
 - because trust helps current generations to internalize the costs imposed on future generations
- Overcoming CA problems (in policy-making and between societal groups) is key to ensure fiscal soundness, prevent wage inflation and implement structural reforms, and to deal with shocks.
- **Our claim:** High levels of trust and civic capital reduce macroeconomic imbalances

Measuring economic sustainability

- We build a “**sustainability index**”:

$$\textit{Sustainability} = \textit{Govt net lending (\% of GDP)} + \textit{Current account (\% of GDP)} - \textit{Inflation in \%}$$

where each component is divided by its standard deviation.

- We also consider the components individually and variants
- Country ranking puts programme countries at the bottom of the index → good measure of “good EMU citizenship”

Correlations: Sustainability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Sustainability	1.00									
(2) Sustainability1	0.96 *	1.00								
(3) Sustainability2	0.45 *	0.53 *	1.00							
(4) Sustainability3	0.88 *	0.82 *	0.61 *	1.00						
(5) Inflation	-0.50 *	-0.31 *	-0.22 *	-0.64 *	1.00					
(6) Gov't net lending	0.78 *	0.84 *	0.63 *	0.83 *	-0.11	1.00				
(7) Current account	0.81 *	0.81 *	0.10	0.45 *	-0.19 *	0.46 *	1.00			
(8) ICRG institutional quality	0.07	-0.07	0.01	0.14 *	-0.35 *	-0.06	0.00	1.00		
(9) Public debt to GDP	-0.12	-0.20 *	-0.18 *	-0.16 *	-0.16 *	-0.31 *	-0.03	0.14	1.00	
(10) Net external financial assets	0.16 *	0.18 *	0.02	0.09	-0.02	0.10	0.06	0.18 *	-0.08	1.00

Sustainability country ranking

**TABLE 4. Sustainability Index Country Ranking:
Advanced Economies (average 2000-2010)**

Rank	Country	Index Value	Rank	Country	Index Value
1	Norway	3.14	18	New Zealand	0.11
2	Singapore	1.88	19	France	0.08
3	Switzerland	1.51	20	Australia	0.03
4	Hong Kong	1.50	21	Slovenia	-0.04
5	Luxembourg	1.46	22	Italy	-0.05
6	Sweden	1.14	23	United Kingdom	-0.13
7	Finland	1.13	24	Ireland	-0.17
8	Taiwan	0.93	25	Estonia	-0.21
9	Denmark	0.91	26	United States	-0.27
10	Netherlands	0.80	27	Spain	-0.32
11	Korea	0.70	28	Czech Republic	-0.32
12	Germany	0.60	29	Cyprus	-0.50
13	Canada	0.51	30	Malta	-0.58
14	Belgium	0.49	31	Portugal	-0.74
15	Austria	0.46	32	Iceland	-0.77
16	Israel	0.23	33	Slovakia	-0.79
17	Japan	0.21	34	Greece	-1.70

Note: Advanced economies are identified according to IMF classification.

Measuring “culture”

- We look at **cultural traits** (i.e. people’s preferences, values, beliefs) that are most relevant in our context:
 - **Trust** (Arrow 1972, Algan & Cahuc 2010)
 - **Honesty** (Guiso et al. 2011, Knack & Keefer 1997)
 - **Control over one’s life** (Alesina & Angelotos 2005)
 - **Competition affinity** (Phelps 2006)
 - **Obedience** (Tabellini 2010, Banfield 1958)
 - **Work ethic** (Phelps 2006)
 - **Importance attached to thrift** (Guiso et al. 2006)
- We use **value survey data** to determine cultural traits

Measuring trust

Trust is a well-acknowledged cultural variable in the literature

- Reliable measure as survey respondents have little incentive to lie;
- High correlation with other measures of “civic capital”;
- Straightforward to relate to economic outcomes

Trust (obtained from EVS/WVS)

Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? Binary choice: ‘Most people can be trusted’ vs. ‘Can’t be too careful’, → use country average.

Correlations: Culture

TABLE 6. Correlation Matrix: Cultural Variables

	Competition	Obedience	Control	Trust	Work ethic	Propensity to save	Honesty	Culture overall
Competition	1							
Obedience	-.03	1						
Control	.08	-.05	1					
Trust	-.14*	-.49*	.18*	1				
Work ethic	.45*	-.47*	.10	.11	1			
Propensity to save	.17*	-.21*	-.27*	-.15*	.32*	1		
Honesty	.21*	-.15*	.20*	.26*	.09	-.06	1	
Culture overall	.35*	-.81*	.37*	.61*	.68*	.18*	.40*	1

Note: An asterisk implies significance at the 10 per cent confidence level. Correlations are based on decade-level data for the whole set of countries (euro area and non-euro area countries). 'Culture overall' is the first principal component of the other cultural variables.

Data

Annual data from 65 countries (advanced and emerging), starting in 1980

Cultural data from World Values Survey (WVS) and European Values Survey (EWS)

- Large, harmonised surveys of socio-cultural values
- Well established in the literature (Inglehart et al. 1997)
- Data are infrequent → interpolated to annual frequency

Controls

- Quality of institutions: ICRG indicator covering (i) corruption, (ii) law & order, (iii) bureaucratic quality
- Income: Real GDP per capita
- Further: Geography (latitude), Financial openness (Chinn-Ito), Private credit to GDP ratio, Education (Years of schooling), Age-dependency ratio, Oil trade balance to GDP, Communist past

Macroeconomic data for sustainability index (IMF WEO)

Empirical model

$$Sustainability_{it} = \beta Culture_{it} + \gamma EuroArea_{it} + \delta Culture_{it} * EuroArea_{it} + \theta Controls_{it}$$

- Not estimated directly but expanded gradually
 - **Baseline estimation method is pooled OLS**
 - **Robustness check using Instrumental Variables**
 - Culture may be endogenous
 - However, reverse causality less of an issue in our framework since it is hard to imagine a strong effect of recent macroeconomic imbalances on cultural traits
 - Address omitted variable concerns by controlling for **institutional quality, income, and several other factors**
- Does culture (i.e. trust) matter?
- Does it matter more so in the euro area (core vs. periphery), i.e. is the interaction term significant?

Euro area core vs. periphery

We define as euro area "core" ("periphery") those countries with a long-term sovereign credit rating of AA or higher (A- or lower) by the rating agency Fitch (data cut-off date: 19 July 2012).

“Core” countries

Austria, Belgium, Finland, France, Germany, Luxembourg and the Netherlands

“Periphery” countries

Greece, Ireland, Italy, Portugal and Spain

Cross country differences

TABLE 7. International differences in cultural variables: All countries

Dependent variable:	(1) Competitio n affinity	(2) Obedien ce	(3) Contr ol	(4) Trust	(5) Wor k ethic	(6) Propensit y to save	(7) Honest y	(8) Cultur e overall
Euro area core - euro area periphery	-0.03	-0.24	0.06	0.17 (0.22)	0.12 (0.17)	0.44** (0.22)	0.13 (0.22)	0.26 (0.22)
(Euro area core - euro area periphery)*(2000s decade)	-0.02 (0.32)	-0.10 (0.37)	0.05 (0.37)	0.28 (0.35)	0.04 (0.28)	-0.13 (0.35)	0.03 (0.35)	0.14 (0.36)
Observations	175	175	172	175	175	175	175	172
R2	0.251	0.0180	0.0022 4	0.088 0	0.442	0.0948	0.0836	0.0760

Note: The variable 'Euro area core – euro area periphery' takes value 1 if a country belongs to the euro area “core” and -1 to the periphery. Regressions are based on decade-level data, for the whole set of countries in Table 1. Standard errors in parentheses; *** is 1%, ** is 5%, and * is 10%. All regressions also include time dummies (not reported for brevity).

OLS results

TABLE 8. Baseline results

Dependent variable: Sustainability Index (unless otherwise indicated)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)*
Competition is good	-0.15 (0.09)									
Obedience		-0.21*** (0.08)								
Control			0.14* (0.08)							
Trust				0.41*** (0.07)					0.40*** (0.11)	
Work ethic					0.33*** (0.09)					
Propensity to save						-0.09 (0.08)				
Honesty							0.11 (0.09)			
Culture overall								0.32*** (0.08)	0.02 (0.18)	0.43*** (0.07)
Observations	126	126	123	126	126	126	126	123	123	140
R2	0.0798	0.112	0.0803	0.277	0.144	0.0706	0.0720	0.176	0.277	0.240

Note: Pooled OLS on decade-level data, including time dummies. (*) In regression (10) the dependent variable is log GDP per capita. Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

OLS robustness

TABLE 10. Including control variables
Dependent variable: Sustainability Index

	(1)	(2)	(3)*	(4)	(5)*	(6)
Trust	0.41*** (0.07)	0.33*** (0.07)	0.45*** (0.09)	0.30*** (0.08)	0.28*** (0.10)	0.26** (0.10)
Log of GDP per capita in USD				0.25** (0.11)	0.11 (0.17)	0.24 (0.15)
IRCG Quality of Government				-0.03 (0.77)	1.40 (1.17)	0.61 (1.07)
Latitude						-0.05 (0.69)
Age dependency ratio in 2000						-0.02 (0.02)
Years of schooling - Female				-0.21** (0.09)	-0.24 (0.15)	-0.19 (0.12)
Years of schooling - Male				0.13 (0.11)	0.16 (0.15)	0.06 (0.15)
Chinn-Ito index of financial openness						0.12 (0.11)
Dummy for post-communist country						0.30 (0.21)
Oil trade balance to GDP						-0.01 (1.10)
Financial development (Private credit to GDP ratio)						0.19 (0.28)
Observations	126	126	59	107	50	88
R2	0.277	0.154	0.350	0.377	0.455	0.427

Note: Pooled OLS on decade-level data. Time dummies always included except for regression (2). (*) Regressions (3) and (5) include advanced economies only. Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

IV robustness

Strong and exogenous instruments for culture

- Correlated with cultural traits but not suffering from the potential presence of reverse causality or simultaneity
- Without explanatory power for current outcomes of sustainability after controlling for income and the present quality of institutions

Employed IVs

Legal Origin

Identifies the legal origin (or closest resemblance) of the company law or commercial code of each country

(1) English Common Law (2) French Commercial Code (3) Socialist/Communist Laws (4) German Commercial Code (5) Scandinavian Commercial Code)

Religion

Derived from WVS question “How important is religion in your life?”

Share of protestants in population (WVS)

OLS vs IV

TABLE 11. OLS vs IV estimates

Dependent variable: Sustainability Index

	(1)	(2)	(3)	(4)
	OLS	OLS	IV	IV
Trust	0.411*** (0.068)	0.332*** (0.087)	0.314** (0.151)	0.306* (0.174)
Log of GDP per capita in USD		0.171 (0.110)		0.069 (0.167)
IRCG Quality of Government		-0.721 (0.782)		0.527 (1.266)
Observations	126	111	110	50
R-squared	0.277	0.276	0.257	0.406
J test (P value)	.	.	0.41	0.11
Kleibergen-Paap test for underidentification (P value)	.	.	0.000013	0.00070

Note: Pooled OLS or IV as indicated in each column. In the IV estimates the instrumented variable is always Trust; instruments are religion and legal origin in column (3), and religion and share of protestants in column (4). The regression in column (4) refers to advanced countries only. Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

A Procrustean bed?

TABLE 12. Interaction with participation in the euro area
Dependent variable: Sustainability Index

Country coverage:	(1) All	(2) All	(3) All	(4) All	(5) All
Euro area core country - euro area periphery country	0.57*** (0.16)	0.41*** (0.13)	0.48*** (0.14)	0.36** (0.17)	0.36** (0.17)
Trust		0.38*** (0.07)	0.40*** (0.07)	0.38*** (0.07)	0.39*** (0.07)
Euro area core country - euro area periphery country*Trust			-0.23 (0.16)		
(Euro area core country - euro area periphery country)*Euro				0.13 (0.27)	0.20 (0.28)
(Euro area core country - euro area periphery country)*Euro*Trust					-0.26 (0.26)
Observations	155	126	126	126	126
R2	0.126	0.329	0.340	0.330	0.336