Large versus Small States in the Eurozone, the Democratic Deficit, and Future Architecture

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Outline

- Overview
- Macro policy tools in unions
- EU/EZ vs US at a glance
- Limits to monetary policy tools, fiscal union
- Model
- Lessons

Overview

- EU/EZ at a crossroads
- Recession widening in the EZ/EU

- Greece, Portugal, Ireland, Cyprus, . . .

- Slowdown even in "North"

EZ–wide response: Discretionary national macro policy tools

- EZ–wide response: Discretionary macroeconomic stabilization policy tools?

- EU fiscal tools
  - EU budget
  - Fiscal policy: national
  - Monetary policy: EZ-wide
  - Spillovers among EZ/EU/non EZ countries require macro policy coordination
  - Could interpret emergency response as discretionary macro policy
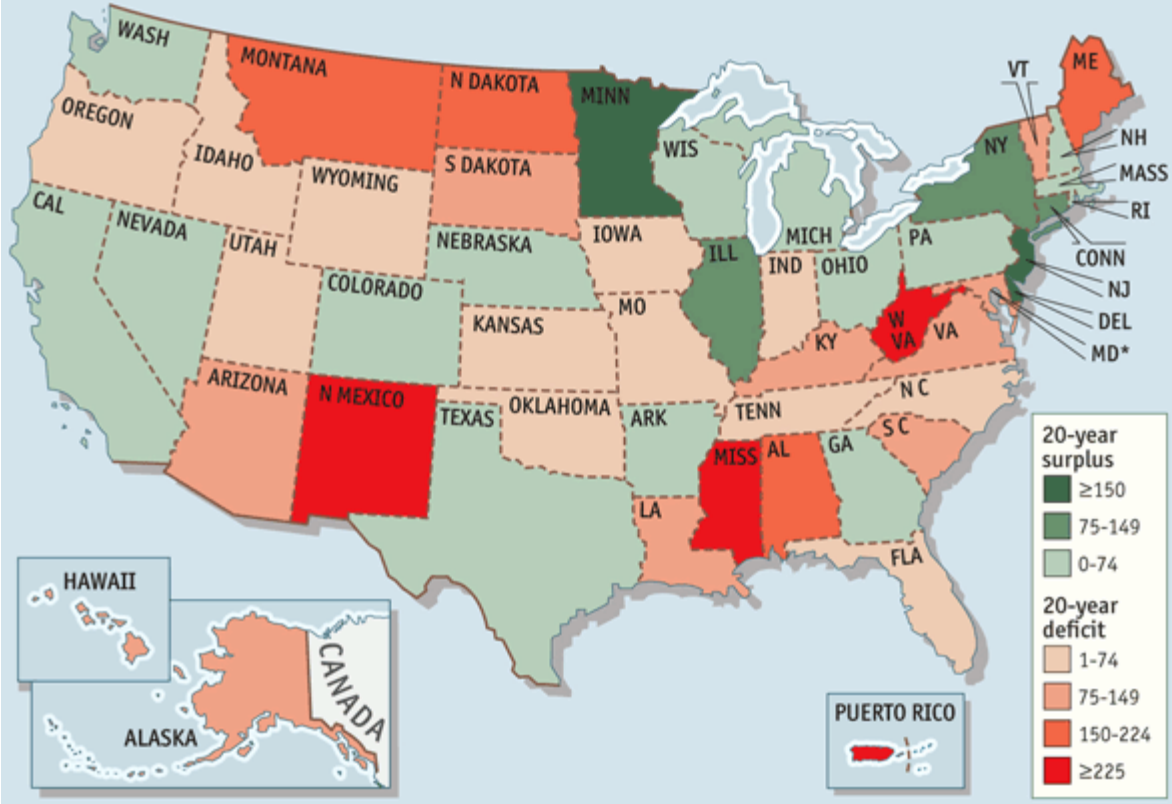   Recall US assistance to Detroit)

EU/EZ vs. US Union at a glance

	US	EU/EZ
Fiscal policy	Federal	National
Federal Budget	24%GDP	1%(*balanced*)
countercycl. transfers	e.g., unempl. insurance	??
as automatic stabilizers		??
State/local budgets	23%balanced	can borrow
State/local borrowing subsidized	yes	in crisis
State/local borrowing subsidized	lower interest	higher interest
Total public sector	41%	50%
Monetary policy	Federal	ECB/NCBs

- Transfers in US fiscal union: min: NJ 0.61$ per $ of US taxes. max: NM: 2.06$ per $ of US taxes.

- Transfers in US fiscal union: federal taxes - federal spending (1990–2009)/2009 state GDP. min: NM: -261%. max: DE: 206%. Reinhardt/Economist graph

Federal taxes minus spending, 1990-2009, as % of 2009 GDP

WASH

MONTANA

N DAKOTA

MINN

OREGON

IDAHO

WYOMING

S DAKOTA

WIS

VT

ME

NY

NH

MASS

RI

CAL

NEVADA

UTAH

NEBRASKA

IOWA

MICH

PA

ILL

IND

OHIO

CONN

NJ

DEL

MD*

COLORADO

MO

KY

W VA

VA

ARIZONA

N MEXICO

TEXAS

OKLAHOMA

ARK

TENN

N C

KANSAS

S C

MISS

AL

GA

LA

FLA

HAWAII

ALASKA

CANADA

PUERTO RICO

20-year surplus
- ≥150
- 75-149
- 0-74

20-year deficit
- 1-74
- 75-149
- 150-224
- ≥225

Sources: Census Bureau; Internal Revenue Service; *The Economist* estimates

*Includes Washington, DC

Limits to monetary union tools

- Limits to monetary union tools?
- Banking union
- Fiscal Union
  - Overview of European Fiscal Compact
  - Interaction of Monetary and Fiscal Unions

Model

- Casella (1992). A, B; sizes $2 - \sigma, \sigma$ Policy weights $2 - \gamma, \gamma$.
-

$$
U_j = (1 - g) \ln \left(\sum_{i=1}^{n} c_{ij}^{\theta} \right)^{1/\theta} + g \ln \Gamma_j, \quad , j = A, B, \ 0 < \theta < 1,
$$

  Composite good, tradeable varieties, produced with IRS using labor. Advantage: terms of trade do not depend on size, benefits from trade do. Public good not traded. Benefits from trade. Benefits from common currency? *Key idea*:

- cross-country spillovers, strategic *complements*: *all* cooperative equilibria Pareto-superior to Nash.

- cross-country spillovers, strategic *substitutes*, cooperative equilibria Pareto-superior to the Nash, *only if* smaller country is given *more* than proportional power.

Model: Monetary Union

- Monetary union involves transfer of seignorage: population weights, $2 - \sigma, \sigma$, vs policy weights $2 - \gamma, \gamma$.

$$\max_{m_A, m_B} : (2 - \gamma)U_A(m_A, m_B) + \gamma U_B(m_A, m_B)$$
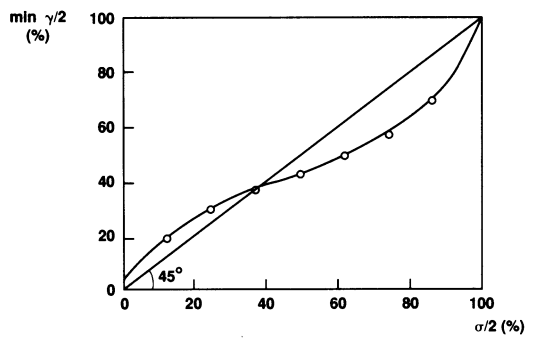
  subject to: free trade, international monetary equilibrium with fixed exchange rate, public good financed by seignorage.
- Optimal monetary policy:

$$m_A = \min\left\{2 - \sigma, (2 - \gamma)\frac{g\theta}{1 - g + g\theta}\right\}, \quad m_B = \min\left\{\sigma, \gamma\frac{g\theta}{1 - g + g\theta}\right\}.$$

- Casella *Fig. 3A*: $\frac{\gamma}{2}(\frac{\sigma}{2})$ minimum weight in monetary union, as function of size.

A.

B.

○ Minimum percentage weight in the currency union
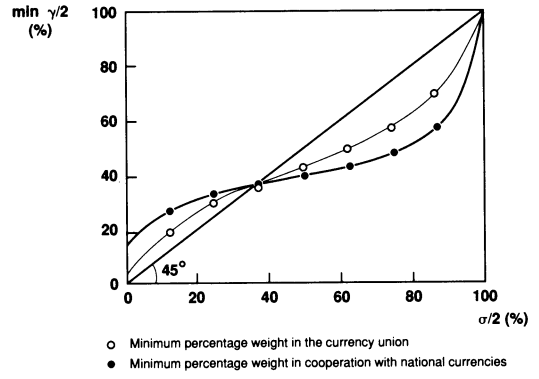● Minimum percentage weight in cooperation with national currencies

FIGURE 3. ECONOMIC SIZE AND MINIMUM
PERCENTAGE WEIGHT
A) IN THE CENTRAL BANK AND
B) IN COOPERATIVE AGREEMENT
($\alpha = \beta = 0.1$, $\theta = 0.2$, $g = 0.1$)

Model: Monetary Union

- Monetary union involves transfer of seignorage: population weights, $2 - \sigma, \sigma$, vs policy weights $2 - \gamma, \gamma$.

$$\max_{m_A, m_B} : (2 - \gamma)U_A(m_A, m_B) + \gamma U_B(m_A, m_B)$$

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- Casella *Fig. 3A*: $\frac{\gamma}{2}(\frac{\sigma}{2})$ minimum weight in monetary union, as function of size.

- With national currencies, per capita public good greater in B. If $\gamma = \sigma$, public good per capita equalized, country suffers more the cost of coordination.

Model: Monetary Union with National Fiscal Systems

- Public good financed from national tax and seignorage:

$$\Gamma_j = m_j + (2 - \sigma)\kappa_J \tau_j, j = A, B.$$

- Governments j sets, given monetary policy,

$$\tau_J = \text{argmax} : U_j(m_A, \tau_A; m_B, \tau_B)$$

- Central bank, taking national fiscal policies as given, sets:

$$\max_{m_A, m_B} : (2 - \gamma)U_A(m_A, m_B) + \gamma U_B(m_A, m_B).$$

- Optimal monetary policy satisfies:

$$\Gamma_A = m_A + (2 - \sigma)\kappa_A \tau_A = \min\left\{2 - \sigma, (2 - \gamma)\frac{g\theta}{1 - g + g\theta}\right\},$$

$$\Gamma_B = m_B + \sigma\kappa_B \tau_B = \min\left\{\sigma, \gamma\frac{g\theta}{1 - g + g\theta}\right\}.$$

- Optimal national fiscal policies

Model: Monetary Union with National Fiscal Systems

- Public good, national tax and seignorage:
  $\Gamma_j = m_j + (2 - \sigma)\kappa_J \tau_j, j = A, B.$

- *Sovereign* Governments j sets, given monetary policy,

$$\tau_j = \text{argmax} : U_j(m_A, \tau_A; m_B, \tau_B)$$

- Optimal national fiscal policies, taking monetary policy as given:

$$\frac{1}{2 - \sigma}\frac{1}{1 - \tau_A} - \frac{1}{2 - (2 - \sigma)\tau_A - \sigma\tau_B} = \frac{\kappa_A(1 - g + g\theta)}{(1 - g)\theta}\left[\frac{1}{2 - \gamma} - \frac{1}{2}\right];$$

$$\frac{1}{\sigma}\frac{1}{1 - \tau_B} - \frac{1}{2 - (2 - \sigma)\tau_A - \sigma\tau_B} = \frac{\kappa_B(1 - g + g\theta)}{(1 - g)\theta}\left[\frac{1}{\gamma} - \frac{1}{2}\right].$$

Optimum national tax rates at Nash depend on γ vs. σ.

Monetary Union with Fiscal Union

- Interactions between monetary policy and national fiscal policies.
  Union-wide fiscal policy eliminates potentially inefficiency of game between sovereign governments [Guiso, Herrera, Morelli (2012)]
  Inefficiency depends on cultural differences; can express via coefficient of public good; culture conformity constraint on policy.

- Design common institutions — *fiscal union* — to mitigate clash.

- Functioning institutions may feed back to taste change?

- Decentralized country, plus subsidiarity, convergence of national fiscal systems to fiscal union?

Monetary Union with Fiscal Union

- National democratic accountability interacts with union-wide need more than proportional power to smaller states, $\gamma > \sigma$?

- Adjusted population weighting enshrined in voting procedures. *B&W Graph*.

Economical view of decision-making
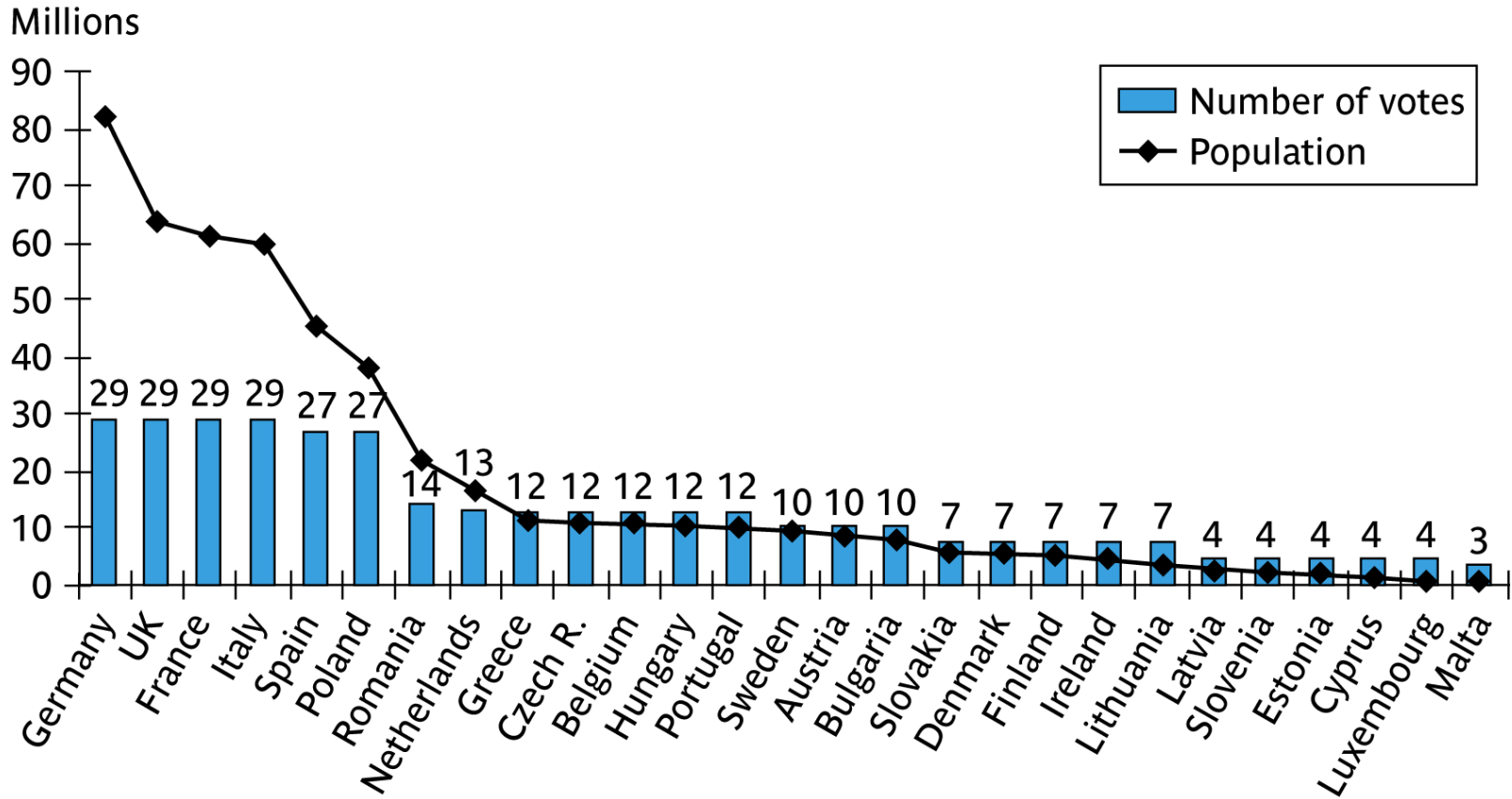
Monetary Union with Fiscal Union

- National democratic accountability interacts with union-wide need more than proportional power to smaller states, $\gamma > \sigma$?
- Adjusted population weighting enshrined in voting procedures. *B&W Graph*.
  But reasons to worry. E.g. changes in 2014: Lisbon Treaty. 2014. Or 2017, at Poland's insistence, at the wish of a single member reverting to old Nice rules. Lisbon Treaty more power to smallest states and Germany; Spain, Poland and middle-sized states biggest losers.
- *Treaty on Stability, Coordination and Governance in the Economic and Monetary Union*, signed March 2, 2012 (all EZ, and all other EU, except UK, Czech Republic), took effect January 1, 2013.
- strengthens Stability and Growth Pact, rules for coordination and oversight over the national fiscal policies.
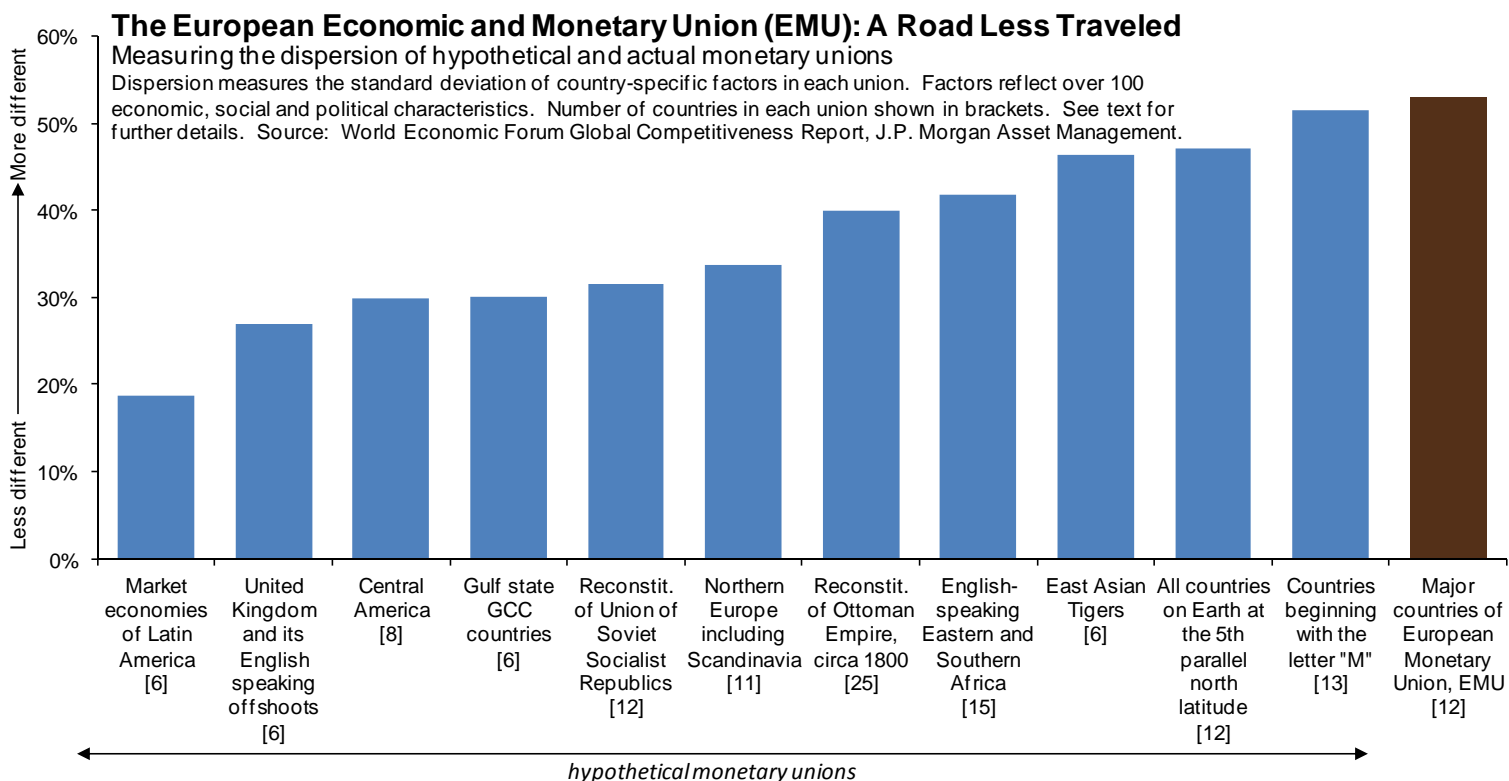
Monetary Union with Fiscal Union

- *Balanced budget rule*: "annual structural deficit" $\leq 0.5\%$ GDP (if debt as a share of GDP $<60\%$, structural deficit at most 1%.
- *Debt brake rule*, if debt $> 60\%$ GDP, reduce at an average annual rate of at least one twentieth (5%) of the exceeded percentage points.
- *Automatic correction mechanism*: If not compliant with balanced budget, or debt brake rules, automatic correction mechanism triggered, to be defined individually by each state, comply with EU directive, institute National Fiscal Advisory Council. National monitoring of observance.
- Debt issuance coordination, "better coordination and planning."
- Notify of policies for improving competitiveness, employment and financial stability.

Lessons

- Dysfunctions: taste heterogeneity vs. economies of scale
  Economies of scale in provision of common public goods high
  Europeans very *heterogeneous* culturally, linguistically, and
  economically

- Will European publics come closer together, or further apart,
  during crisis?

- "Stark" heterogeneity? See JP Morgan *Graph*.

Topics: how lonely a road is Europe traveling; Graham-Dodd and Shiller US equity valuation measures; casual reading

Europe and the road less traveled. As we wait for the next round of fiscal transfers from North to South, European Central Bank rescue operations, IMF firewall expansions, foreign capital flight, deferral of tighter bank capital standards, elections, Bundesbank resignations, protests, rising unemployment and generally miserable economic data in the European Periphery, it's worth remembering something broader about what Europe is up to. There is no small amount of economic hubris associated with the European monetary project, and the chart below shows why. Multinational monetary unions are rare (*see Appendix*). Some regions debate adopting them, like the Persian Gulf, but decide not to, preferring to retain independent monetary policy. Europe went ahead anyway, despite large differences between member countries. Just how different? **Countries in the European Monetary Union are more different than just about any other monetary union you could imagine:**

The European Economic and Monetary Union (EMU): A Road Less Traveled
Measuring the dispersion of hypothetical and actual monetary unions
Dispersion measures the standard deviation of country-specific factors in each union. Factors reflect over 100 economic, social and political characteristics. Number of countries in each union shown in brackets. See text for further details. Source: World Economic Forum Global Competitiveness Report, J.P. Morgan Asset Management.

hypothetical monetary unions

What does this chart show?

- The best way I know of to compare countries is via the World Economic Forum Global Competitiveness Report. This compilation rates 142 countries on over 100 factors related to labor and goods market efficiency; government institutions (property rights, corruption); macroeconomic soundness (debt, deficits); health and education; business sophistication (local supplier quality/quantity); and capacity for innovation (quality of scientific research institutions, R&D spend, patent grants).
- Using this raw data, I imagined what other monetary unions might exist, and how different their constituents would be. The chart shows the country dispersion for hypothetical unions comprised of the UK and its English-speaking offshoots (US, Can, Australia, Ire, NZ); and of countries in Central America, Latin America, the Gulf, Northern Europe, Africa and Southeast Asia (*see Appendix for details*). *All* **of these hypothetical monetary unions have lower country dispersion measures than the European Monetary Union. And yet, these regions have resisted the temptation to form one**.
- I even reconstituted the old Soviet Union by combining the Russian Federation with 11 former republics, and the Ottoman Empire, by combining 25 countries which now inhabit its 18th century borders. I also added a random monetary union comprised of the 12 countries on Earth located at the latitude of the 5th parallel (north), and another union comprised of the 13 countries on Earth whose names start with the letter "M". Even these groupings exhibited less dispersion than the EMU.

And still, Europe soldiers on, even as the rest of the world avoids monetary union in circumstances more favorable to it. **What remains are political questions regarding how much inflation and fiscal transfer Germany can sustain; if a true fiscal union can be created, seen by some as indispensable to the Euro's future (see Bordo 2011); and how much austerity countries like Spain can take**. As this is a road less traveled, it's hard to know how it will turn out. It's a tough road, and the chart helps explain why. Europe's problem is not just one of public sector deficit spending differences, but also of deeper, more fundamental differences across its various private sector economies. Whether it's equities, credit or real estate, EMU valuations need to be considerably more attractive than US counterparts to justify investment given the challenges of the European project.

Stereotyping in Europe

Who Is Trustworthy, Arrogant and Compassionate

EU nation most likely to be named...

Views in:	Most Trustworthy	Least Trustworthy	Most Arrogant	Least Arrogant	Most Compassionate	Least Compassionate
Britain	Germany	France	France	Britain	Britain	Germany
France	Germany	Greece	France	France	France	Britain
Germany	Germany	Greece/Italy	France	Germany	Germany	Britain
Italy	Germany	Italy	Germany	Spain	Italy	Germany
Spain	Germany	Italy	Germany	Spain	Spain	Germany
Greece	Greece	Germany	Germany	Greece	Greece	Germany
Poland	Germany	Germany	Germany	Poland	Poland	Germany
Czech Rep.	Germany	Greece	Germany	Slovakia	Czech Rep.	Germany

Germans on Different Continent

	EU median*	Germany	Diff.
	%	%	
Economy is good	9	75	+66
Own country's leader is doing good job**	26	74	+48
Country strengthened by EU integration	26	54	+28
Personal economic situation is good	51	77	+26
EU favorable	43	60	+17
Economy improve in next 12 months	15	27	+12

* Excludes Germany.

** Leaders asked about include: Britain: PM Cameron; France: President Hollande; Germany: Chancellor Merkel; Spain: PM Rajoy; Italy: PM Monti; Greece: PM Samaras; Poland: PM Tusk; Czech Republic: PM Necas.

PEW RESEARCH CENTER Q4, Q5, Q6, Q9f, Q31 & Q32a-d.

Lessons

- Dysfunctions: taste heterogeneity vs. economies of scale
  Economies of scale in provision of common public goods high
  Europeans very *heterogeneous* culturally, linguistically, and
  economically

- Will European publics come closer together, or further apart,
  during crisis?

- "Stark" heterogeneity? See JP Morgan *Graph*.
  Size easier to account for, yet exaggerates heterogeneity.
  Large countries, not necessarily too heterogeneous. "Law of
  large numbers" re taste.

Lessons for the EU: Hamilton (1755 – 1804) and Future EU Architecture

- Alexander Hamilton: US assume states debt (revolutionary period), understood US tax revenue, for US to borrow.
- US states spent on canals and roads, defaulted in mid-1800s. Long-run consequences (England still trying to collect from Mississippi). See Graph. Wallis Table.

Table 1

Total Debt, Per Capita Debt, and
Whether a State Defaulted or
Repudiated

State	Total Debt 1841	Debt PC 1841	Default?	Repudiate?
FL	4,000,000	74.07	Y	Y
LA	23,985,000	68.14	Y	Y
MD	15,214,761	32.37	Y	N
IL	13,527,292	28.42	Y	N
AK	2,676,000	27.31	Y	Y
MI	5,611,000	26.47	Y	Y
AL	15,400,000	26.06	N	N
PA	33,301,013	19.32	Y	N
MS	7,000,000	18.62	Y	Y
IN	12,751,000	18.59	Y	N
NY	21,797,267	8.97	N	—
MA	5,424,137	7.35	N	—
OH	10,924,123	7.19	N	—
WI	200,000	6.45	N	—
SC	3,691,234	6.21	N	—
TN	3,398,000	4.10	N	—
KY	3,085,500	3.96	N	—
ME	1,734,861	3.46	N	—
VA	4,037,200	3.23	N	—
MO	842,261	2.19	N	—
GA	1,309,750	1.90	N	—
NH	0	0.00	N	—
CT	0	0.00	N	—
VT	0	0.00	N	—
RI	0	0.00	N	—
NC	0	0.00	N	—
NJ	0	0.00	N	—
DE	0	0.00	N	—

See source notes.

Table 2
Default, Resumption, and Repudiation Dates

State	Date	Resumed or Repudiated	Date
Indiana	January 1841*	Resumed	July 1847
Florida	January 1841	Repudiated	February 1842
Mississippi	March 1841	Repudiated	February 1842
Arkansas	July 1841	Resumed	July 1869
		Repudiated	July 1884, Holford Bonds
Michigan	July 1841	Resumed	January 1846
		Repudiated Partially	Part paid bonds, July 1849
Illinois	January 1842	Resumed	July 1846
Maryland	January 1842	Resumed	July 1848
Pennsylvania	August 1842	Resumed	February 1845
Louisiana	February 1843	Resumed	1844
		Repudiated	??

See English "Sovereign Default" and source notes.

Lessons for the EU: Hamilton (1755 – 1804) and Future EU Architecture

- Alexander Hamilton: US assume states debt (revolutionary period), understood US tax revenue, for US to borrow.
- US states spent on canals and roads, defaulted in mid-1800s. Long-run consequences (England still trying to collect from Mississippi). See Graph. Wallis Table.
- US federated nation creation teaches us:
  - Need tax revenue to borrow. Eurobonds?
  - Federated states' default have long-lasting spillovers: spreads over Canadian provinces, 19th cent., but went back to markets.
- John J. Wallis, economic historian, Univ. MD: "There is nothing wrong with raising taxes to support government services that voters want and are willing to pay for." Government needs to be set up "so that both voters and legislatures are forced to make decisions about taxing, spending, and borrowing simultaneously."