Moody's Sovereign Rating Methodology:

Moody's Sovereign Rating Methodology: Lessons for US Public Finance

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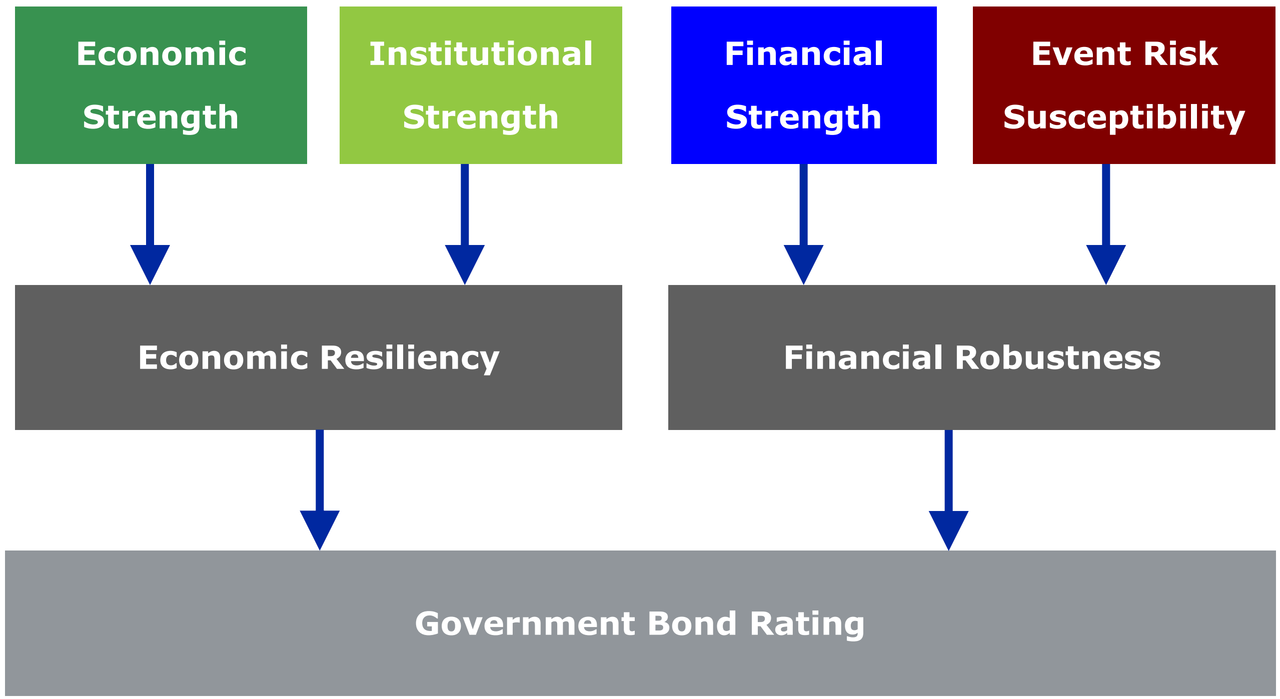
Moody's Sovereign Rating Methodology: Lessons for U.S. Public Finance

1. **An Overview of Moody's Sovereign Methodology**
2. **Special Considerations for Aaa Sovereigns**
3. **Eurozone Countries versus US States**

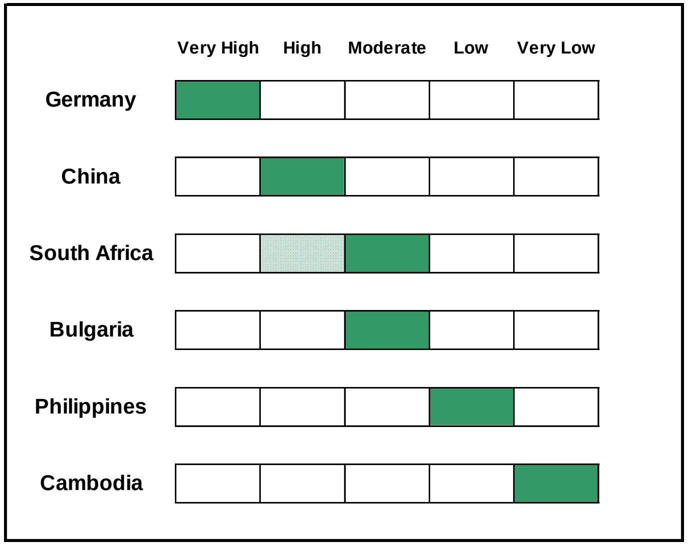
1. An Overview of Moody’s Sovereign Methodology

How Does Moody's Rate Sovereigns?



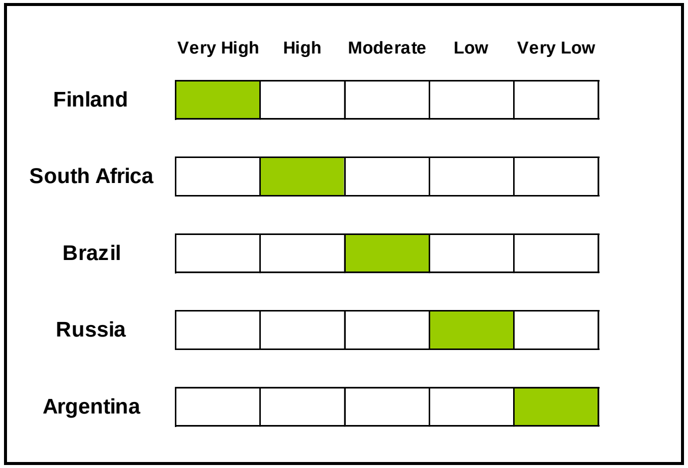
Factor 1: Economic Strength

- **<u>GDP/capita</u> as the primary indicator.**
- **A country's <u>shock absorption capacity</u> will be a function of its wealth, size and diversification.**
- **Adjusted by the <u>size</u> and the <u>diversification</u> of the economy.**
- **Secondary indicators: those that point to <u>long term strength</u> (trade integration, investment in education, expansion of export capacity…).**
- **Countries are ranked in <u>5 categories</u>, from "very high" to "very low".**



Factor 2: Institutional Strength

- **This factor considers the extent to which a nation's political, social, and legal institutions act as constraint on sudden and adverse changes to a country's ability and willingness to pay its debt.**
- **Are the "institutions" (efficiency and predictability of government action, transparency and degree of consensus on main policy goals) conducive to the respect of contracts?**
- **World Bank governance indicators as a first step, combined with analysts' experience.**

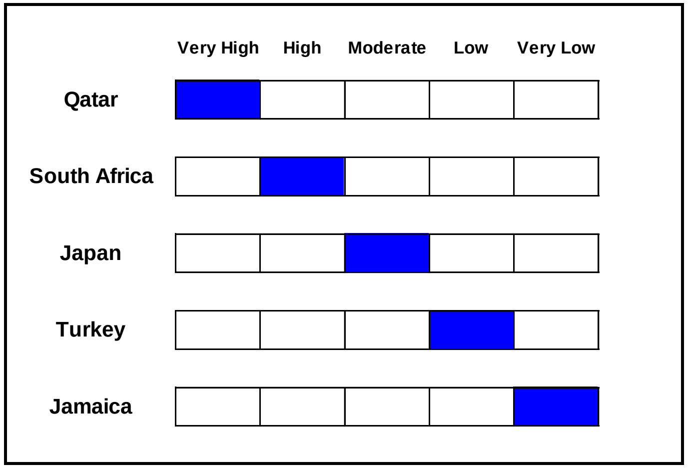


Factor 3: Government Financial Strength

- The fundamental analysis is centered on the government's balance sheet, as we assess government default risk.

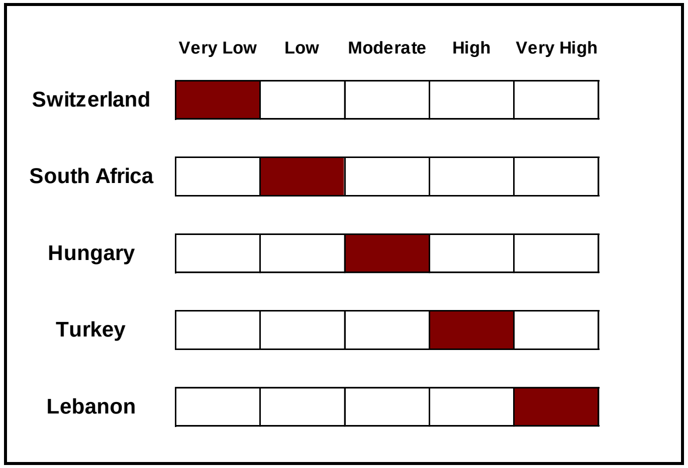
- Two key questions:
  - » **How intense is the debt constraint?** How affordable is the debt, including under adverse circumstances?
  - » **How large is the country's ability to generate resources to repay its debt?** That is can the government raise taxes, cut spending, sell assets…

- But the existence of foreign currency liabilities gives rise to additional vulnerabilities – the realm of traditional sovereign risk analysis.

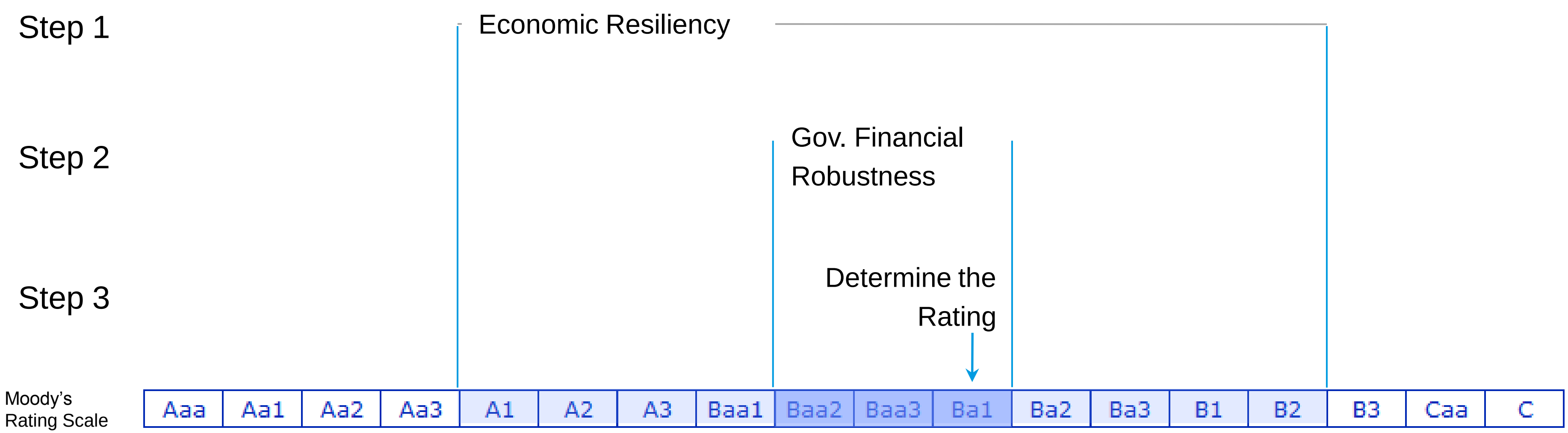


Factor 4: Susceptibility to Event Risk

- **Event risk is measured as the risk of a sizable downward rating migration because of a sudden political, economic or financial shock.**
- **This factor reflects an element of rating "combustibility" that may not be adequately captured earlier (e.g. geopolitical risk or contingent liabilities that may crystallise in a very unlikely but still plausible scenarios).**
- **Aaa countries have "very low" susceptibility to event risk; B-rated countries are "one shock away from default".**



The Methodology in Action: Step-by-Step Approach



Sovereign rating mechanics: Czech Republic|FC Rating A1|LC Rating A1| Stable Outlook

Lead Analyst: Dietmar Hornung

ECONOMIC STRENGTH

How strong is the economic structure?

GDP per capita | **Diversification size** | **Long term trends**

very high | high | moderate | low | very low

Scale + -

INSTITUTIONAL STRENGTH

How robust are the institutions and how predictable are the policies?

Rule of law | **Governance** | **Transparency**

very high | high | moderate | low | very low

Scale + -

GOVERNMENT FINANCIAL STRENGTH

How does the debt burden compare with the government resource mobilization capacity?

Government balance sheet tool kit | **Balance of payment tool kit**

very high | high | moderate | low | very low

Scale + -

SUSCEPTIBILITY TO EVENT RISK

What is the risk of a direct and sudden threat to debt repayment?

Financial | **Economic** | **Political**

very low | low | moderate | high | very high

Scale + -

ECONOMIC RESILIENCY

+ -

RATING RANGE: Aa2-A1

FINANCIAL ROBUSTNESS

+ -

2. Special Considerations for Aaa Sovereigns

The Aaa Question

- The crisis has disproportionately affected advanced Aaa economies
- And led to a lot of questioning of some traditional “anchors”

Aaa Analytics

- No upward limit to creditworthiness: possibility to lose altitude in the Aaa space without being downgraded
- A Aaa government is a government whose <u>balance-sheet flexibility</u> is large enough to be able to keep public debt <u>highly affordable</u> through cycles and crises
- For us, a Aaa government is not so much a government with low debt – even though that can, of course, be the case – as it is a government that can raise a lot of debt at a relatively low cost to face a temporary shock
- Aaa governments are governments that carry very <u>affordable</u> levels of debt (roughly interest payment/revenues below 10%)
- <u>Balance-sheet flexibility</u> = ability to raise a large amount of debt in case of stress without paying a punitive price (<u>debt finance-ability</u>) and ability to bring debt back to a lower or a sustainable level (<u>debt reversibility</u>)

Our Analytical Framework for Aaa-rated Sovereigns: Three Questions

Debt affordability: to what extent does the service of the debt compete with the provision of key public services?

» ***Captured by the interest payment / government revenue ratio*.**

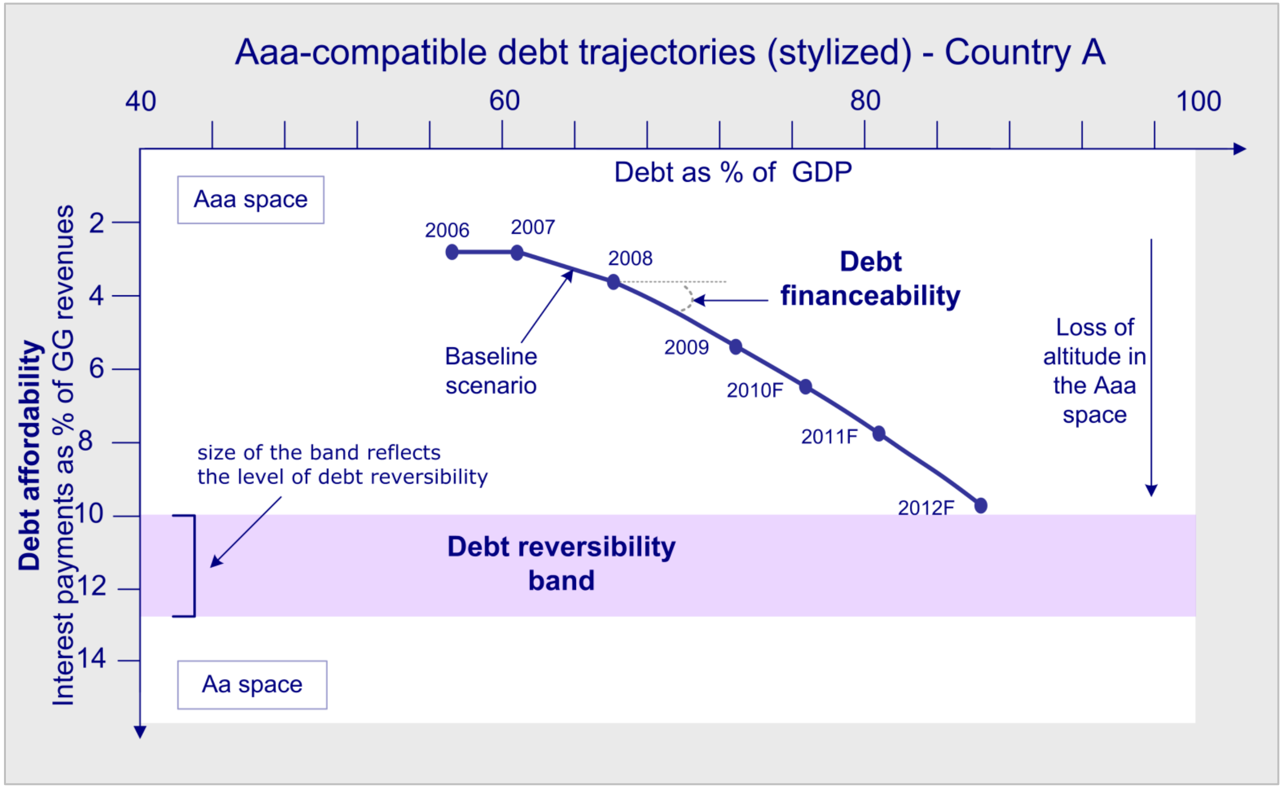
Debt finance-ability: how much debt can a government raise without witnessing a large increase in its cost of funding?

» ***Captured by the depth of domestic capital markets, international role of the currency,...***

Debt reversibility: how and how much can the government generate resources to restore affordability?

» ***Captured by fiscal adjustment capacity (ability to raise taxes, cut expenditure) and economic adjustment capacity (ability to grow out of the debt).***

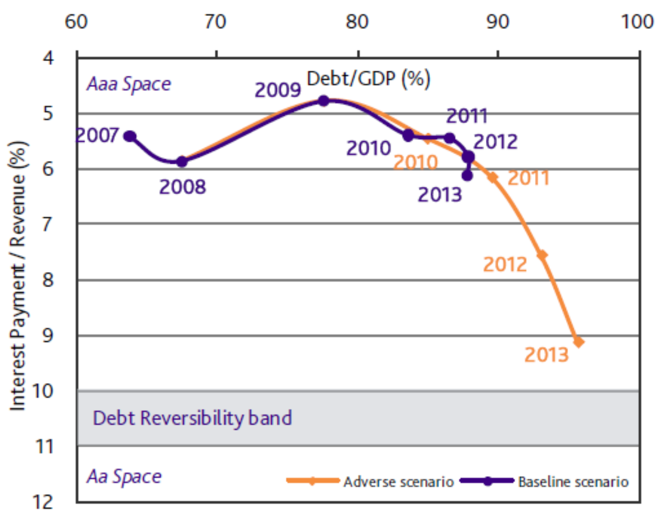
Analytical Framework: Where is the Aaa-Aa Demarcation Zone?



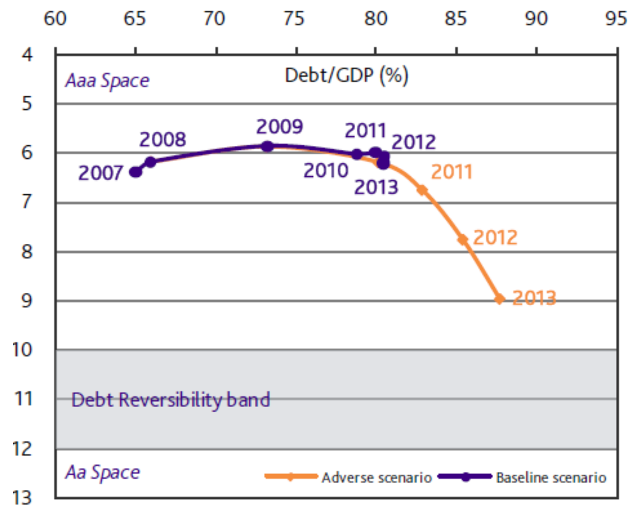
Debt Affordability	*To what extent does servicing debt compete with the provision of critical public services?*
Debt Finance ability	*How sensitive are interest rates to a sudden significant increase in public debt?*
Debt Reversibility	*What is a country's ability to grow out of its debt and/or raise taxes and cut spending?*

Flying Lower, But Still within Aaa Space

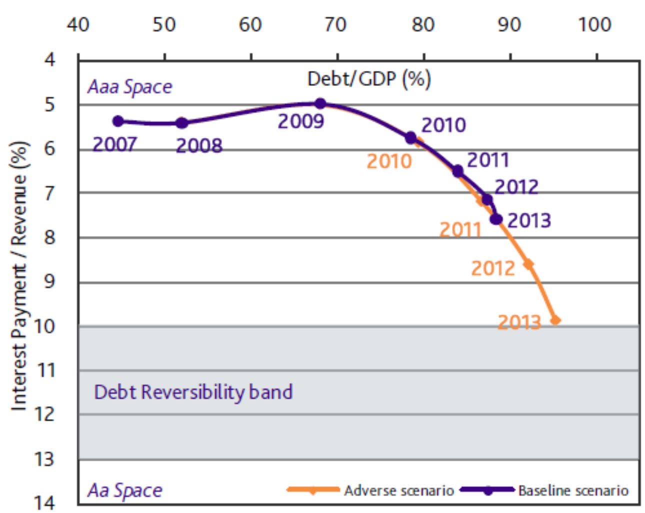
France



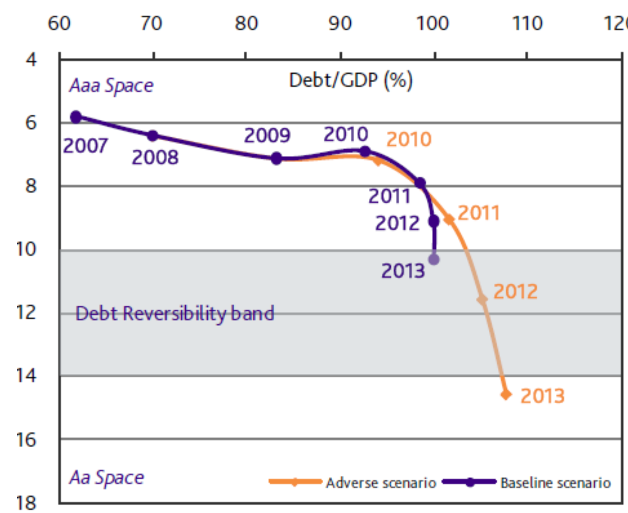
Germany



UK



USA – general govt



3. Eurozone Sovereigns Versus U.S. States

U.S. States versus Eurozone – Main Differences

Nature of the challenge: budget balance for the states versus debt affordability for EMU sovereigns

•Few states have filled their budget gaps with deficit financing, and even those financings are small relative to the size of their budgets. In contrast, for many EMU sovereigns the large run-up in debt since the start of the financial crisis is a primary source of fiscal pressure.

Role and size: US states have a smaller and much more limited governmental role than EMU sovereigns

• In the US, the federal government as well as the local governments take on the most expensive and economically sensitive public sector responsibilities. Notably, states unlike EMU sovereigns are not responsible for the functioning of the banking system, nor do states pay for national defense or social security.

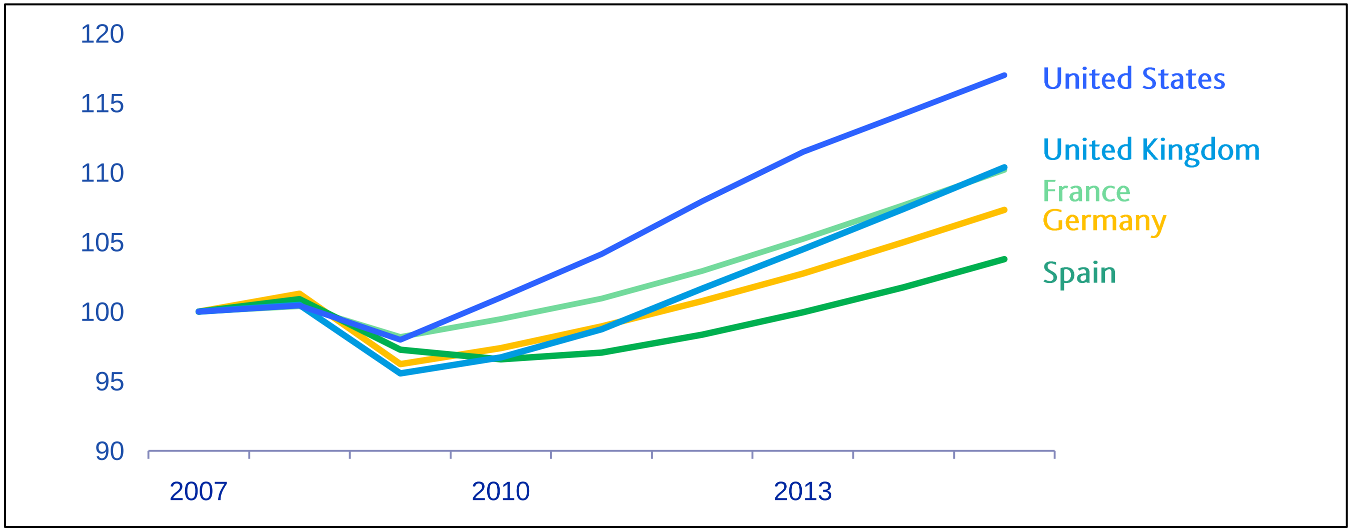
Channels of External Support: Indirect in the US, direct in the EMU

• Because the US federal government and states are more closely integrated fiscally than the EMU, there are more opportunities for the federal government to provide financial support in an indirect manner. In the EMU, the relative lack of fiscal integration means that financial support for debt repayments must be done directly.

U.S. States versus Eurozone: Economic Strength

Key Similarities	Key Differences
Overlapping ranges of population, gross domestic product, and wealth	More favorable demographics in the US
	More flexible and mobile labor market in the US

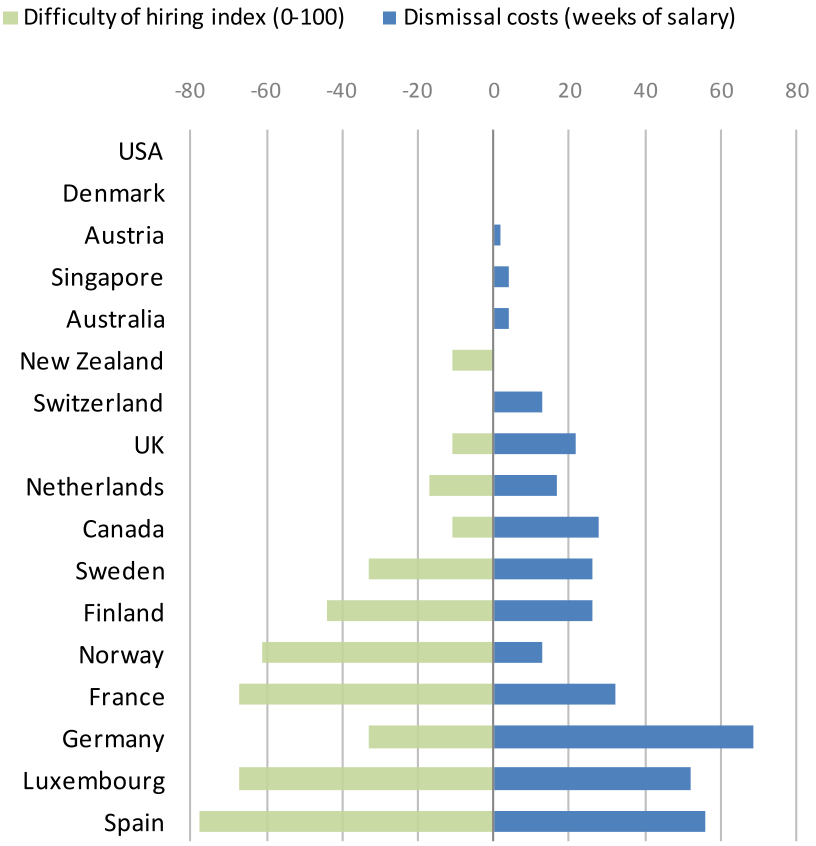
US Growth Prospects Are Stronger Than Peers



Output (2007=100)

U.S. Labor Market is Relatively Flexible

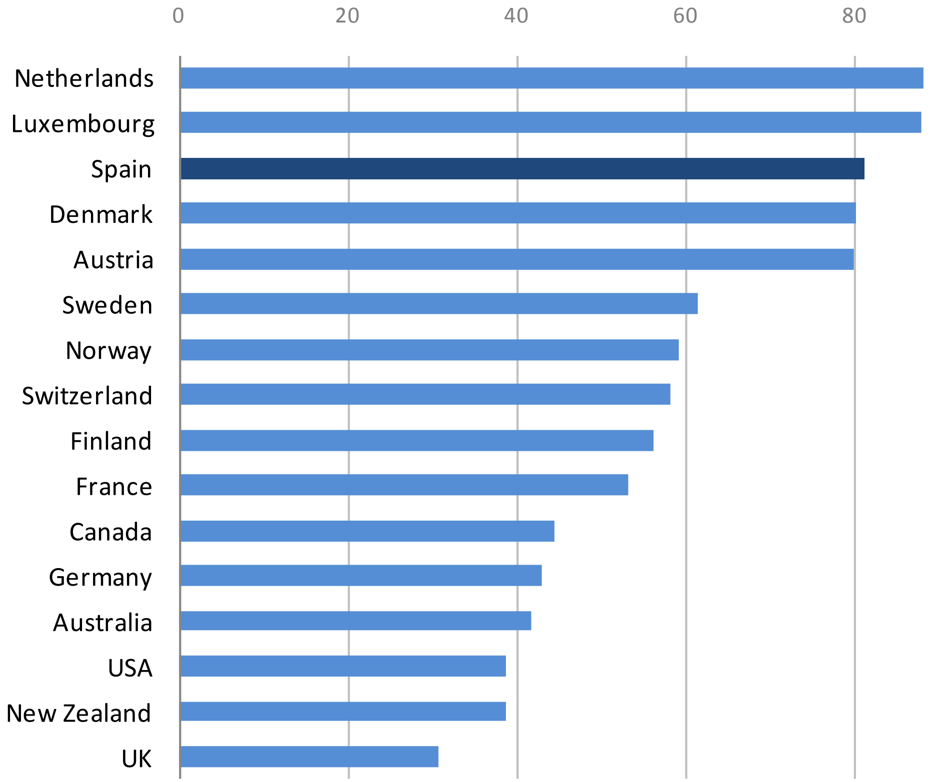
Hiring Vs. Firing Flexibility among the *Aaa*-s



Source: World Bank *Doing Business 2010*

Gross Pension Replacement Rates among Aaa-countries

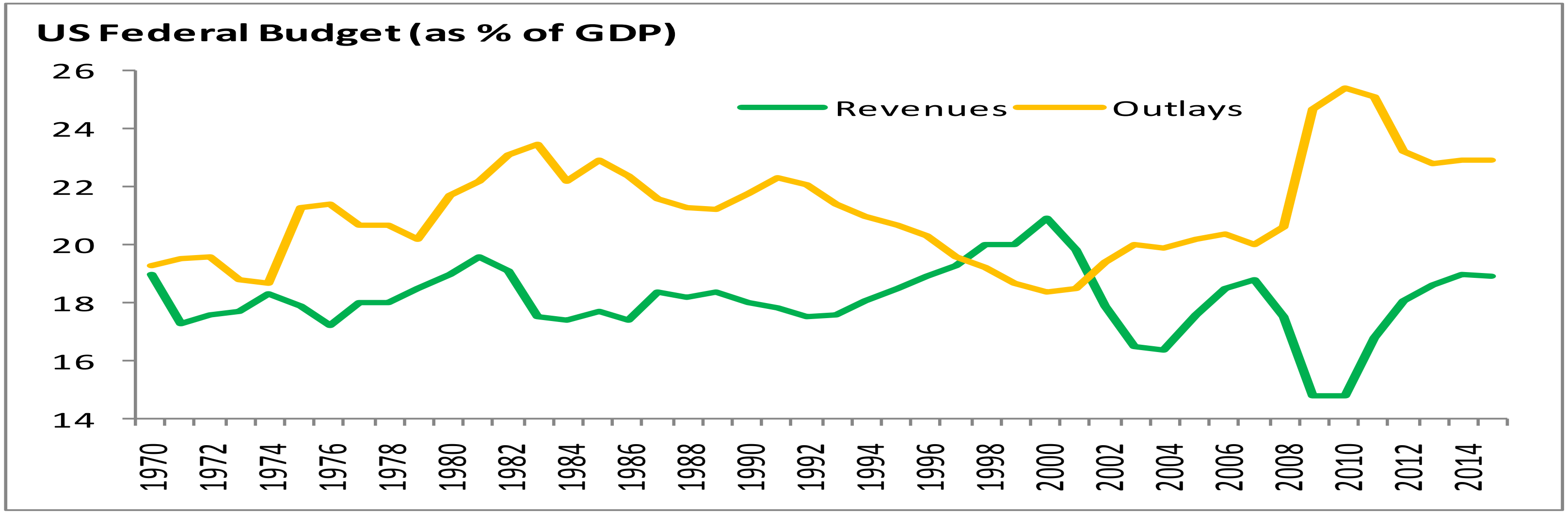
(Mean 2009)



Source: *OECD, Pensions at a Glance 2009: Retirement-Income Systems in OECD Countries*

U.S. States versus Eurozone: Institutional Strength

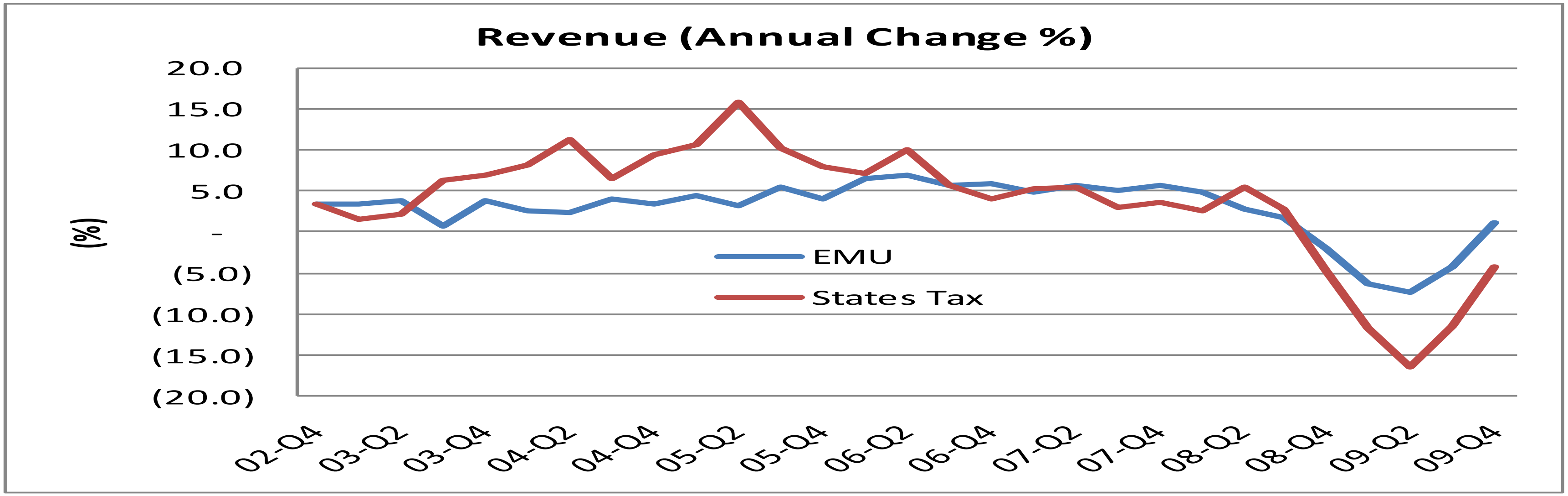
Key Similarities	Key Differences
Strong rule of law, enforceability of contracts, and long-term track record of fiscal discipline	Governmental scope and responsibilities: unlike EMU sovereigns, states are not responsible for banking system, national defense, social security or macroeconomic policy
Fiscal rules to promote financial discipline	Implementation and consequences of fiscal rules: lower debt for the states
Absence of default history post-World War 2II, although there have been sovereign defaults outside the eurozone	Support by senior level of government: indirect in US versus explicit liquidity support in the EMU



Source: Congressional Budget Office, 2010-2014 projects by the CBO.

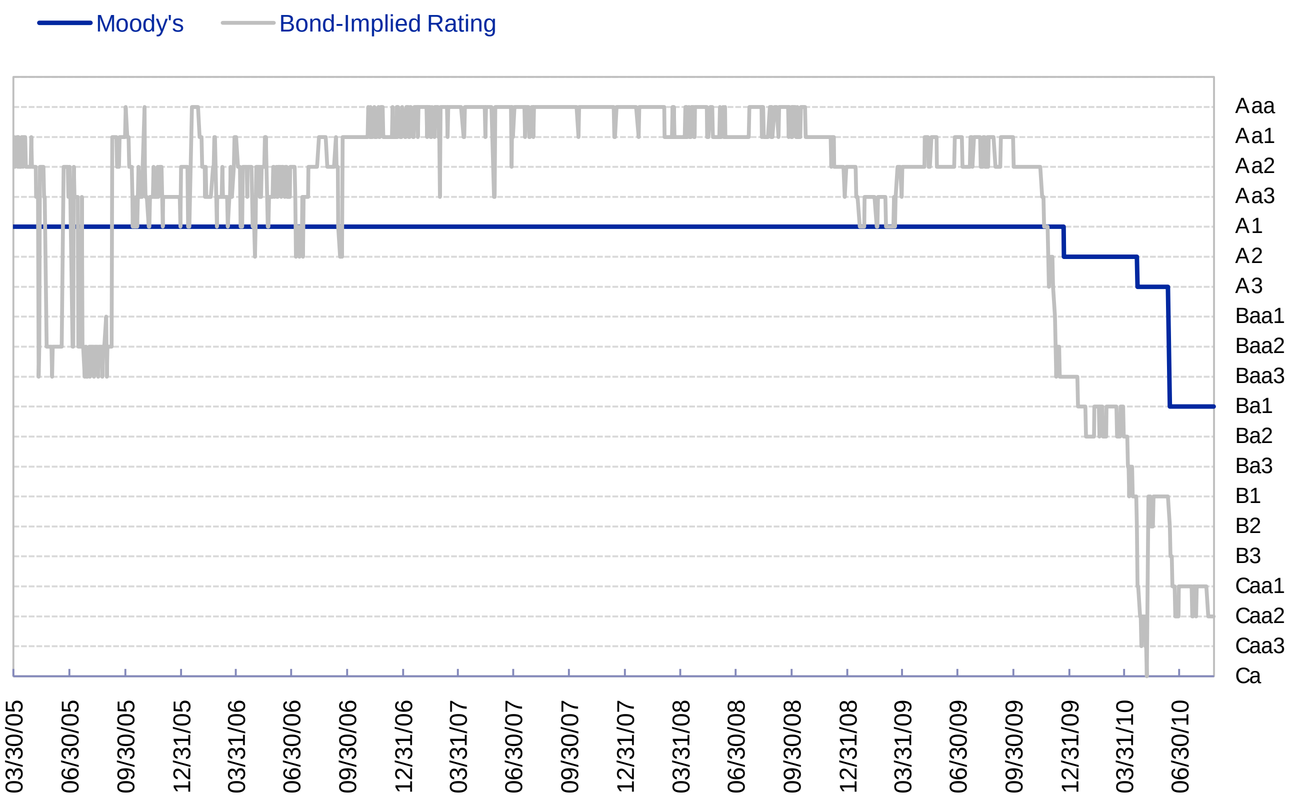
U.S. States versus Eurozone: Government Financial Strength

Key Similarities	Key Differences
Common currency; absence of monetary policy or balance of payments issues, yet inability to control own currency or print money to repay debt	States have much lower debt burdens
Challenges posed by unfunded pension system liabilities and ageing workforces	States are less reliant on market access due to more favorable debt structures
	State revenue sources have greater vulnerability to economic downturns



Moody’s Ratings Versus Market-Implied Ratings

Moody’s Rating versus Bond-Implied Rating – The Greece Example



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