

# Europe of the future and future of Europe: The Innovation/Austerity Choice

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# Industrial Society

- Business Cycle drives Political Cycle: Recession, depression, Facism
- Political Cycle drives Business Cycle: New Deal public works, Employment programs

# Knowledge-based Society

- Intellectual infrastructure of Universities, Government labs, Firm R&D units the equivalent of physical infrastructure of Industrial Era roads and bridges
- Thesis: Adapt infrastructure funding model from previous era to the coming era

# Mismatch

- The “innovation paradox” is that the very point at which the business cycle tempts legislators to view austerity as a cure for economic downturn and reduce innovation spend is when increase is most needed to create new industries and jobs and innovate out of recession or depression

# Detach

- Cyclical: follows business cycle: spend rises in upturn; declines in downturn
- Countercyclical: spend rises in downturn
- In a downturn it is a good time to invest in new firms and in new ideas, people are more available in the downturn than the upturn where there is shortage, but the paradox is that this is where the funds are less available.

# Retake

- Spiral model of innovation
- Self generating
- Transcends technological generations
- Multiple organizational forms simultaneously:  
network/start-ups large firms
- Jump started by large scale targeted  
investments: US DARPA model, retake of  
WWII OSRD

# Innovation Policy

- Picking Winners: The Necessity of Hard Choices/ Extensively Backing Bets
- Open Structured Competition with Set Criteria  
pre-war UK Aircraft Ministry model->Spitfire
- DARPA Model: Filtering Needs/ Selection of Imaginative Program Managers Remit to Manage across Institutional Spheres and Innovation Stages
- Solyndra “Hands off” dilemma

# CIRM

- Bottom Up Civic entrepreneurship
- Coalition of patient advocates, university researchers, VC's
- California Ballot Initiative: Proposition 71
- 3 billion debt funding for stem cell R&D: extension of low cost housing funding model
- 10 year run, with 5 billion extension projected
- Cf Etzkowitz and Rickne: Triple Helix Working Paper Series 2013
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# Generalization of CIRM Model as Counter-cyclical Innovation Policy