

# Guns and Growth:

The Economic Consequences of Defense Buildups

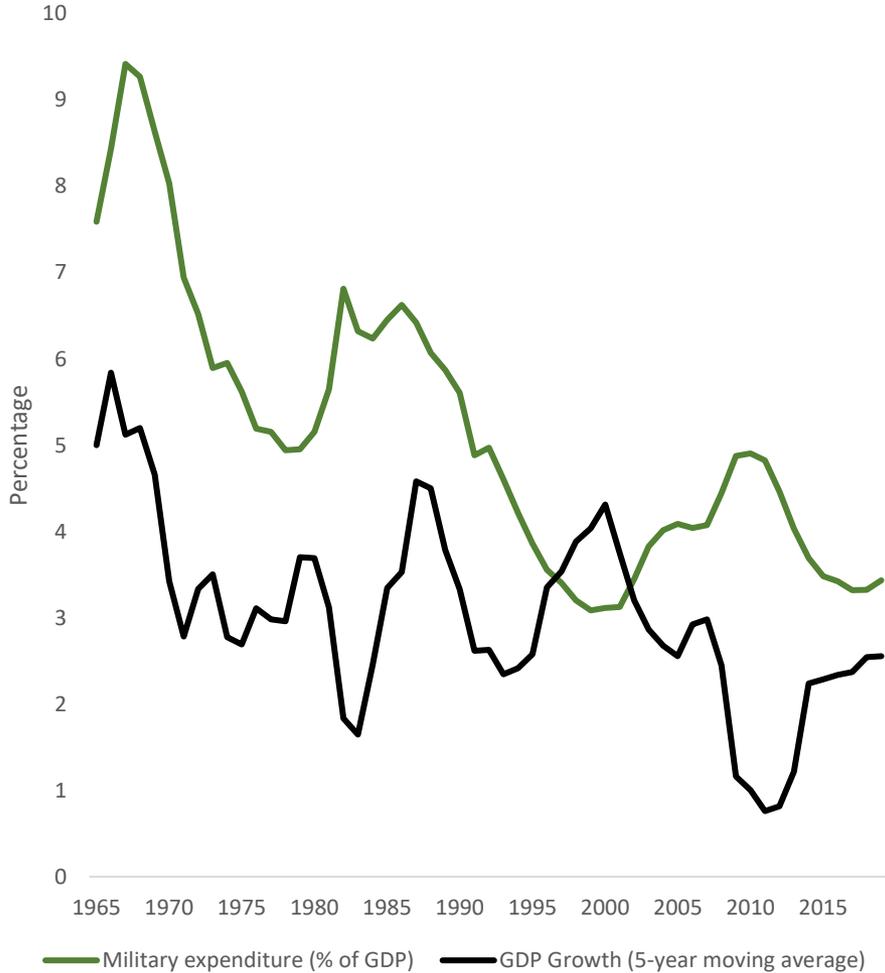
ETHAN ILZETZKI, LONDON SCHOOL OF ECONOMICS

# Lesson 1

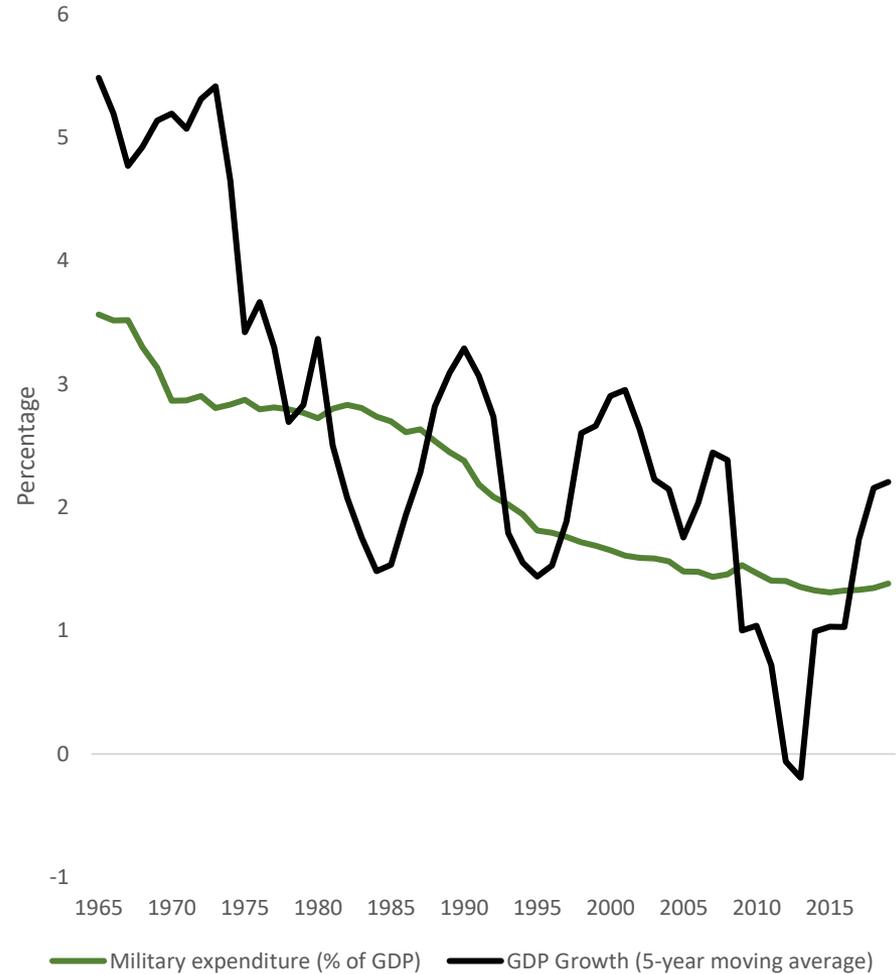
## No Peace Dividend and No Free Lunch

# Elusive Peace Dividend

## United States

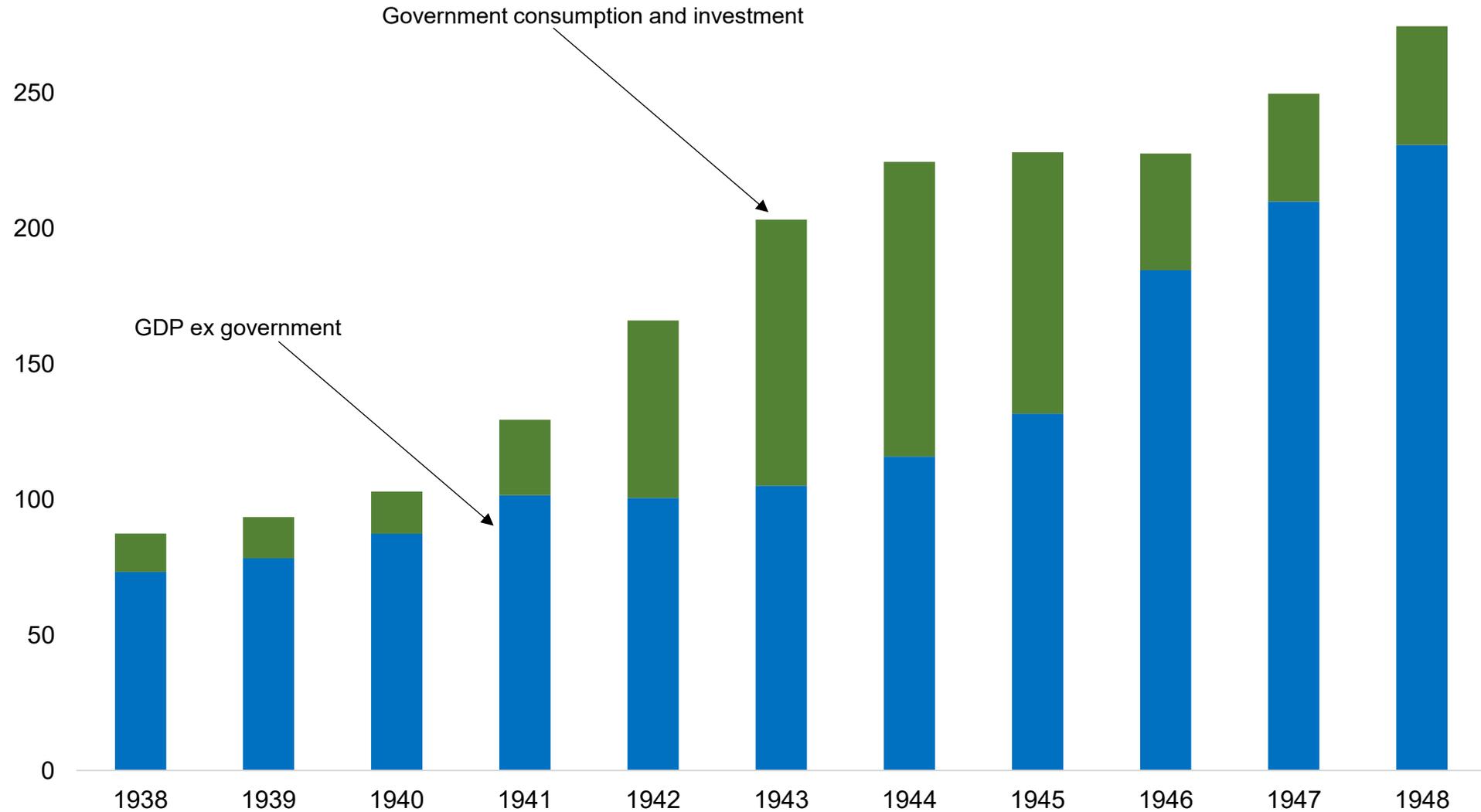


## European Union



# US WWII Economy

300 (Billions USD)



Source: Ilzetzki (2025)

ILZETZKI: GUNS & GROWTH

## Lesson 2

# Potential Long Run Productivity Gains

# Learning by Doing

Cost reductions with "experience" in shipyards

... and aircraft plants

REDUCTIONS IN MAN-HOURS PER VESSEL WITH INCREASING PRODUCTION IN MERCHANT SHIPYARDS

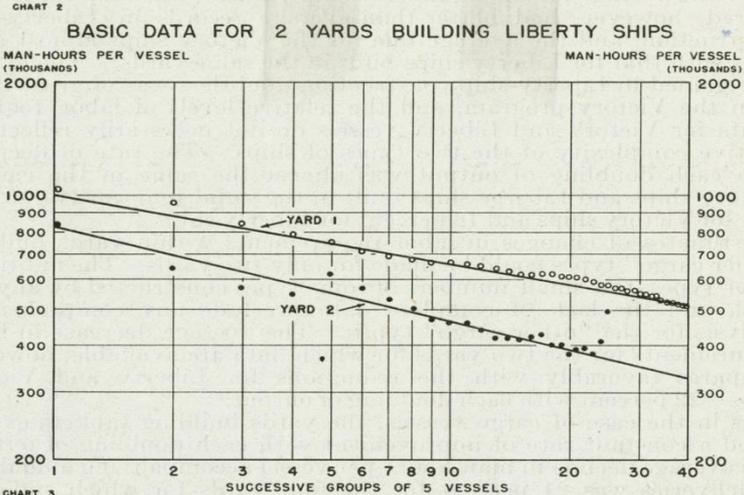
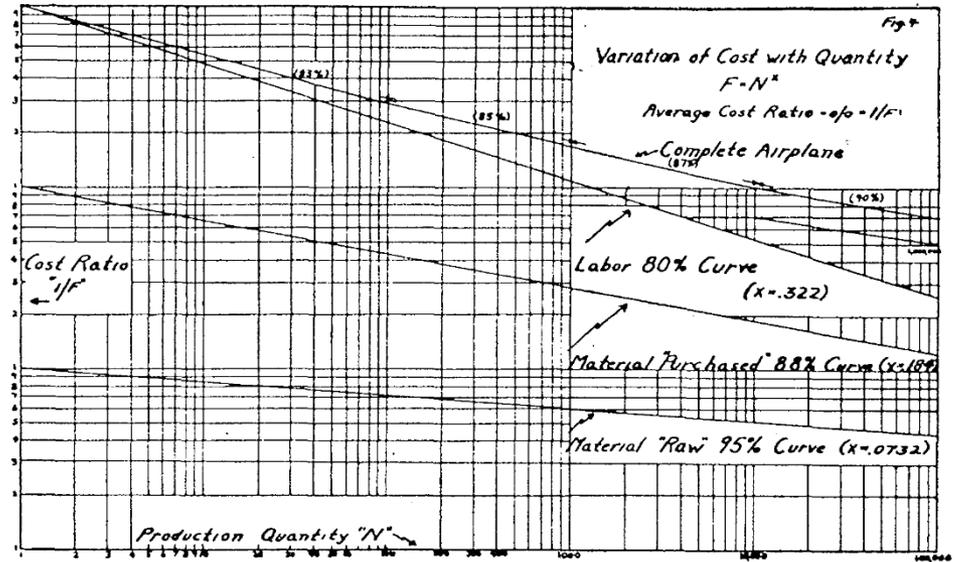
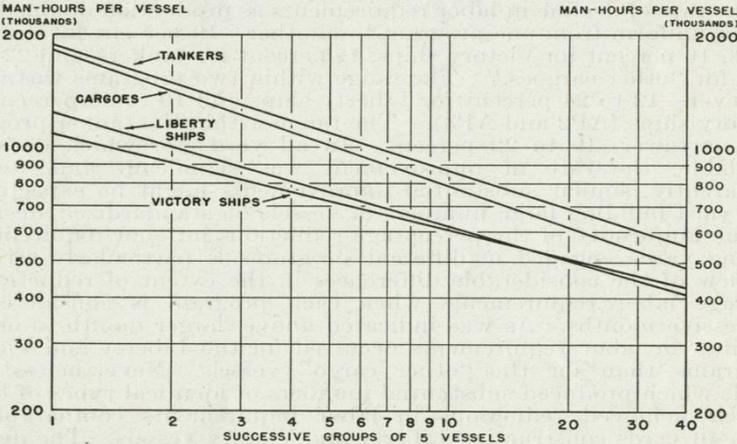
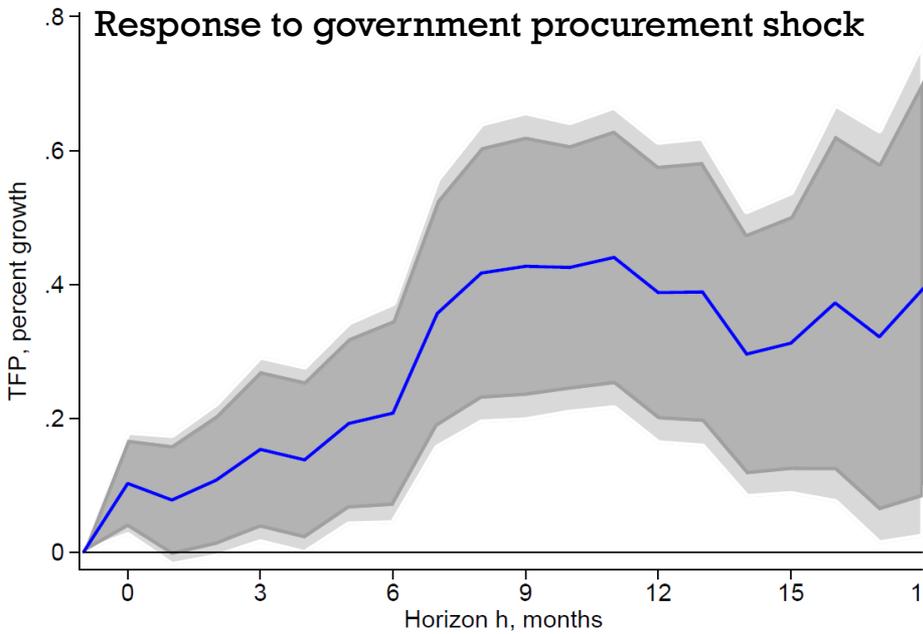


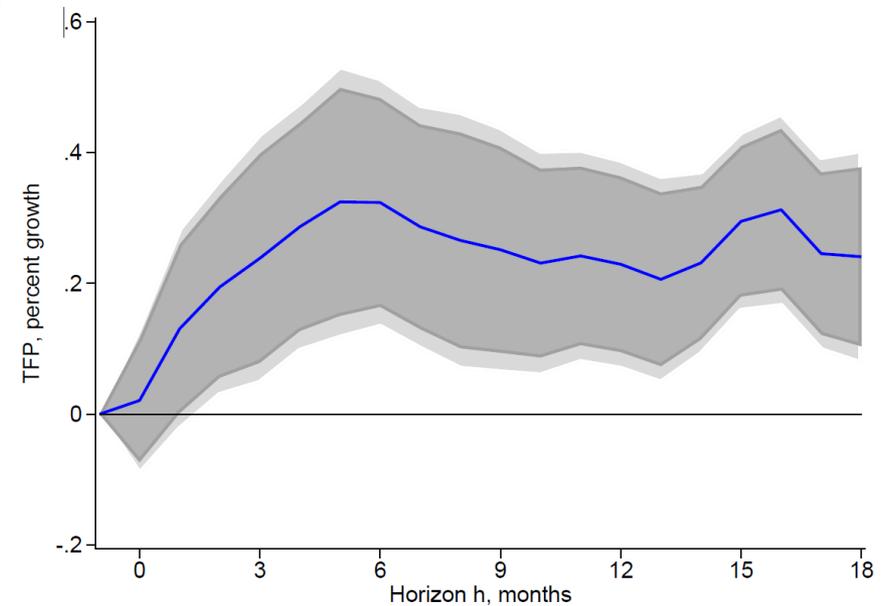
CHART 3  
AVERAGES FOR SELECTED YARDS BY TYPE OF VESSEL



# Learning by Necessity



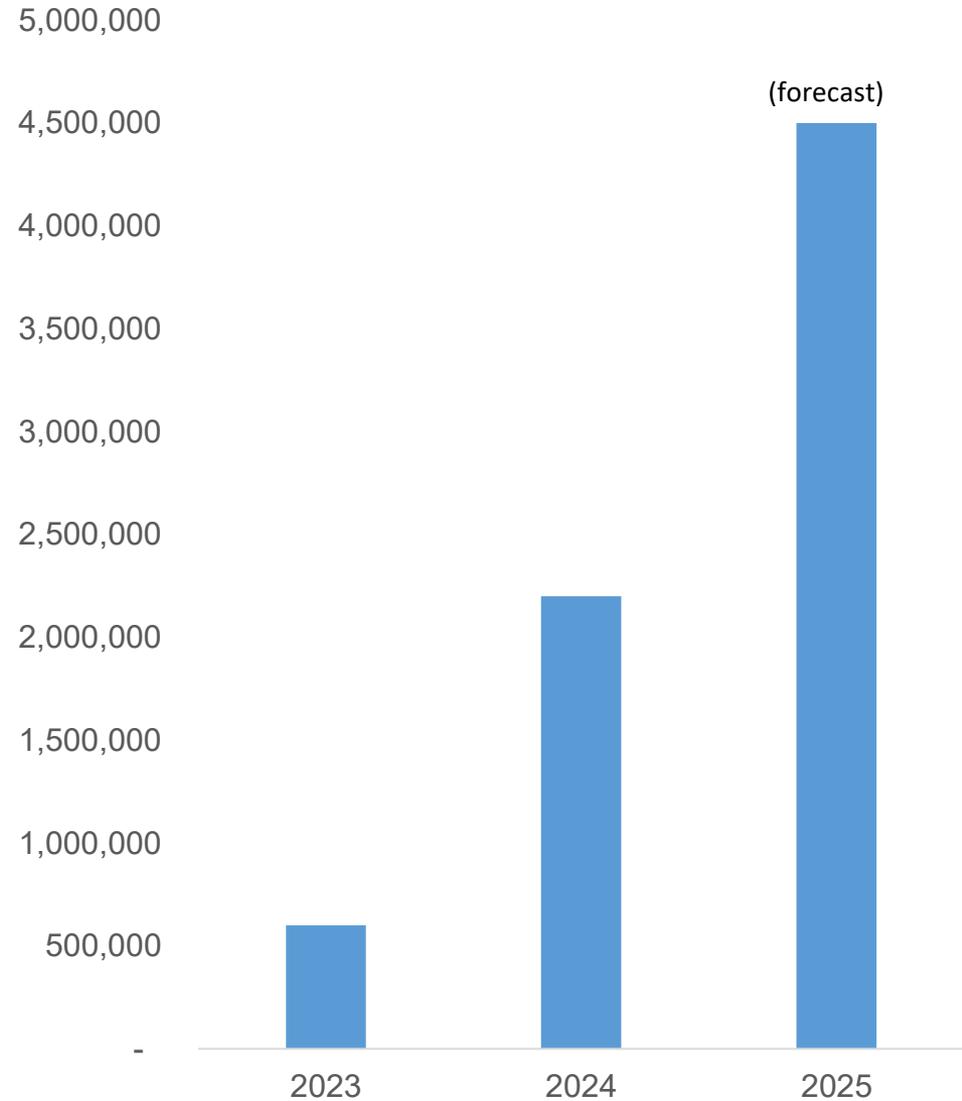
**Additional** response in high-utilization factories



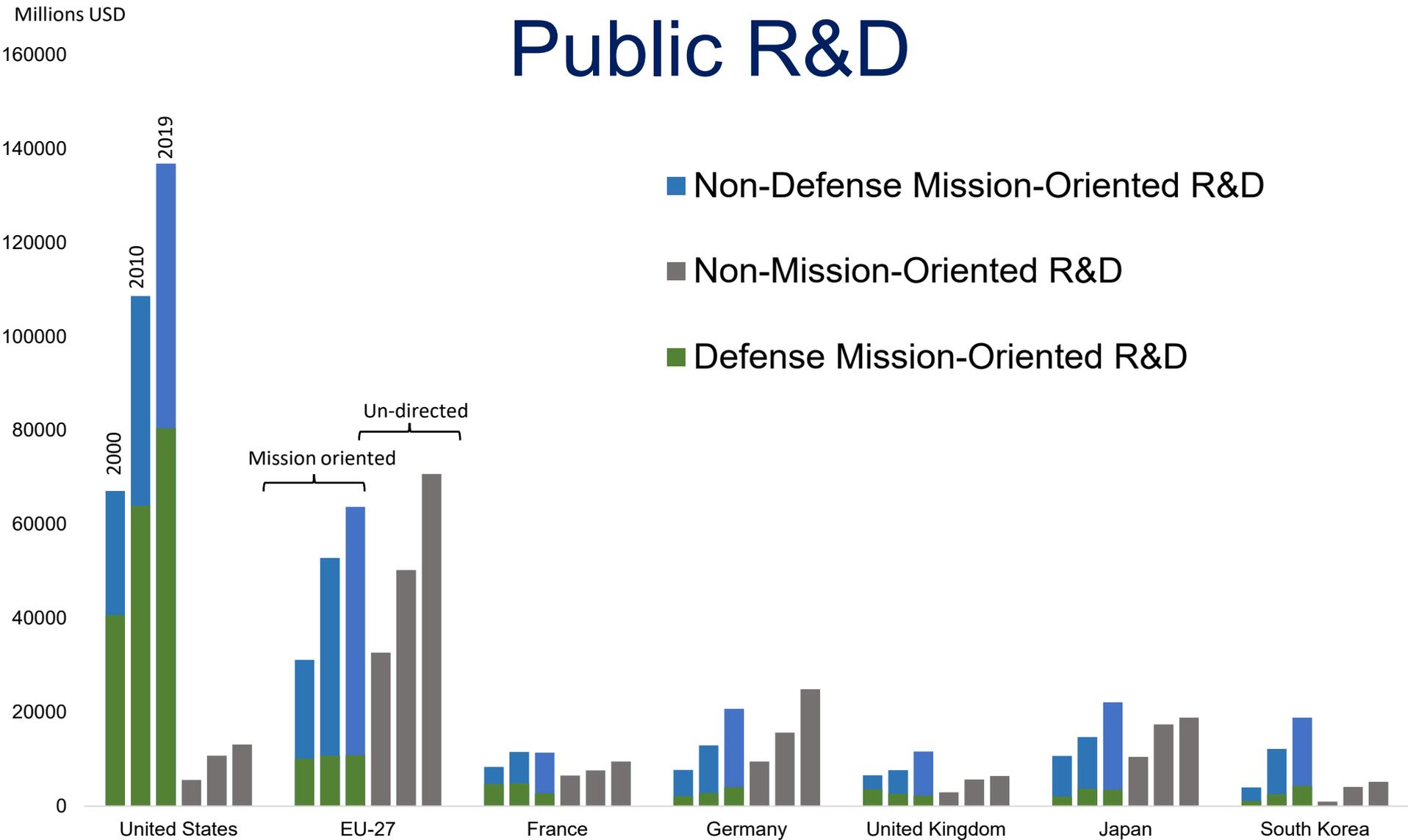
# Ukrainian Drone Industry



Estimated Drone Production: Ukraine



# Public R&D



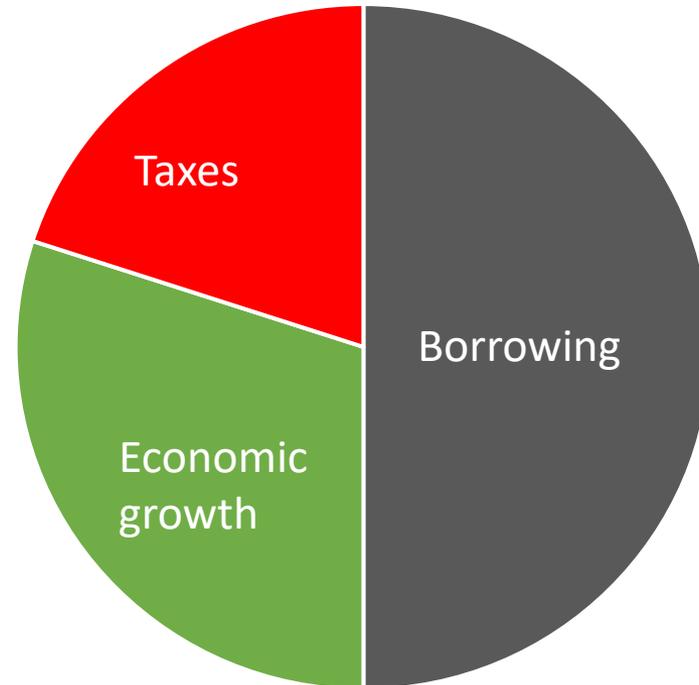
## Lesson 3

# Finance with Debt— Within Solid Fiscal Frameworks

# Typical Military Buildup

- Duration: 5 years
- Front-loaded
  - Initial stockpiling
  - Later replenishing + maintenance
- Mostly debt financed

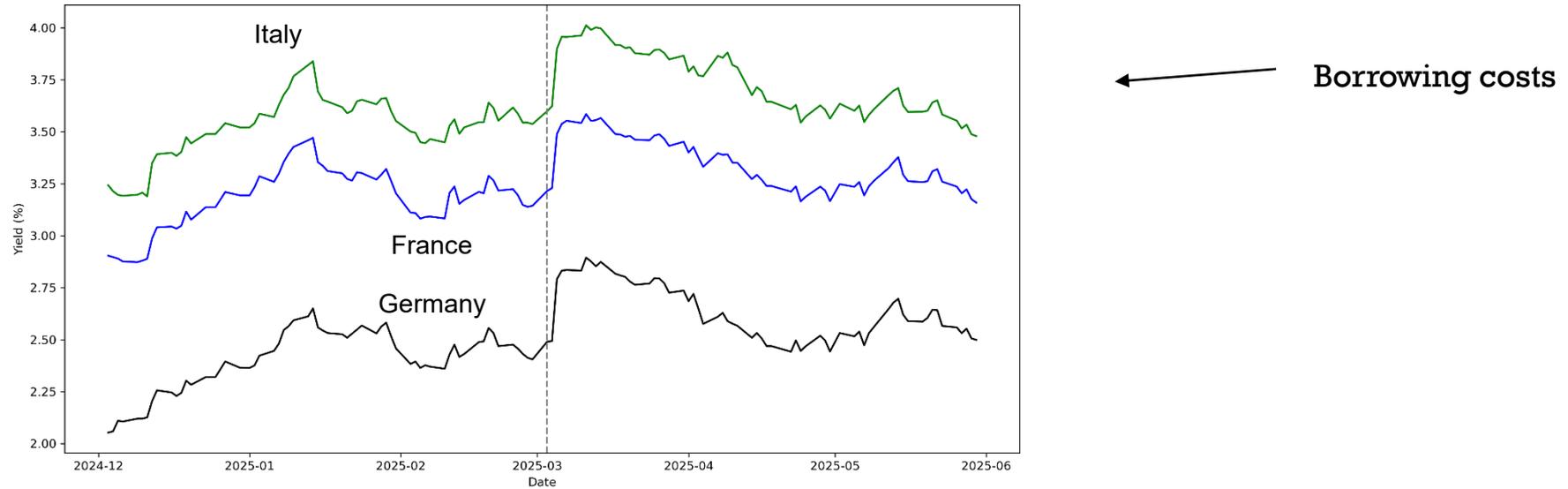
Average US Military Buildup



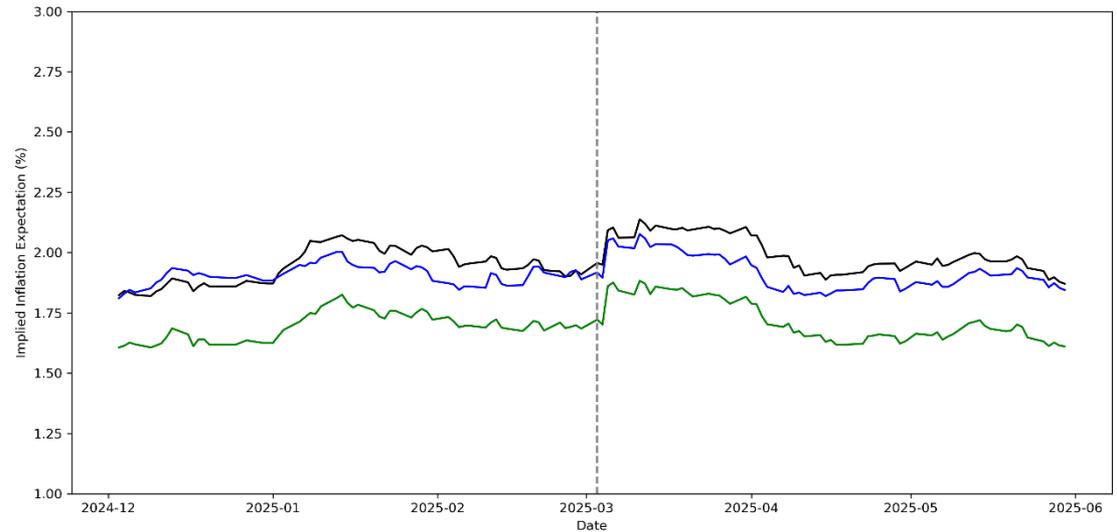
Source: Ramey and Zubairy (2018)

# Defense Minor for EU Borrowing Costs

German constitutional change



Inflation expectations →

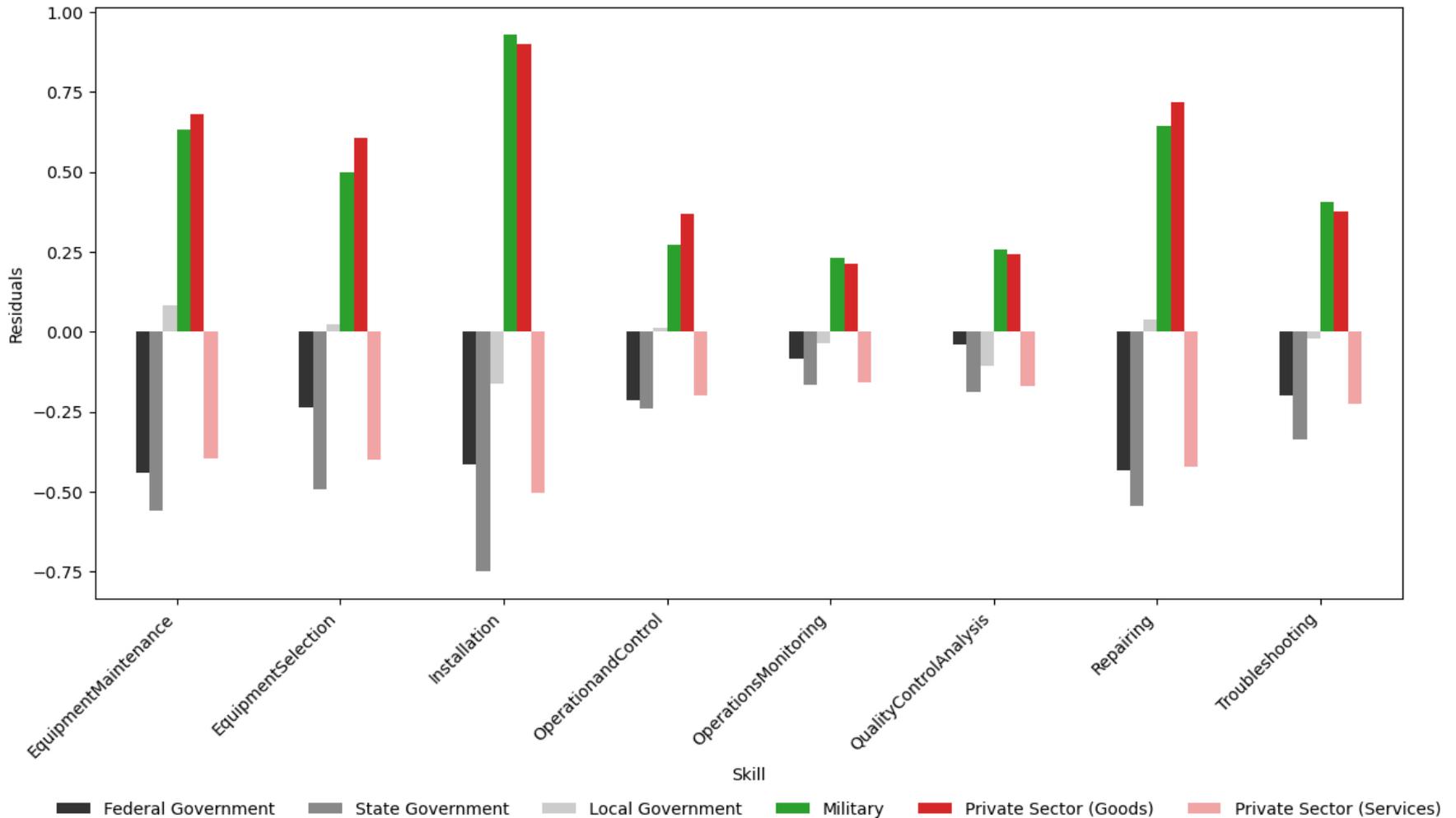


## Lesson 4

Military Jobs = Good Jobs

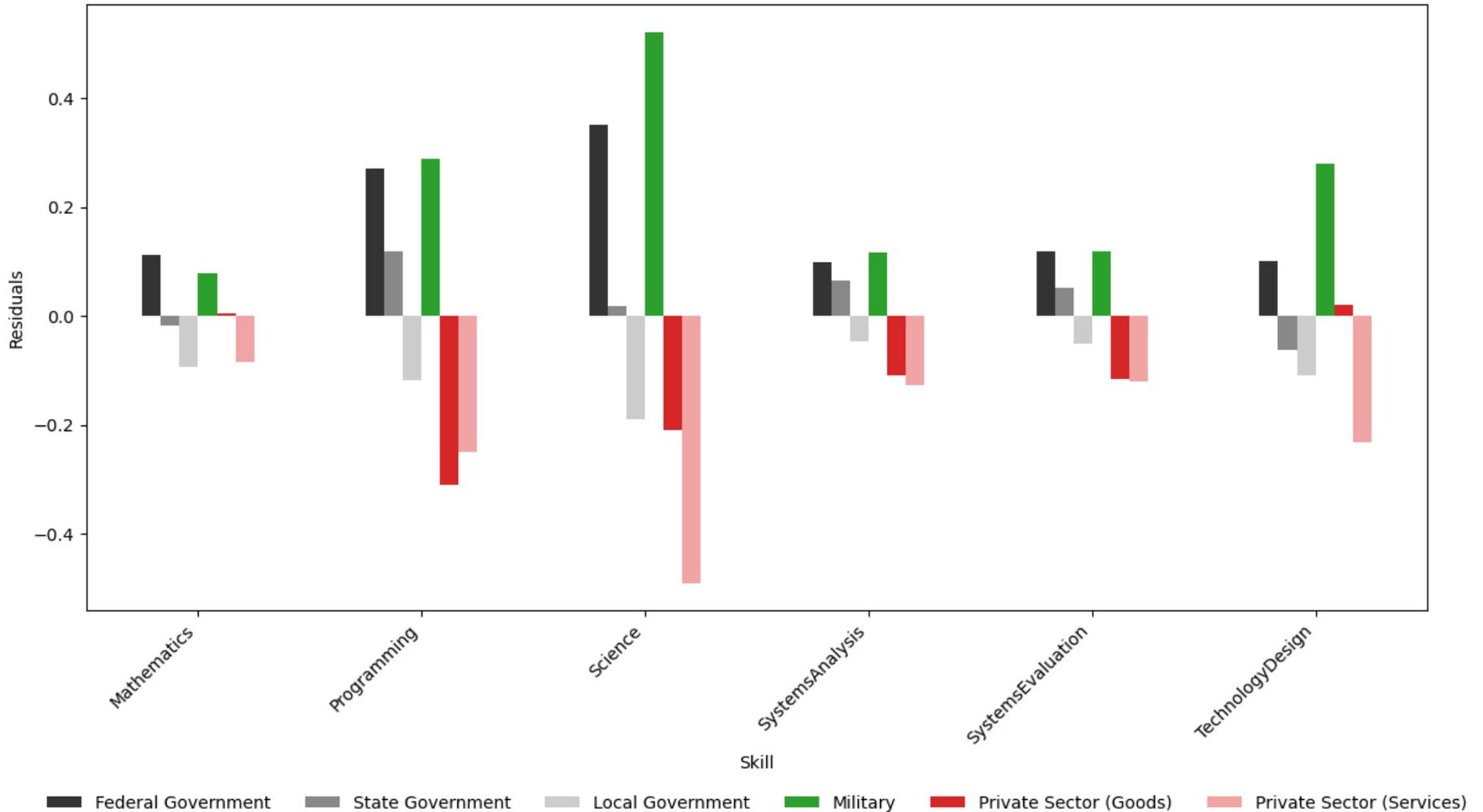
# Required Skills

“Hard hat” skills



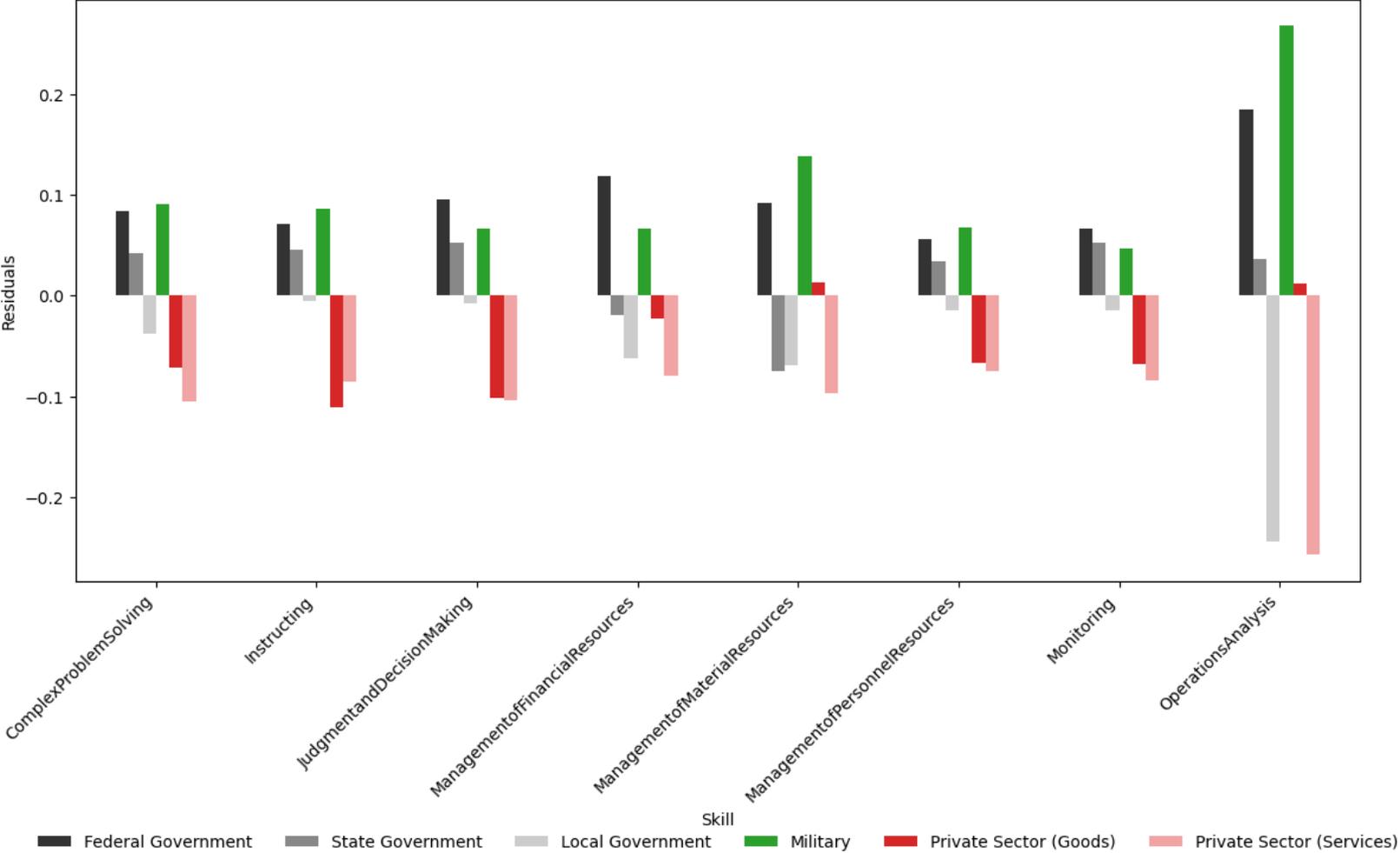
# Required Skills

## STEM skills



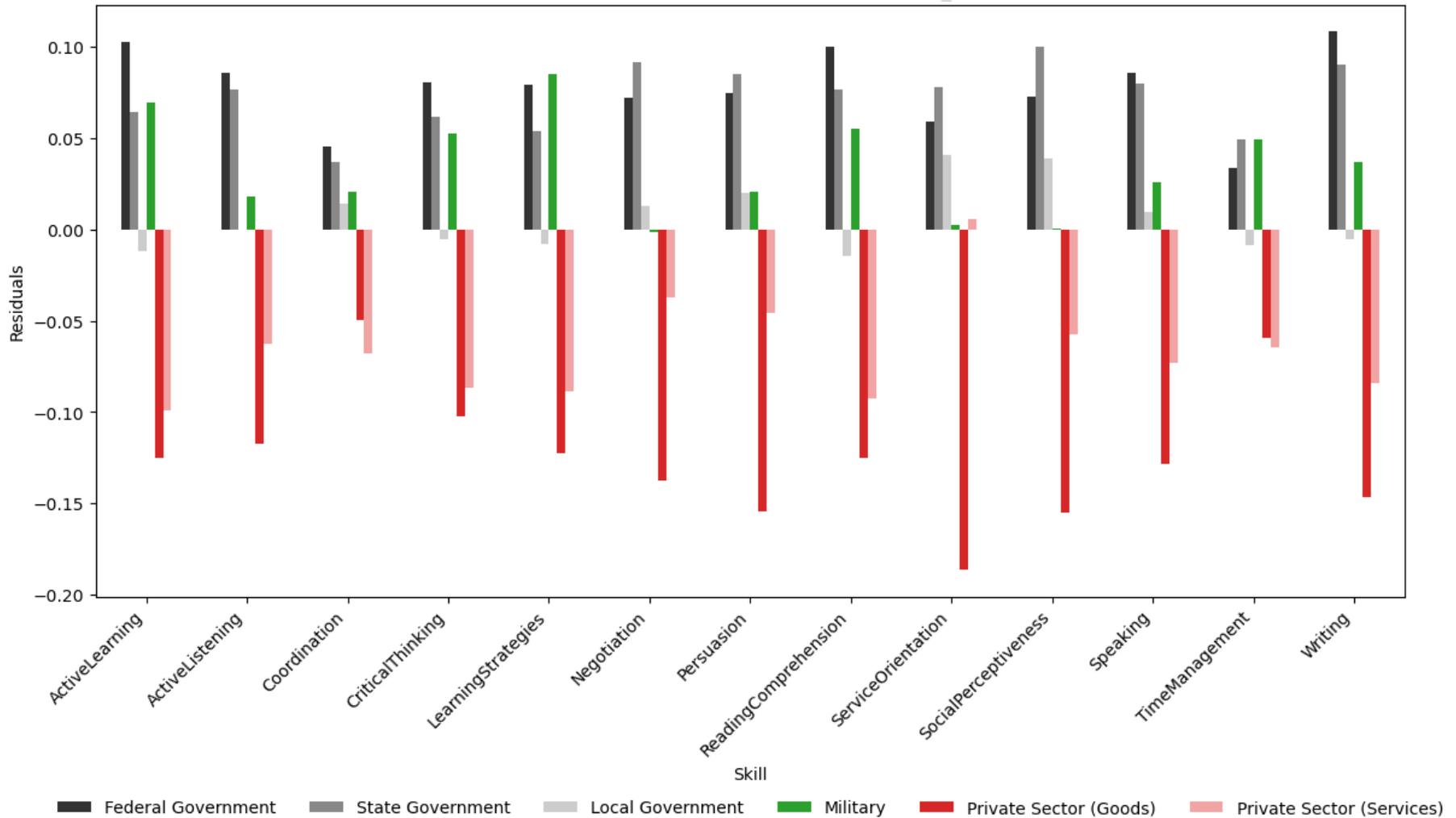
# Required Skills

## Management skills



# Required Skills

## Soft/Social/Verbal skills



## Lesson 5

# The Devil is in the Procurement Details

# Interoperability Problems



Challenger 2



Leclerc



Leopard 2

## Lesson 6

# Capacity Targets not % GDP Targets

# Towards Capacity Targets

## % GDP Targets

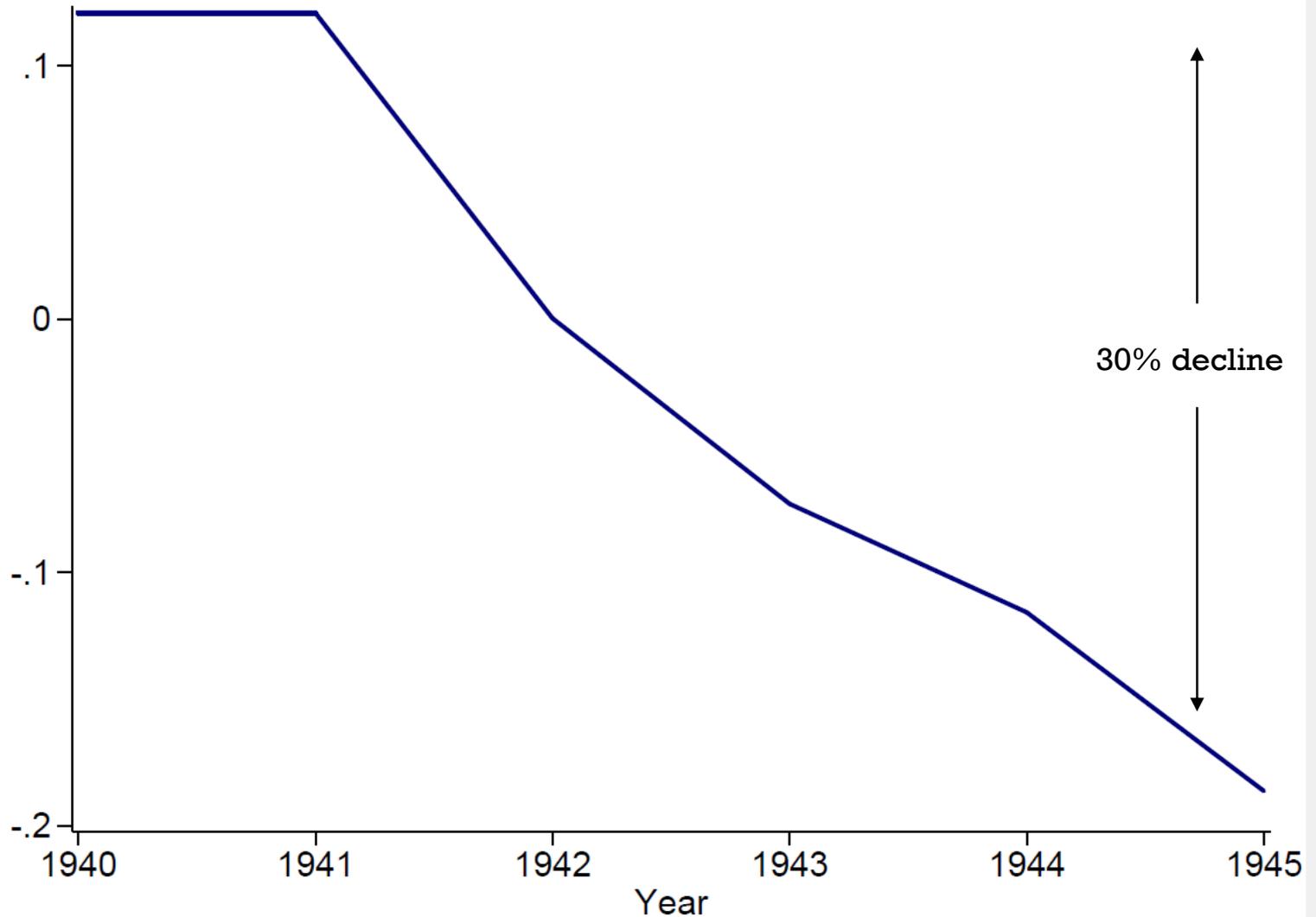
- Consistent spending
- Bad spending incentives
- Maximizes costs
- Procyclical spending

## Capacity Targets

- Front-loaded spending
- Exploits government monopsonistic power
- Minimizes costs, maximizes capacity
- Exploits learning by doing

# Cost Reductions in World War II

Cost of average aircraft model relative to its 1942 level





# Lessons

1. No Peace Dividend and No Free Lunch
2. Defense buildups: Potential Long Run Productivity Gains
3. Finance with Debt—Within Solid Fiscal Frameworks
4. Military jobs = good jobs
5. The Devil is in the Procurement Details
6. Capacity Targets not % GDP Targets