

Lessons for the Green New Deal from the Economic Mobilization for World War Two

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Based on forthcoming Roosevelt Institute paper coauthored
with Andrew Bossie

Overview

Some lessons from war mobilization:

1. Public sector needs to take direct role in investment
 - ▶ ...and more broadly in bearing risk
2. Output can be very elastic in response to stronger demand
 - ▶ Danger of over-conservative estimates of potential
 - ▶ Labor supply also elastic in response to demand
3. Full employment has major effects on income distribution
 - ▶ ... even in absence of explicit redistribution

Public investment in war industries

Public investment and share publicly owned at end of war

Industry	Federal investment (\$ billions)	% publicly owned, 1944-1945
Enriched uranium and plutonium	1.38	100
Shell and bomb loading	1.25	100
Synthetic rubber	0.70	97
Aircraft	3.43	89
Ships	2.19	87
Guns and ammunition	1.60	87
Nonferrous metals (aluminum, etc.)	1.72	58
Chemicals and explosives	2.26	43
Aviation fuel	0.25	33
Machine tools	0.15	26
Iron and steel	1.2	14

Source: Mark Wilson, *Destructive Creation*

Why so much direct public investment?

- ▶ Not desired by policymakers
 - ▶ Turn to direct federal investment only after measures to encourage private investment failed
- ▶ Not lack of financial capacity in private sector
- ▶ Private sector unwilling/unable to bear risk
- ▶ ... especially in newer industries

Lessons for Green New Deal

1. Decarbonization may call for large direct investment by public sector
 - ▶ as opposed to shifting private investment via prices/subsidies
2. Public role largest in new industries/technologies
3. Public role not just to provide resources, but to *solve coordination problems* and to *bear risk*

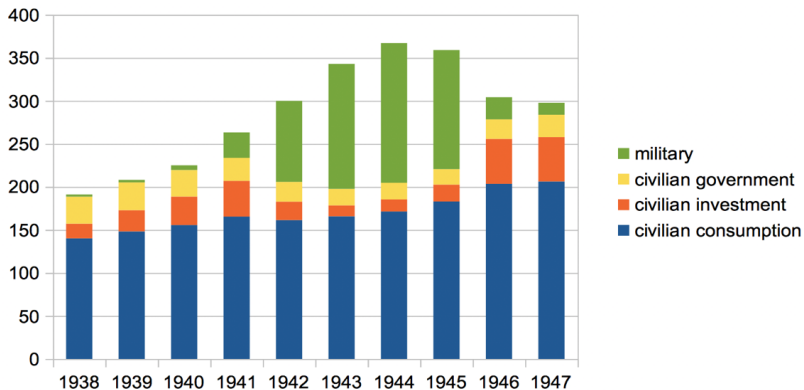
Second lesson: Capacity grows with demand

- ▶ At start of war, fears that military production targets could not be met without large fall in civilian living standards
 - ▶ the “feasibility dispute”
- ▶ But in fact, military production targets largely achieved
- ▶ ... without any fall in civilian consumption
- ▶ Rapid output growth thanks to expansion of labor force
- ▶ ... and rapid productivity gains, esp. in industries with greatest military demand
- ▶ Wartime inflation more about specific bottlenecks than overall capacity constraints

As largest positive demand shock in history, WWII is informative about supply constraints!

Surprisingly little crowding out during war

Military and civilian output, 1938-1947



Source: Rockoff 1998

... thanks in part to rapid growth in labor force

	1941	1944	Change
Total Nonagricultural Employed	42,800	56,600	13,800
War Manufacturing	6,571	8,301	1,730
Nonwar manufacturing	4,950	5,826	876
Government	6,222	17,426	11,204
Civilian	4,622	6,026	1,404
Military	1,600	11,400	9,800
Total Wartime Uses of Labor			13,810

	1941	1944	Change
Unemployed	5,560	670	-4,890
Extra Workers (April 1945)	8,130	0	-8,130
Women	4,230	0	-4,230
Men	3,900	0	-3,900
Farm Workers (1940 and 1945)	10,585	9,844	-741
Total Wartime Sources of Labor			-13,761

Wartime experience of supply constraints

- ▶ Supply much more elastic than was expected
- ▶ Inflation reflected specific bottlenecks/shortages, not overall capacity constraints
 - ▶ effectively managed with rationing and price controls
 - ▶ rationing reflected rapidly rising civilian incomes, not falling civilian consumption
- ▶ New entrants to labor force not mainly drawn from unemployed or agriculture
- ▶ Productivity gains fastest in industries with greatest military spending
 - ▶ Labor productivity in aircraft production rises by factor of 7 over 1942-1945
 - ▶ Supports strong version of Verdoorn's law

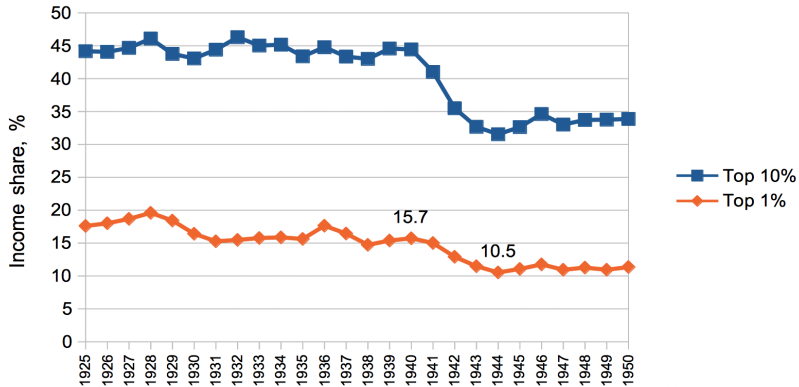
Lessons for Green New Deal

1. Output may rise to meet new demand from decarbonization
 - ▶ Good reasons to think there is substantial slack in major economies
 - ▶ Should not analyze economics of climate change on basis of fixed total output
2. Labor force growth responsive to demand conditions
3. Rising inflation does not necessarily mean capacity constraints reached
4. Decarbonization spending likely to see increasing returns
 - ▶ Implies lower costs than static estimate
 - ▶ Another argument for targeted public investment, against carbon price based approach
 - ▶ carbon price v. inefficient for moving new technologies down cost curve

Third lesson: Full employment is powerful force for redistribution

- ▶ 1940s saw the largest compression of incomes in US history
 - ▶ as in most advanced countries
- ▶ Lowest paid groups (African Americans, agricultural workers) gained most
- ▶ Very little direct redistribution - all about labor market

Income compression during WWII



Income compression during WWII

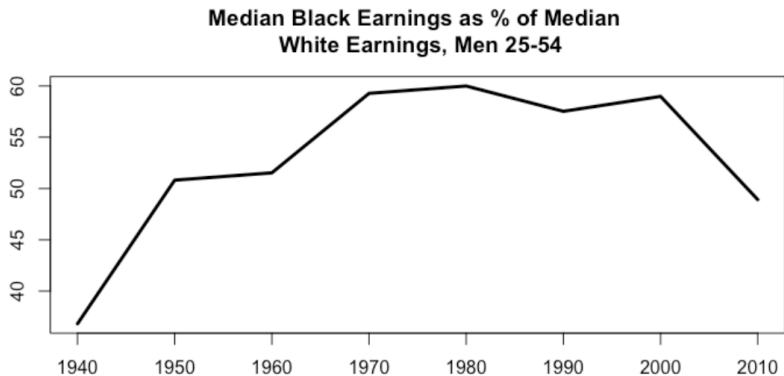
1940 hourly wage by industry and 1940-1946 change



Income compression during WWII

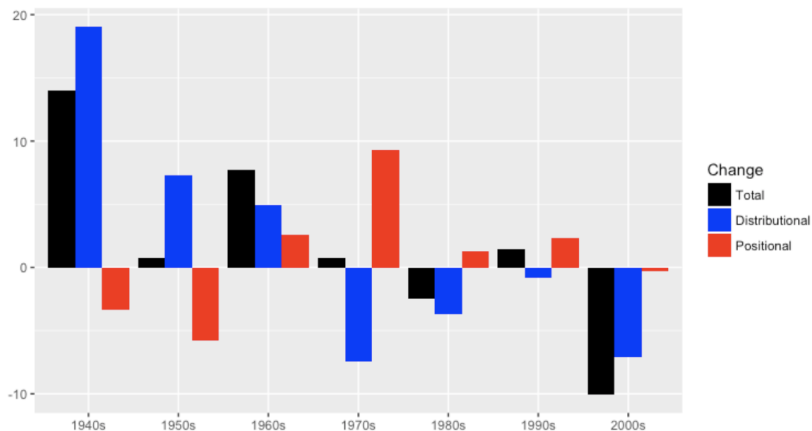
- ▶ Wage differentials across sectors/industries narrowed substantially during war
- ▶ Biggest gains in low-wage industries not directly involved in war production
- ▶ Over 1939-1946, weekly wages:
 - ▶ in war manufacturing rose 70%, from \$29 to \$70
 - ▶ in textiles/apparel doubled, from \$17.50 to \$36
 - ▶ in agriculture nearly tripled, from \$9 to \$26
- ▶ No explicit policy favoring compression - wage caps based on average wages at start of war
 - ▶ so inter-industry wage gaps narrowed despite policy to maintain them

Black workers made biggest gains



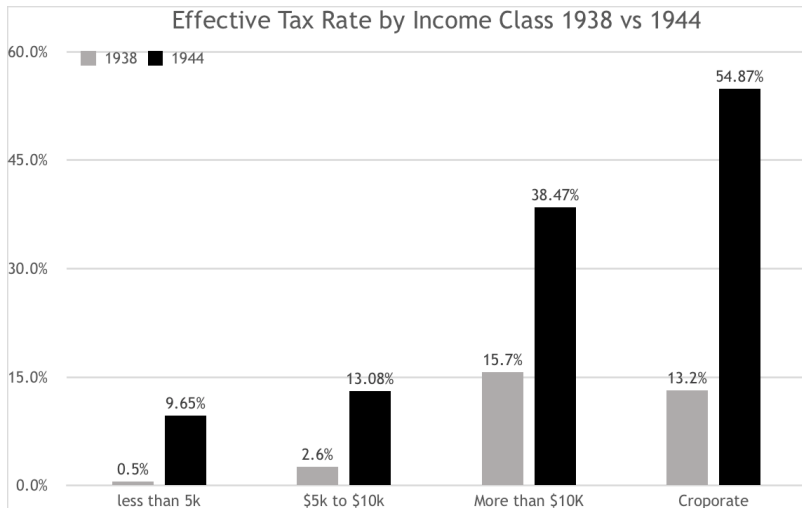
... but only thanks to overall wage compression

Percentage-point change in median wage gap



- ▶ Anti-discrimination policy during the war largely toothless

Limited redistribution through wartime tax increases



- No effort to tax capital gains

Lessons for Green New Deal

1. A just transition important, but don't underestimate redistributive effects of strong demand
 - ▶ WWII experience suggests that sustained super-full employment more powerful for income compression than direct redistribution
 - ▶ Strong labor markets benefit even those who aren't employed directly
2. Full employment is most important for most disadvantaged workers
3. Goal of more equitable distribution is independent argument for big public spending program

Summary

Three lessons from wartime mobilization:

1. Rapid economic transitions require larger role for direct public investment
2. Output, employment are more elastic than conventional estimates of potential assume
3. Full employment is powerful force for income compression, even without explicit redistribution

Thank you.