

Why Is Productivity Growth Slow?

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Comments by Chad Syverson

Technology Optimism and Slow Productivity Growth: Potential Explanations

1. False hopes
 - Technological optimism unwarranted; future productivity acceleration won't happen
2. Mismeasurement
 - Reality better than measured; no current slowdown
3. Distribution and dissipation
 - Technological benefits are real but concentrated; large dissipative efforts to grab or guard benefits
4. Implementation and restructuring lags
 - Technology is real, but benefits take time to emerge

Technology Optimism and Slow Productivity Growth: Potential Explanations

1. False hopes: Certainly some past technologies have disappointed
 - But not hard to estimate large productivity gains from existing technologies
2. Mismeasurement: Reasonable prima facie case
 - But lots of recent work indicating this isn't the story
3. Distribution and dissipation: Consistent with more skewed/concentrated company and worker outcomes
 - But hardly dispositive, and implies huge amounts of dissipative activity

Tests of the Mismeasurement Hypothesis

1. Is the size of measured slowdown in a country related to importance of IT in that economy? **No**
2. Researchers have tried to measure surplus from web-related technologies. How large are their numbers? **Too Small**
3. Compute how large IT-related sectors would have to be if we measured the purportedly “missing” growth **Enormous**
4. See if total income is systematically higher than output **Yes, but in a way inconsistent with mismeasurement hypothesis**
5. “Qualitative” tests
 - All results hard to reconcile with the hypothesis

Case for the AI Implementation Lag Story

- Current productivity growth does not predict future productivity growth
- Back-of-the-envelope examples of achievable productivity growth
- AI as a GPT

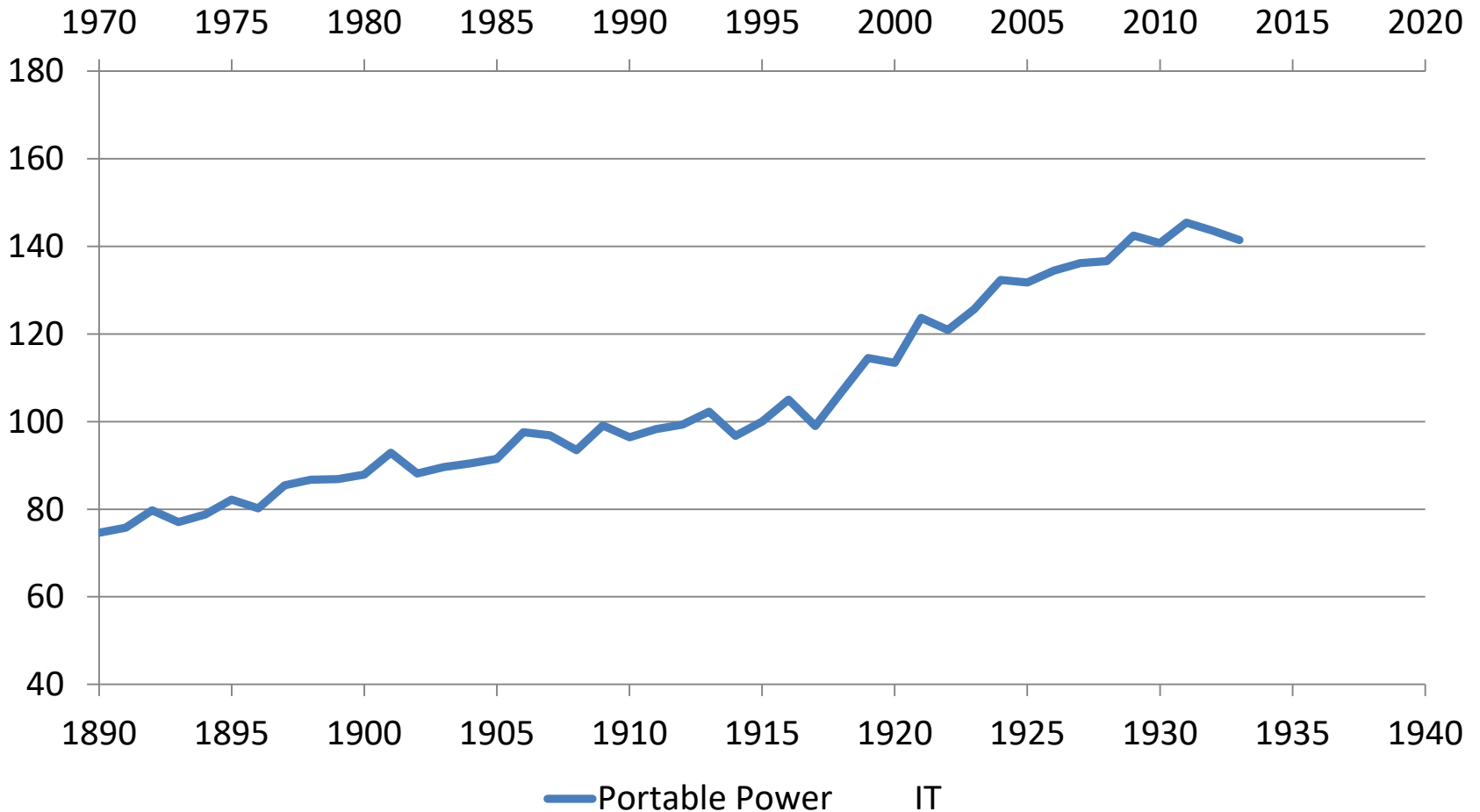
Why Are There Implementation Lags?

1. Enough new capital stock must be accumulated to affect aggregates
2. **Complementary assets** need to be invented, built, and installed

These processes can take years or decades

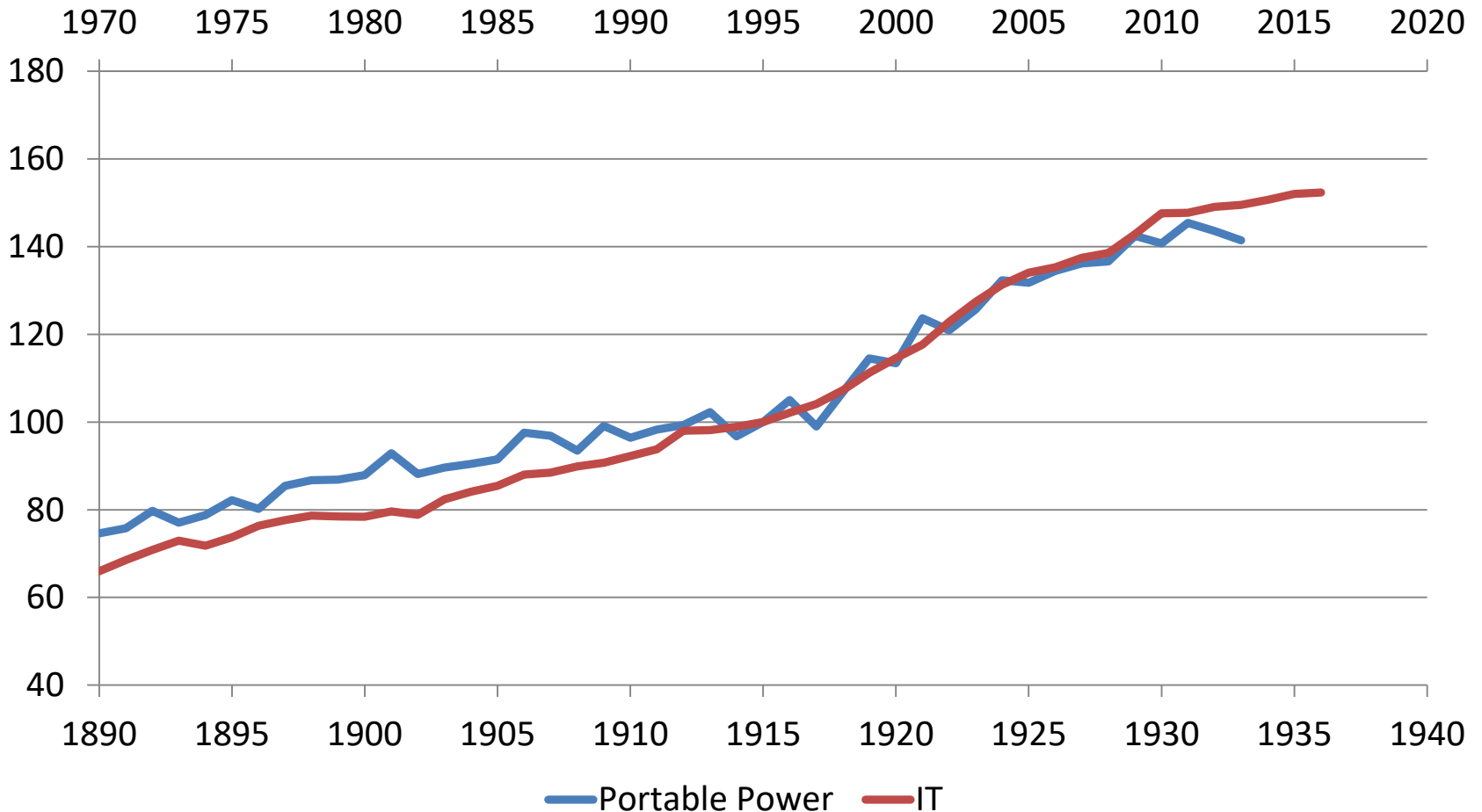
History's Lens on Today's Paradox

Labor Productivity in the Portable Power and IT Eras



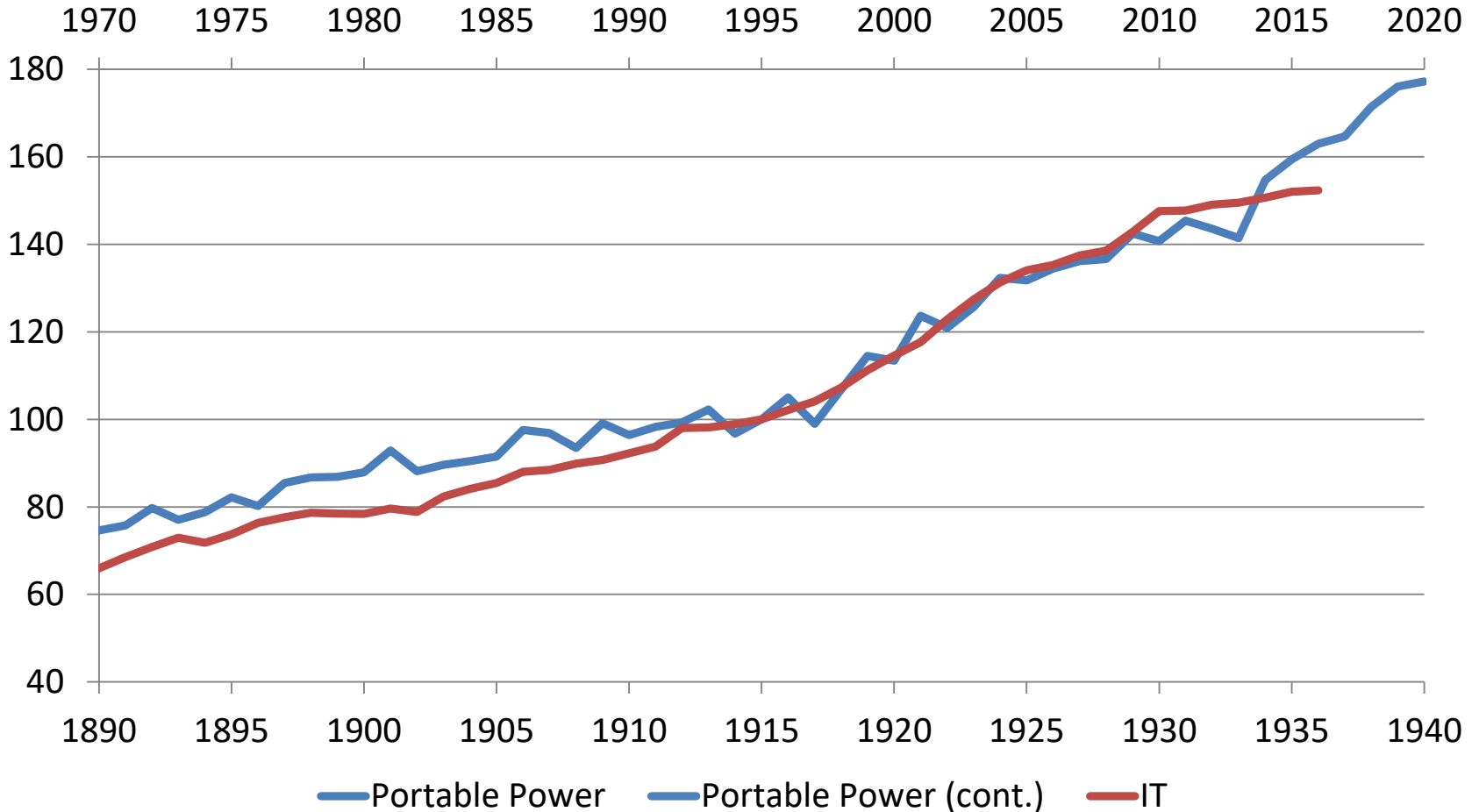
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Implementation Will Depend on Producers' Complementary Assets/Capabilities

- Firms differ massively in capabilities. Why?
- “Levers”
 1. Managerial practices/talent
 2. Higher-quality labor and capital
 3. IT and R&D
 4. Learning-by-doing
 5. Product innovation
 6. Firm structure decisions
- External factors
 1. Productivity spillovers
 2. Competition—both intra-market and through trade
 3. Regulatory environment
 4. Input market flexibility