IVÁN WERNING (MIT)

NTA 2020 MEETING

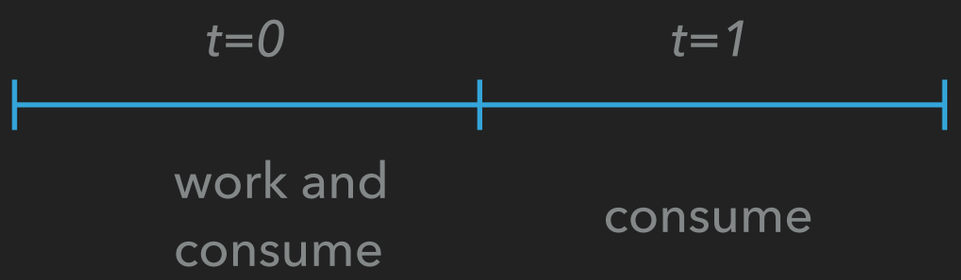
ADVANCES IN CAPITAL AND WEALTH TAXATION

CAPITAL AND WEALTH TAXES

- World today… (Scheuer-Slemrod)
  - corporate profit taxes: widespread
  - estate taxes: widespread
  - wealth tax: few but growing proposals
- Economic Theory…
  - two influential zero tax results
    - Atkinson-Stiglitz: Mirrlees tradition
    - Chamley-Judd: Ramsey tradition
- Today: recent revisions and results

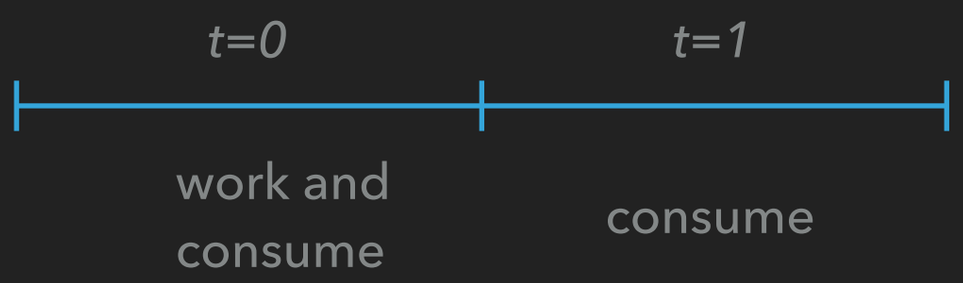
CAPITAL AND WEALTH TAXES

- Y = F(K,L) so what makes K so special?
  Why not tax K the same as L?
- Subtle: economic theory helpful to think through this
- Zero tax results as extreme examples proving this point



$$U(v(c_0, c_1), n_0)$$

$$y = w \cdot n \qquad w \sim F(w)$$



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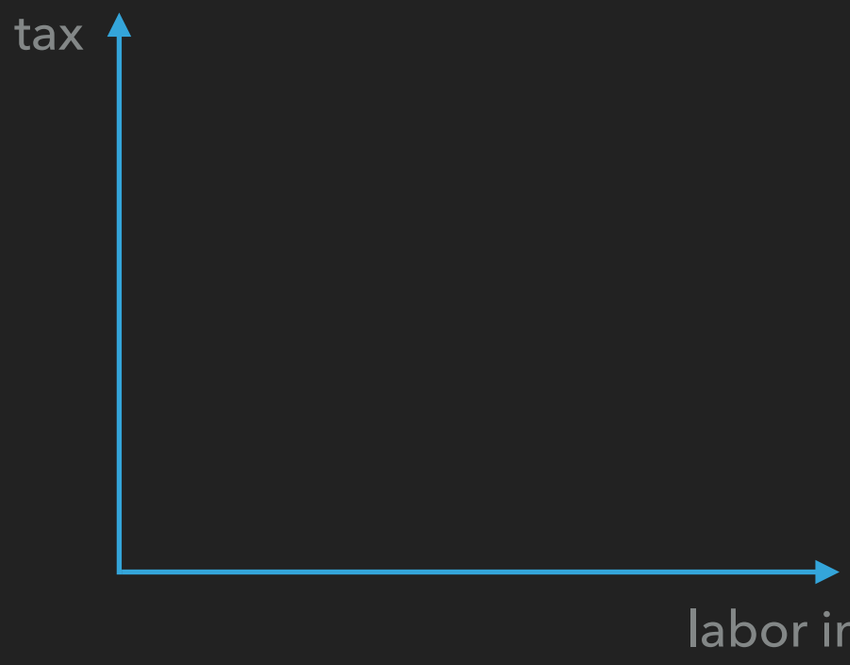

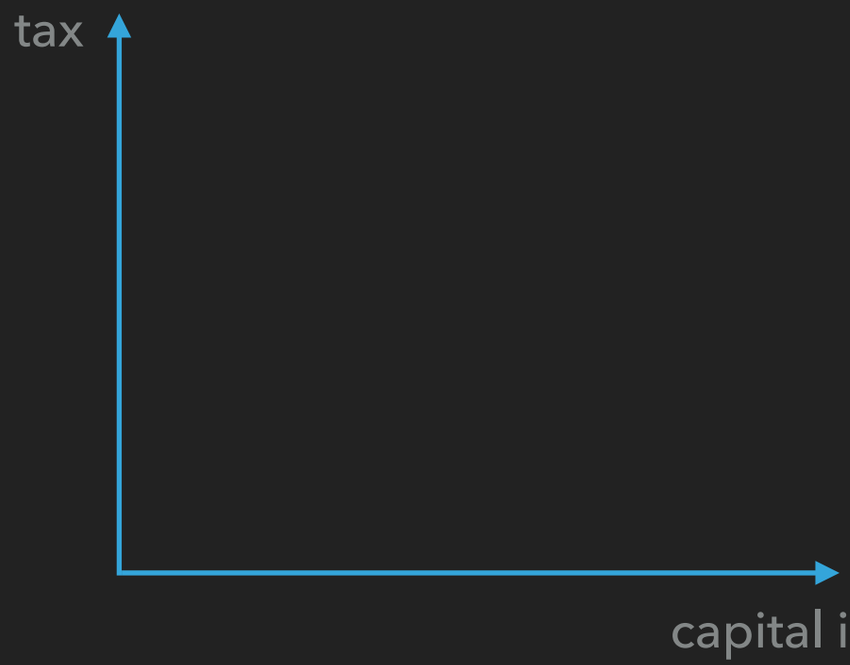

PROPER INTERPRETATION

- Are we in AS world?
  No, but is it a bad approximation?
- Even in AS world… individuals can support tax on capital
  - Taking as fixed current income tax shape
    - If some labor income escapes income tax
    - In second period, capital/wealth fixed

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Can explain a lot of disagreements without leaving AS world!

ATKINSON–STIGLITZ WORLD

- Assumptions…
  - separability (approximation)
  - differences in labor earning power…
    … but same preferences for consuming vs. saving
    (Saez; Golosov-Tsyvinski-Weinzerl)
- perfect financial markets…
  - no borrowing constraints
  - no risk in labor income
  - no risk or differences in returns on savings

UNCERTAINTY

- Uncertainty, precautionary savings and borrowing constraints
  - Mirrlees tradition: Inverse-Euler equation, uncertainty in consumption
    positive implicit tax on savings; e.g. Golosov-Tsyvinski-Werning (2006); Farhi-Werning (2012; 2013)
  - Ramsey linear tax tradition: GE incomplete market models: find positive tax on capital optimal [Aiyagari (1995), Conesa et al. (2009)]
- Positive and significant marginal taxes but…
- … do *not* point strongly towards progressive wealth taxes

MISSING INCOME TAXES AND MIMICKING

- Suppose some labor income escapes income tax…
  … can tax it via consumption or capital/wealth taxes
- Relevant for successful business creators
- Not crucial that the reporting of labor vs. capital be elastic!

- We may want to target differentially income tax by…
  - age (Conesa et al)
  - risk: luck vs. work
    (Scheuer-Werning)

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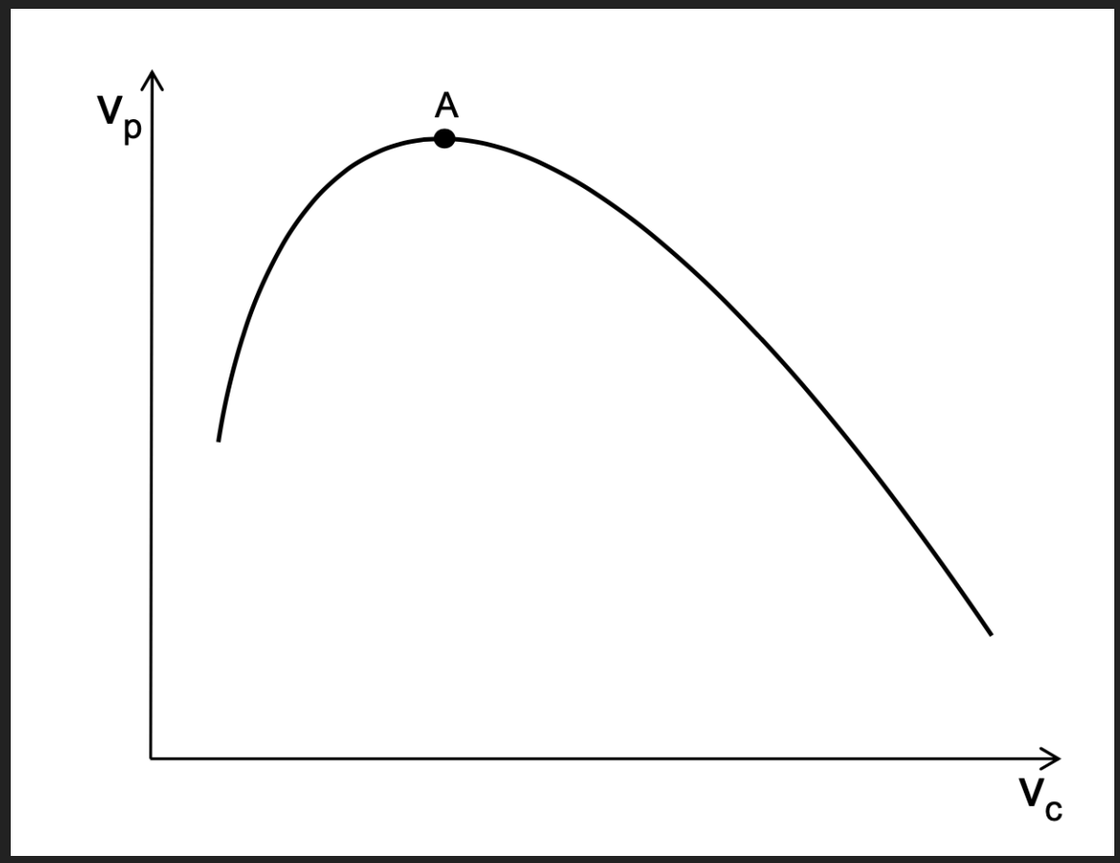
Idea: Tax on Savings may imperfectly mimic targeting

BEQUEST TAXATION

- Atkinson-Stiglitz, but what if savings = bequests? (Farhi-Werning 2010)
- Welfare weight on future generation
  - not just altruism
  - Utilitarian: equality of opportunity
- Results: away from A…
  - progressive = creates more equality for kids
  - subsidy = negative tax…
    - plausible at bottom!
    - sign unimportant if F(k) very curved
    - sign may overturn with taste shocks or other considerations (Farhi-Werning 2013)



POLITICAL ECONOMY

- Atkinson-Stiglitz…
  - ex ante: would not want to tax
  - ex post: temptation to tax and redistribute
- Limited commitment:
  no taxation may not be credible
  discontent may lead to drastic reforms

- Q: What policies ex ante?
- Note: Different from concerns of political influence

POLITICAL ECONOMY

- Farhi-Werning, Farhi-Sleet-Werning-Yeltekin, Scheuer-Wolitzky
- Two periods, no direct extra weight on future
- Political Economy: credibility constraint;
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$$\int u(c_1) \geq u\left((1-\kappa)\int c_1\right)$$

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  constraint: → **positive tax**

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- Extension: remove exogenous κ, add dynamic game, reputational concerns

CHAMLEY-JUDD

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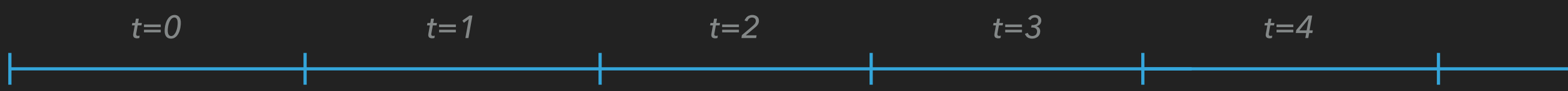
initial capital *K*0 given

CHAMLEY-JUDD



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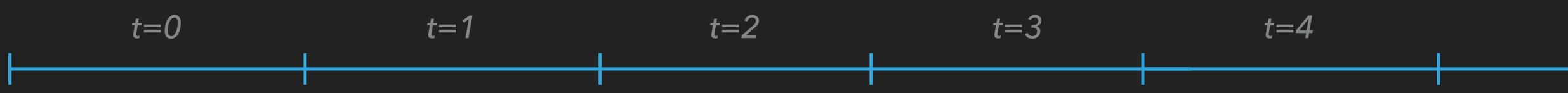

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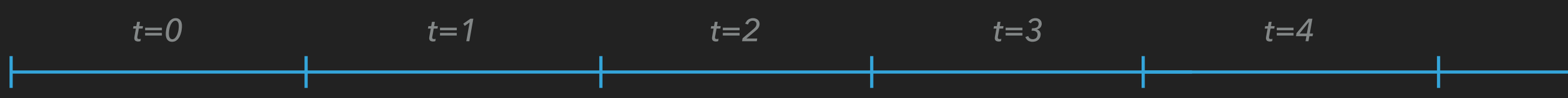

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  - capitalists: accumulate capital, do not work
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- Chamley (1986): Representative agent
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- Upper bounds on tax rates (limited consumption taxes)

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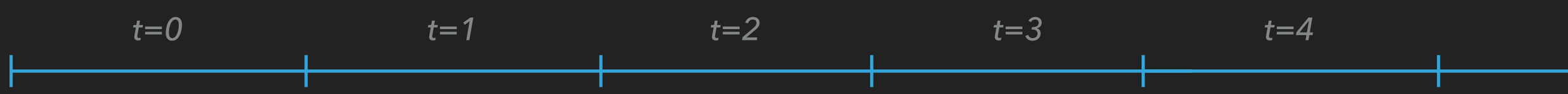

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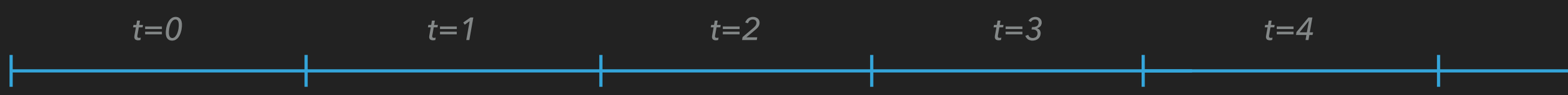

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RESULT.
WITH CONSTRAINTS ON TAXES, MAXIMAL TAXES FOR SOME TIME THEN ZERO TAXES

PROPER INTERPRETATION

- Chamley-Judd at face value…
  - Does not say:
    “If the tax is positive on capital, set the tax to zero now”
  - indeed, optimal constant tax on capital is positive
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But can we take results at face value…?

JUDD (1985): CAPITALISTS AND WORKERS

Without bounds:
Positive Taxes in long run
or for centuries…

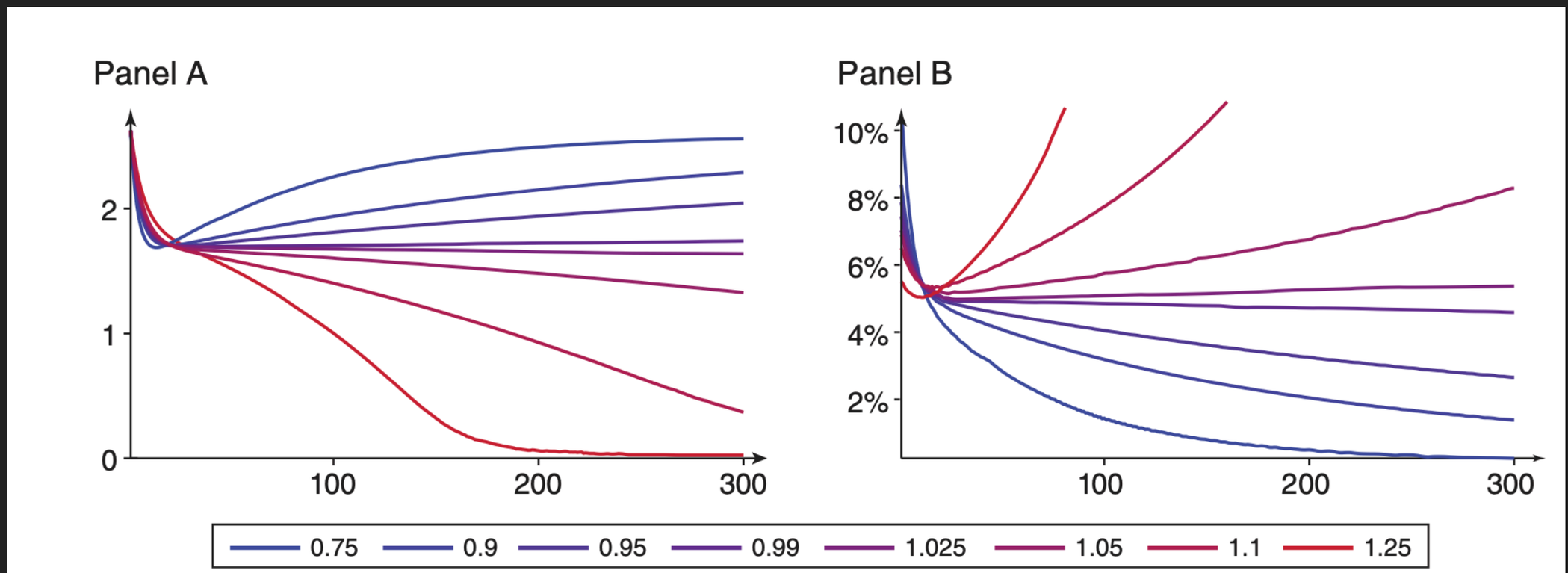

FIGURE 1. OPTIMAL TIME PATHS FOR CAPITAL (PANEL A) AND WEALTH TAXES (PANEL B)

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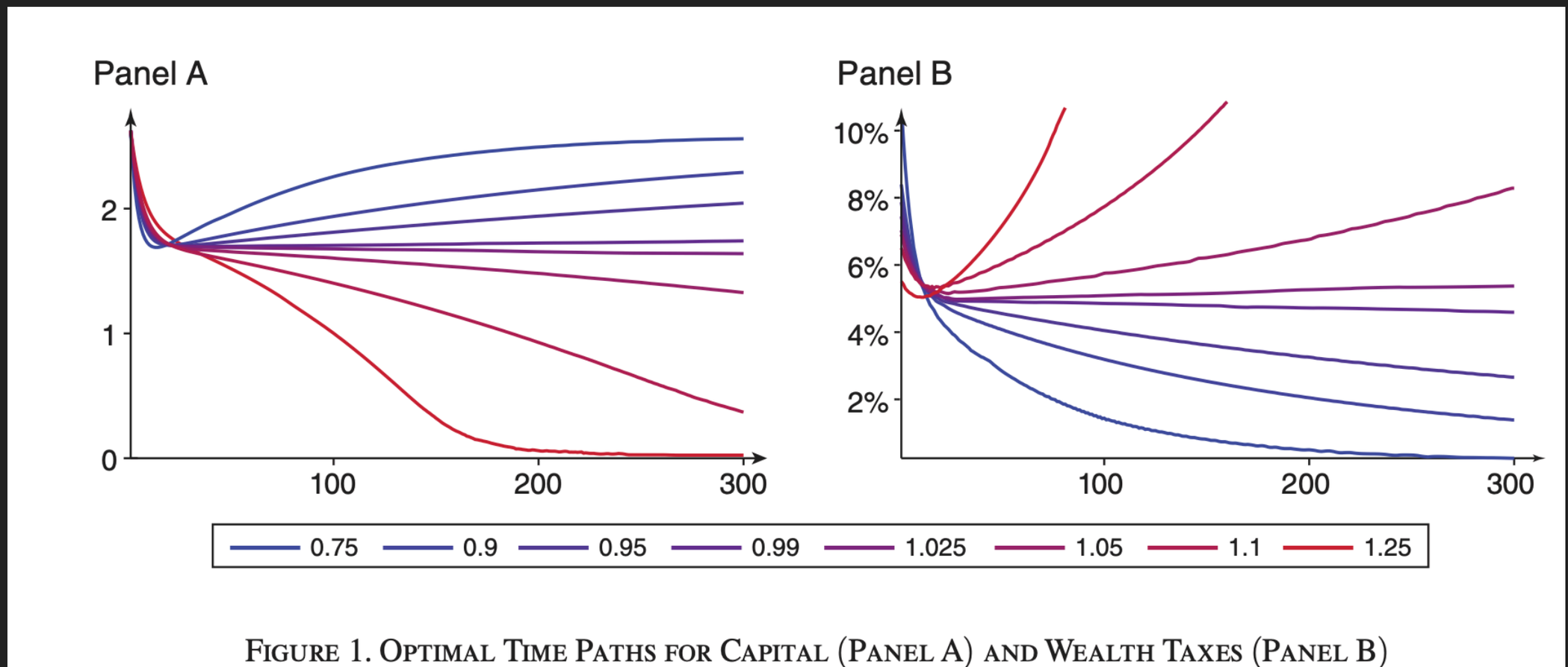

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…with bounds, tax on capital
can be at upper bound forever
and economy at steady state

CHAMLEY (1986)

- Chamley: if we converge to steady state where bound on capital does not bind then tax on capital is zero;

  Note: allows for non-constant discounting a la Koopmans

- Straub-Werning: yes, *but* if discounting is not constant then …
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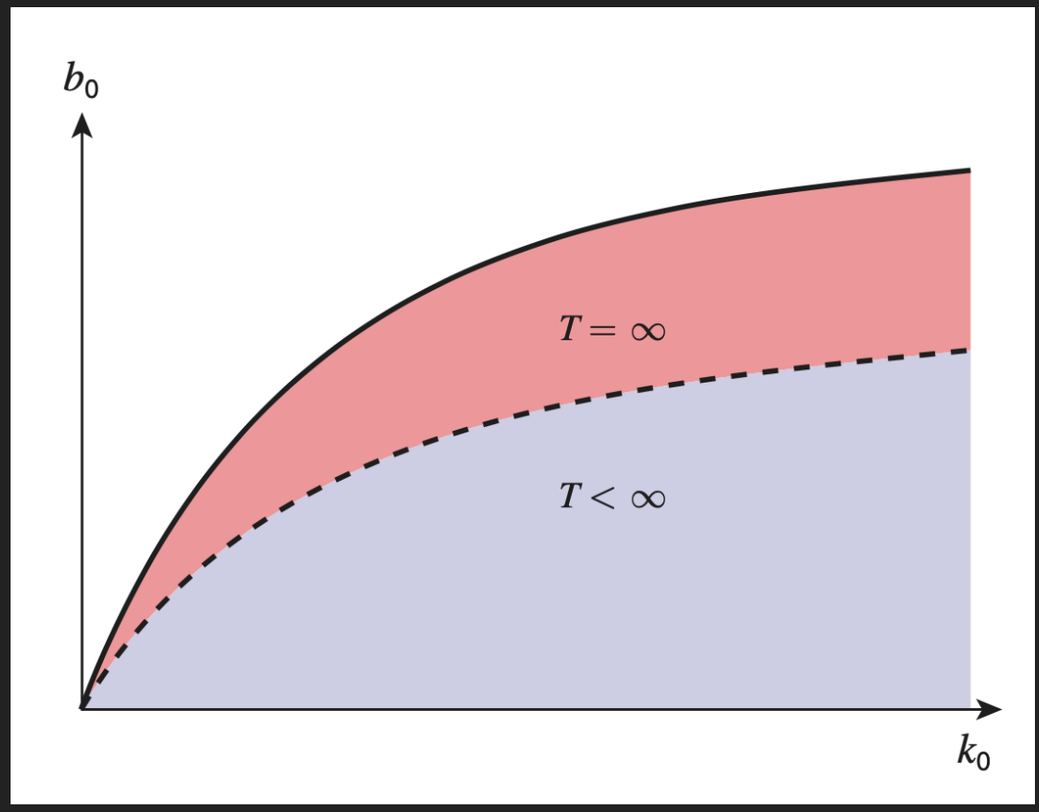

AUTOMATION AND ROBOTS

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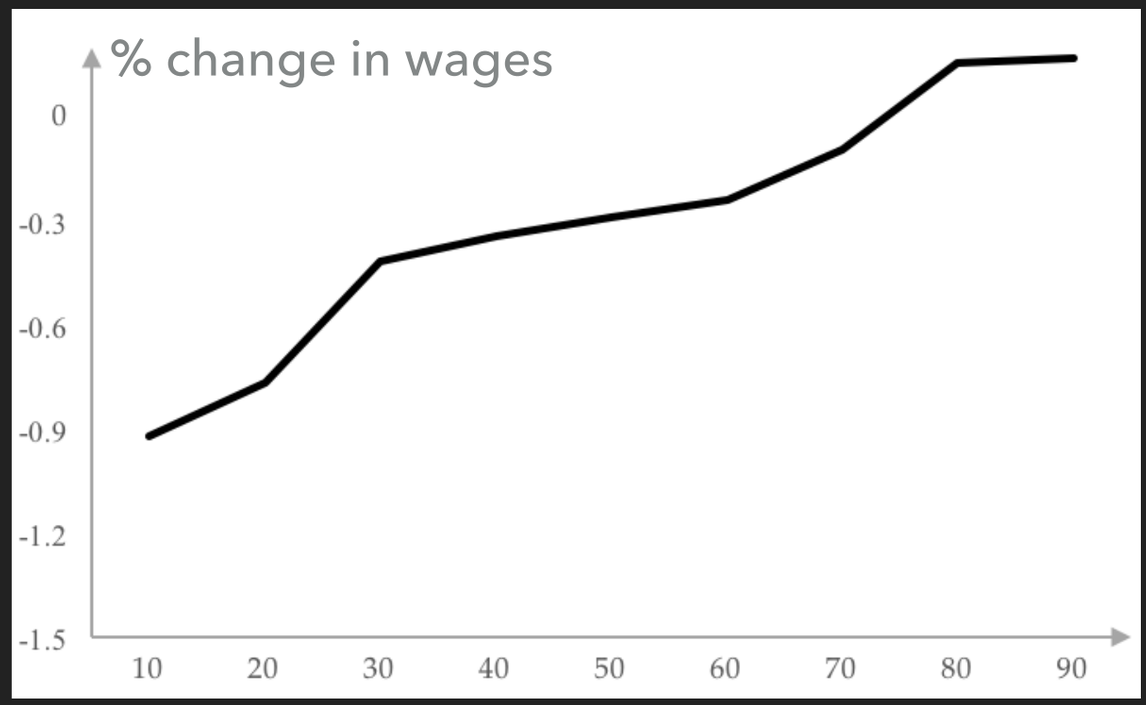

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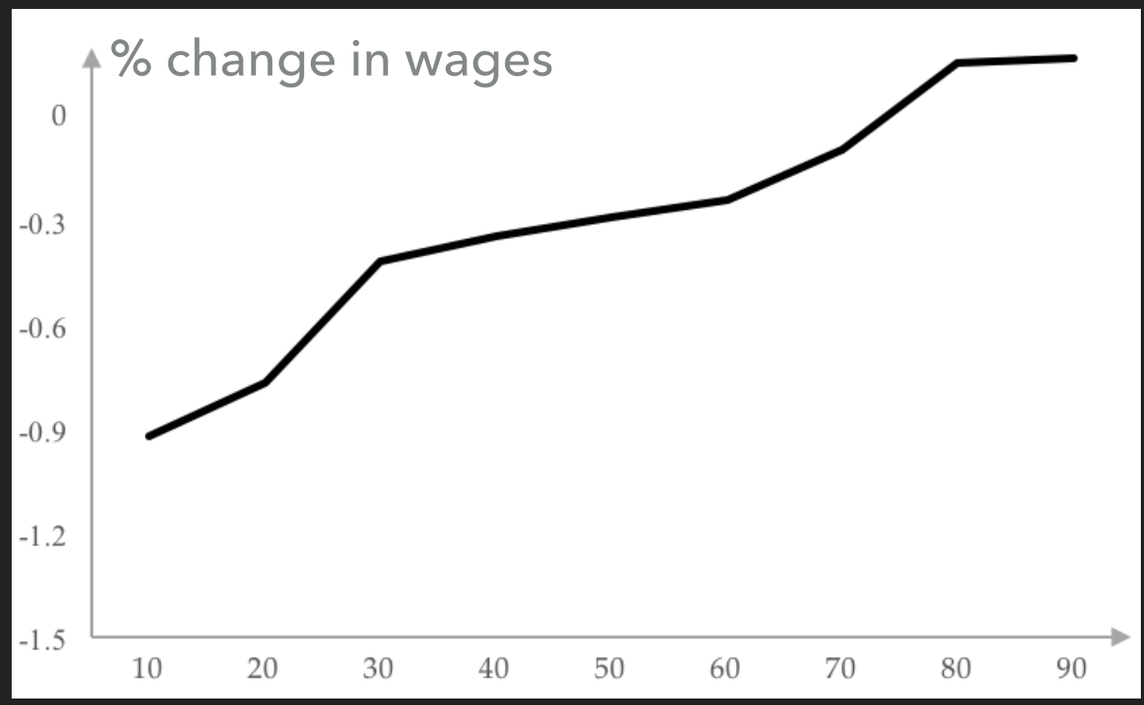

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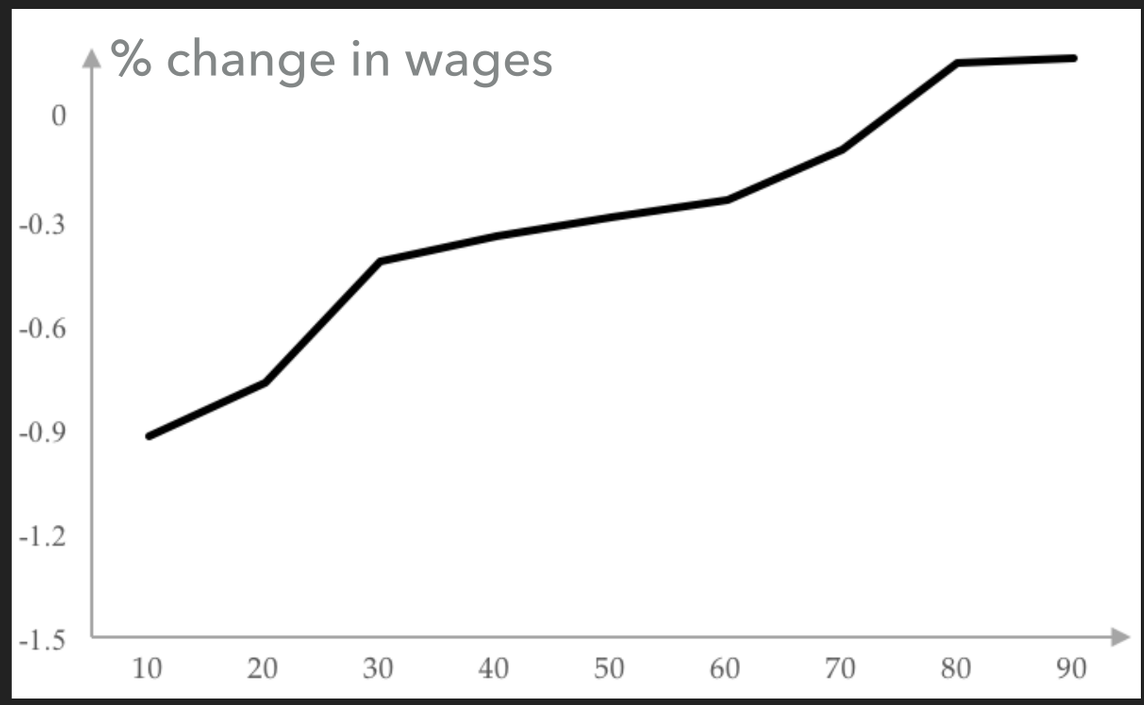

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$$t_m^* = \int \tau(z) \frac{\bar{w}(z)\bar{n}(z)}{p_m^* y_m^*} \frac{\epsilon(z)}{\epsilon(z)+1} \frac{\delta \ln \omega(z)}{\delta \ln y_m^*} |_{\delta \bar{U}=0} \, dz$$

$$\longrightarrow \quad t_m^* \in [1\%, 4\%]$$

CAPITAL/WEALTH TAXATION

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  - tax base?
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- Q: Maximal revenue from capital/wealth taxes?
- Not share of capital, need to reinvest capital to keep it
- 6-9% of GDP per capita? (r-g= 2-3%; K/Y=3)

WELFARE COSTS OF CAPITAL TAXES

- Lucas (1990) "Supply Side Economics and Analytical Review"
- Shouldn't tax capital: how big costs? Answer: <1% of GDP
- Calculation… $\text{Loss} \leq \frac{1}{2}\left(\frac{r}{r+\delta+g}\right)^2 \frac{s_k}{1-s_k}(\text{tax rate})^2$

- Conjecture: by symmetry also efficiency benefit of taxing capital when we should tax it (e.g. Farhi-Werning, 2012)

COVID-19 AND CAPITAL LEVIES?

- Optimal tax theory… Chari-Christiano-Kehoe (1991)
  - governments should insure their public finances vis a vis private sector
  - issue state contingent debt
    - capital and inflation levies
- World…
  - not in use today in advanced economies
  - historically and in developing countries: default and inflation levies (US out of WWII)
- COVID-19 Europe: Landais-Saez-Zucman (2020)

CONCLUSION

- Zero tax results: proper interpretation and some results overturned
- Alternative models: positive taxes on capital/wealth
  - missing income taxes
  - risk and heterogeneity
  - political economy: progressive taxes
  - automation
- Capital/wealth taxation not too costly even if a mistake?

- Optimal Taxation…
  - capital taxes, not the same as labor taxes….
  - ….but not necessarily zero
- Task head: continue sorting out mechanism and quantifying them

PARTIAL LIST OF REFERENCES

- Scheuer-Slemrod “Taxing our Wealth” JEP
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